THE FOURTH PLAN
MID-TERM APPRAISAL

EDUCATION AND MANPOWER

GOVERNMENT OF INDIA
PLANNING COMMISSION
DECEMBER, 1971

FOREWORD

THE document containing the mid-term appraisal of the Fourth Plan primarily seeks to present a detailed evaluation of the progress and short falls in different sectors of our developmental effort in the Centre, States and Union Territories and, to the extent necessary, in the private sector. It was felt that this evaluation should be made available to Parliament and to the Central and State Governments in order that it could be used as a working document on the basis of which corrective action, wherever necessary, could be under taken.

2. The document has certain limitation It substantially takes into account the additional claims on our resources arising from the unforeseen and massive influx of refugees from Bangla Desh. However, the uncertainties introduced into our economic scene by this development have become somewhat more complex and pervasive because of the hostilities with Pakistan during December 1971. The effect of these hostilities would be reflected, to some extent immediately and to a larger extent in the coming months, in additional demands on our financial resources—domestic and foreign exchange—as well as on non-financial resources such as commodities, services and trained manpower. Such additional claims are likely to arise in sectors which are outside the domain of the Plan, principally in defence expenditures and for assistance to Bangla Desh. Dependence on foreign aid inflows for planning and implementation will have to be rapidly reduced. The defficiency will have to be made good through more vigorous efforts for import substitution and earning of foreign exchange. The major task in this context will be to take effective measures for increasing and mobilising the savings of the community by the Centre States and financing institution. Equally important will be measures for greater self-reliance, maintenance of price stability and a concerted and all-round drive for increased output in agriculture, industry and infra-structure. While, therefore, the picture provided in the document is necessarily an incomplete one because it does not take into account these changed factors, the document itself may help in arriving at the necessary strategies for taking adequate corrective action over a wide front.

3. The balance of payments and financial projections contained in and the conclusion derived from them should be particularly understood as being relevant only within the framework of the original Fourth Plan. These estimates outline the picture as it may have emerged in the absence of the uncertainties and distortions referred to earlier. They do not take account of any re-orientation of the Plan. As already stated, it will be necessary in view of the changed situation to work for greater self-reliance and a larger domestic mobilisation of resources than what is outlined in the document.

4. As regards re-orientation of the Plan, the Planning Commission, over the last few months, has initiated thinking in a number of directions, such as integrated rural works, rural health, a National Plan for Science and Technology with special reference to increased self-reliance, measures to improve the performance of public sector enterprises, natural resource surveys, special employment schemes for educated unemployed decentralised planing and a review of Centre-State financial relationships, greater attention to economic evaluation of projects and monitoring of Plan performance. These initiatives will be integrated with the formulation of the Fifth Plan, work on which has been started. These tasks are being proceeded with and have acquired a new urgency and emphasis in the present context.

5. In the coming weeks Government and the Planning Commission will be

taking stock of the further adjustments to the Plan that may be required as a result of the new factors as well as those which arise from the concern for growth with social justice and price stability. The necessary adjustments to the Plan will have to be introduced in an orderly way in the Annual Plan process. Certain steps in this direction have been taken during the discussions on Annual Plan 1972-73 with State Governments which are proceeding at the present time.

6. Minister for Planning, Science and Technology has referred to the new challenges that face us while making this document available to Parliament on December 22, 1971. A copy of his statement to Parliament in this connection also forms part of the document.

STATEMENT IN PARLIAMENT BY THE MINISTER OF PLANNING ON DECEMBER 22 1971

I HAD indicated to the House earlier in this Session that Government would share with Parliament a Mid-term Appraisal of the performance and prospects of the Fourth Plan. We had completed a detailed evaluation of the progress of the Plan when hostilities with Pakistan began earlier this month. As a result of the new situation, the uncertainties that had been introduced into our economic scene by the massive influx of refugees from Bangla Desh have become more complex and pervasive. Given this context, Honourable Members will appreciate that it will not be realistic at the present time to formulate a reasonably clear outline of the prospects for the remaining period of the Plan. Such an outline will have to take into account these new challenges on the one hand, and provide for a reorientation to the Plan to respond in a greater measure to the needs of our people on the other. Nevertheless, our detailed assessment of the first half of the Plan that is now behind us is helpful in bringing out our achievements as well as in locating the sectors, projects and programmes to which further attention needs to be paid urgently to rectify the shortfalls that are emerging. It is in order to enable such a constructive process of all-round improvement that we have decided to place before Parliament an analysis of Plan progress in the last two and a half years, although we are unable to complete the exercise, which might have been possible if times were normal, by supplying an outlook for the remainder of the Plan. Accordingly I have placed on the Table of the House copies of the document containing a Mid-term Appraisal of the Fourth Plan. I must apologise for the fact that this has become a lengthy document. The Hindi version is under preparation and will be got printed and circulated separately. We are also preparing a summary which will shortly be made available to Parliament.

2. In the coming month sustained attention will have to be given by the Centre, State Governments and the public sector institutions to the findings of this document. Our effort will be to use it as a working basis for undertaking the several measures required—whether they are policy changes, administrative improvements, financial measures or the initiation of new projects and programmes—in order to achieve and maintain better performance in the various sectors of development.

3. I shall not attempt to summarise once again the facts and conclusions contained in this document. Instead my purpose today is to highlight a few aspects of economic management and Plan performance to which urgent and purposive attention is necessary, all the more because of the emergency we are passing through and what we may anticipate of its aftermath. It is clear that the increased requirements arising from the defence effort and for assisting Bangla Desh will make an additional demand on our financial, physical and manpower resources as well as on foreign exchange. It is, therefore, of paramount importance to stimulate and mobilise savings in the economy on the one hand and to use our resources with maximum economy and efficiency on the other. Increased savings are directly a function of increased production and incomes and of restraint on all non-essential consumption. We have to ensure that the savings of the community—whether it is in the household sector or in the corporate sector, public or private—are raised to a higher level in a sustained manner. It is equally necessary to capture a larger proportion of the savings for the public sector in order to undertake priority investments as also to sustain public consumption on essential social outlays such as education, health, water supply and nutrition. The necessary

effort for resource mobilisation can be undertaken and sustained to an adequate extent only if the burden of sacrifice is equitable and the weaker sections of the people are protected. For both growth and social justice, price stability is an essential infra-structure. Government are conscious of the need to undertake urgent concrete steps for price stabilisation so that the inflationary pressures on the horizon are avoided and both incomes and investments are duly safeguarded. We have to emphasise price stability particularly, because cost and price increases that have taken place since the Plan was formulated are themselves likely to result in shortfalls in the Plan in real terms as compared to original financial outlays.

4. We have to increase production as rapidly as possible and all around, whether it is in agriculture or industry or transport or irrigation or power. Results can be achieved in the short-term only if the highest priority is given to better utilisation of capacity for which there is great scope and potential in each of these areas. We are engaged in detailed exercises for identifying the measures necessary to increase output in public and private sector industries. On the basis of these enquiries necessary steps will need to be implemented in a time-bound manner. At the same time we will have to improve our procedures and our capacity for creating new starts in investment wherever it is required. Our detailed examination of the Plan has pin-pointed areas in which creation of additional capacity is necessary. This will have to be followed up.

5. Recent events have once again endorsed the objectives in the Plan which calls for greater self-reliance. Although currently our balance of payments position may be regarded as being satisfactory, one can foresee that it will be under increasing pressure in the coming months. The emphasis we have placed on export promotion will not only have to be sustained but further energised. Import substitution has to proceed with greater urgency. Here an effective contribution can be made by our scientists and technologists. The National Committee on Science and Technology is already engaged in preparing an emergency programme for this purpose.

6. In regard to the Plans of the State Governments for the coming year, we have formulated certain new guidelines relating to their levels of outlay and the assistance from the Centre needed to support these levels. It is imperative that State Governments should ensure greater financial discipline by completely avoiding over-drafts hereafter and make an increased effort for mobilising additional resources. Discussions with Chief Ministers on their individual State Plans are proceeding according to schedule on this basis. My discussions with the Chief Ministers indicate that the emphasis on a greater resource effort and stricter financial discipline along with economy and efficiency in Plan implementation will be fully endorsed by the States.

7. It is especially important, when we are facing a period of uncertainty and unforeseen problems, not to lose sight of our long-term goals. We have, therefore, to take up as soon as possible the preliminary work on the formulation of the Fifth Five Year Plan. We have initiated certain steps designed to make our planning process more responsive to the needs of our people and to improve its technical content. These will have to proceed with so that the Fifth Plan results in a well conceived and concrete set of tasks which can keep the country on its path of self-sustained growth with social justice.

8. In conclusion, I would request Honourable Members to go through in a constructive spirit the document that has now been made available. We would welcome comments and suggestions which Honourable Members might wish to make on any aspect of Plan performance. I trust that the House will fully share with the Government the emphasis of the Prime Minister that at this juncture all sections of our people, whether they are farmers or factory workers or Government employees or scientists, should give their best to ensure that our long-term goals for a better life are not jeopardised by sharp but short-term threats or disruptions.

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CHAPTER 1

RATE AND PATTERN OF GROWTH

THE Fourth Five Year Plan has envisaged an increase in net national product at factor cost, that is, in national income, at 1968-69 prices from about Rs. 28800 crores in 1968-69 to about Rs. 3790C crores in 1973-74. This works out to an average annual compound rate of growth of 5·6 per cent. Data on the performance of the economy during the first two years of the Plan period are given in table 1. The actual rate of growth has been 5·3 per cent in 1969-70 and 4·8 per cent in 1970-71. For the two year period (1969-70 to 1970-71), the average annual compound rate of growth works out to 5 per cent. The shortfall of 0·3 percentage point in 1969-70 increased to 0·8 percentage point in 1970-71. For the two years taken together, there has been a shortfall of 0·6 percentage point in the overall average annual rate of growth.

2. In agriculture, as against the envisaged annual rate of growth of 5 per cent, the actual rate of growth has been 5·1 per cent in 1969-70, 5·3 per cent in 1970-71 and 5·2 per cent for the two years taken together. Thus, the overall performance of agriculture hitherto has been a shade better than the Plan anticipation. This does not justify any complacency in regard to agricultural development.

3. In the base year 1968-69, compared to 1967-68, there was a decline in the output of foodgrains, oilseeds, fibres and tobacco. Only the plantation crops (tea, coffee and rubber) and sugarcane have done better. The overall Index of Agricultural Production (agricultural year 1949-50-100) had declined from 161·1 in 1967-68 to 159·5 in 1968-69. In appraising the performance of agriculture in percentage terms in 1969-70, the fact of a slightly lower output in 1968-69 compared to 1967-68 should be kept in mind.

TABLE 1 : *Overall and Sectoral Rates of Growth—Fourth Plan Estimates and the Actual Performance*, 1968-69 *to* 1969-70

(net value added in Rs. crores at 1968-69 prices)

sl. no.	sector	Fourth Plant estimates			latest CSO estimates[1]			Annual rate of growth(%)		
		1968-69	1973-74	implied rate of growth (%)	1968-69	1969-70	1970-71	1969-70	1970-71	1970-71 over 1968-69
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	*agriculture*	**14864**	**18951**	**5·0**	**14503**	**15238**	**16039**	**5·1**	**5·3**	**5·2**
2	agriculture	14250	18212	5·0	13859	14583	15362	5·2	5·3	5·3
3	forestry and logging	449	539	3·7	470	480	497	2·1	3·5	2·8
4	fishing	165	200	3·9	173	175	180	1·2	2·9	2·0
5	*mining and manufacturing*	**4118**	**5966**	**7·7**	**4064**	**4266**	**4403**	**5·0**	**3·2**	**4·1**
6	mining and quarrying	317	465	8·0	316	335	331	6·0	(—)1·2	2·3
7	large scale manufacture	2242	3490	9·3	2192	2322	2405	5·9	3·6	4·7
8	smalll scale manufacture	1559	2011	5·2	1556	1609	1667	3·4	3·6	3·5
9	*electricity, gas and water supply*	**237**	**370**	**9·3**	**243**	**266**	**287**	**9·5**	**7·9**	**8·7**
10	*construction*	**1142**	**1722**	**8·6**	**1289**	**1376**	**1417**	6·7	**3·0**	**4·8**
11	*transport and communications*	**1309**	**1785**	6·4	**1313**	**1391**	**1444**	5·9	**3·8**	**4·9**
12	Railways	469	595	4·9	470	494	496	5·1	0·4	2·7
13	communications	181	265	7·9	174	182	194	4·6	6·6	5·6
14	others	659	925	7·0	669	715	754	6·9	5·5	6·2
15	*real estate and ownership of dwellings*	**675**	**797**	**3·4**	**700**	**723**	**747**	**3·3**	**3·3**	**3·3**

TABLE 1—*contd.*

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
16	*trade, storage and hotels, etc.*	**3105**	**4357**	**7·0**	**3132**	**3286**	**3427**	**4·9**	**4·3**	**4·6**
17	*public administration and defence*	**1308**	**1444**	**2·0**	**1339**	**1442**	**1559**	**7·7**	**8·1**	**7·9**
18	*banking, insurance and other services*	**2313**	**2914**	**4·7**	**2300**	**2402**	**2520**	**4·4**	**4·9**	**4·7**
19	banking and insurance	440	554	4·7	459	501	544	9·2	8·6	8·9
20	other services	1873	2360	4·7	1841	1901	1976	3·3	3·9	3·6
21	*net domestic product at factor cost*	**29071**	**38306**	**5·7**	**28882**	**30390**	**31843**	**5·2**	**4·8**	**5·0**
22	*net factor income from abroad*	**(—)270**	**(—)408**	..	**(—)258**	**(—)259**	**(—)274**	..	..	..
23	*net national product at factor cost*[2]	**28801**	**37898**	**5·6**	**28624**	**30131**	**31569**	**5·3**	**4·8**	**5·0**

[1]CSO estimates at 1960-61 prices have been reworked, for each sector, at 1968-69 prices.
[2]Net national product at factor cost—national income.

4. Secondly, the good performance in 1970-71 is, to some extent, attributable to overall favourable monsoons. The country has yet to go a long way before it achieves reasonable immunity from the vagaries of the monsoons. The possibility of a setback to agricultural production in the remaining years of the Plan should not be ignored.

5. Thirdly, while the breakthrough in wheat is a fact and some of the initial problems that inhibited it the success of the programme of high-yielding varieties of paddy are getting partially overcome, success has continued to elude in respect of fibres and pulses. Their output has remained much below the levels anticipated in the Plan. Though there was a marked improvement in the output of oilseeds in 1970-71, it is difficult to say how far this was due to favourable season and whether there would be a sustained rising trend in the remaining period of the Fourth Plan. So far large imports of raw cotton and vegetable oils have been necessary.

6. Fourthly, the first half of the Plan period has witnessed a sharp increase in domestic demand for sugar. It is likely that the Plan estimate of 47 lakh tonnes as the total requirement, for domestic consumption and exports, may prove an underestimate. While sugar production has reqistered the record level of 42 lakh tonnes in 1969-70. In 1970-71, it has fallen to 37·6 lakh tonnes. There may be a further decline in output in 1971-72. The decline is attributable mainly to inadequate supplies of cane to mills. This underlines the need for larger output of sugarcane. It seems that in order to meet the higher level of demand for sugar now anticipated, the original Plan target of sugarcane output may have to be substantially exceeded.

7. The growth of mining and manufacturing in terms of the net value added has been much below the Plan projections. Against the envisaged average annual rate of growth of 7·7 per cent, the actual rate has been 5 per cent in 1969-70 and 3·2 per cent in 1970-71, the average for the two-year period being 4·1 per cent. There has been substantial shortfall under each of the three segments of this sector.

8. The Plan has envisaged an annual rate of growth of 8 per cent for the mining and quarrying sub-sector. In 1969-70, the actual growth of net output has been 6 per cent. In 1970-71, however, there has been an absolute decline of 1·2 per cent, due mainly to a sharp fall of 6·4 per cent in coal production and 20·8 per cent in lignite production, which together account for about 60 per cent of the value of output of this sub-sector. Taking the two years together the average annual rate of growth works out to 2·3 per cent.

9. In the Plan, large scale manufacturing has been envisaged to grow at an average annual rate of 9·3 per cent. The actual increase, in terms of net value added, has been 5·9 per cent in 1969-70 and 3·6 per cent in 1970-71, the annual average for the two years being to 4·7 per cent.

10. The Plan has envisaged small scale manufacturing to grow at an average annual rate of 5·2 per cent. The actual growth has been 3·4 per cent in 1969-70 and 3·6 per cent in 1970-71, the average annual rate for the two years being 3·5 per cent. This is a sector where adequate and accurate information is not yet available. It is possible, as is often claimed, that the national income data understate the growth of output in the small scale sector. The actual rate of growth might well have been higher than given in the CSO estimates.[1]

[1]The CSO estimates given in table 1 relate to "unregistered manufacturing" and not to "small-scale manufacture" as such. But since the two do not have widely different coverage, these have been taken to represent, broadly, the same segment of the economy.

11. Industrial production has been held back basically by two sets of factors: (1) those that have inhibited utilisation of capacity and (2) those that have inhibited growth of capacity. A substantial segment of the industrial sector has been suffering from under-utilisation of capacity. The main causal factors operating, with varying intensity, in different industries have been (i) insufficient demand, (ii) shortage and irregular supplies of raw materials, components, stores and spares, (iii) shortage or unstable supplies of power, (iv) transport bottlenecks, (v) disturbed industrial relations and (vi) other management problems.

Industrial Capacity

12. In a growing number of industries production has been facing a capacity constraint. Larger production has not been possible as the existing capacity is more or less fully utilised and no new additional capacity has been coming up. Capacity constraint has been the result of a variety of factors operating with varying intensity in the affected industries. In some cases, the problem is a consequence of the lack of entrepreneurial interest, during the two years of widespread industrial recession (1966-67 and 1967-68), in initiating new industrial investment that would have fructified into additional capacity in the early years of the Plan. In several cases, there have been procedural problems connected with licensing or the fact that the licences, for various reasons, have found implementation financially unattractive or beyond their capacity. Unbalanced licensing as between established and new entrepreneurs, substantial and small entrepreneurs, expansion and new unit applicants, public and private agencies, and developed and backward area locations have resulted in a high proportion of infructuous licences. There has, perhaps, been insufficient awareness that promotion of new entrepreneurs requires many other encouragement measures besides preference in grant of industrial licences. Problems and delays connected with capital goods licensing particularly in relation to clearance from indigenous angle and tying up of foreign exchange, and financial difficulties stemming from the cost escalations and other factors have also hampered creation of new capacity. Other contributory factors have been (i) the delays in civil works on account of shortage of steel, structural fabrication facilities, experienced design and construction firms and labour troubles, (ii) the delays in procurements of domestic and foreign plant and equipment, and (iii) the delays in full commissioning attributable to lack of experience among managerial and technical personnel.

13. Textiles, iron and steel and other basic metals (excluding aluminium), metal products, non-electrical machinery, railroad and other transport equipment are the major industries that have mainly accounted for the low rate of industrial growth during the first half of the Plan period.

14. As against the envisaged average annual rate of growth of 9·3 per cent for the "electricity, gas and water supply" sector the actual rate has been 9·5 per cent in 1969-70 and 7·9 per cent in 1970-71. For the two year period the average annual rate has been 8·7 per cent. This sector has thus experienced a rate of growth only slightly below that targeted in the Plan. The much higher rate of growth of electricity output compared to the rate of growth of industry is explained by (i) substitution of electricity for other forms of energy, (ii) the growth of power intensive industries, particularly aluminium, and (iii) the progress of rural electrification and the fast growing number of electric pump sets.

15. In the Plan, net investment has been estimated to grow, at 1968-69 prices, from Rs. 3154 crores in 1968-69 to Rs. 5496 crores in 1973-74. During the same period, depreciation may be estimated to grow, at 1968-69 prices, from Rs. 1651 crores to Rs 2184 crores. Taking the two together, the Plan has implied an increase in gross investment from Rs. 4805 crores in 1968-69 to Rs. 7680 crores in 1973-74. This gives an average annual rate of growth of 9·8 per cent. The figure for investment in fixed assets and stocks have not been shown separately in the Plan. If it could be assumed that fixed investment would be growing, on an average at about the same rate as investment in stocks, at least over the long run, the implied annual rate of growth of gross fixed investment in the Plan would be about 9·8 per cent. Since construction activity is related to gross fixed capital formation, in the Fourth Plan, the net value added in this sector has been anticipated to grow at an average annual rate of 8·6 per cent. The actual rate has been estimated at 6·7 per cent in 1969-70 and 3 per cent in 1970-71. The average annual rate for the two-year period is 4·8 per cent. This reflects the fact that investment has been picking up much slower than envisaged in the Plan.

16. Against an envisaged annual rate of growth of 6·4 per cent, the actual rate of growth in the transport and communications sector has been 5·9 per cent in 1969-70 and 3·8 per cent in 1970-71. For the two-year period, the average annual rate works out to 4·9 per cent. The slight shortfall in 1969-70 (0·5 percentage point) became much larger in 1970-71 (2·6 percentage points). This was accounted for mainly by the fact that in the latter year the net value added in the railways sub-sector increased by barely 0·4 per cent. The decline in the output of coal and steel (the two industries important to the railways for available freight traffic), the overall slow rate of growth of industrial production, the bottlenecks arising directly and indirectly from the disturbed conditions in the eastern parts of the country, and the trend towards diversion of traffic to roads have been some of the factors responsible for the near stagnation of the railway sector in 1970-71.

17. In the Fourth Plan the net value added in real estate and ownership of dwellings had been projected to grow at 3·4 per cent a year. The actual rate of growth in this sector during 1969-70

and 1970-71 has been put at 3·3 per cent. This estimate is rather notional. In fact, the Central Statistical Organisation's estimates relating to this sector have a slender basis.

18. The Plan has envisaged net value added in the "trade, storage, hotels and restaurants" sector to grow at an average annual rate of 7 per cent. Actual increase has been 4·9 per cent in 1969-70 and 4·3 per cent in 1970-71. The average rate for the two years is 4·6 per cent. In this sector, the contribution of trade and storage is by far the most important. Trade and storage are related to agricultural and industrial (mining and manufacturing) production and imports. The rate of growth has been lower than that envisaged mainly because both industrial production and imports have grown at a lower rate than originally anticipated.

19. In the Plan, the net value added in the "public administration and defence" sector has been envisaged to grow at 2 per cent. The underlying assumption was that public consumption, outside social services, would be severely restrained with a view to raising the rate of public and overall saving. Even so the Plan estimates were perhaps on the low side. The actual net value added in this sector increased by 7·7 per cent in 1969-70 and 8·1 per cent in 1970-71. The average annual rate of growth for the two-year period is 7·9 per cent.

20. Banking and insurance have grown faster than anticipated in the Plan. Against the envisaged annual rate of 4·7 per cent, the actual rate has been estimated at 9·2 per cent in 1969-70, 8·6 per cent in 1970-71 and 8·9 per cent for the two years taken together. It seems that the Fourth Plan projections had understated the growth prospects of this sector. Banking and insurance could not possibly be growing at a lower rate than the economy as a whole.

21. In the "other services sector" which include education and health, against the average annual rate of growth of 4·7 per cent envisaged in the Fourth Plan, the actual rate has been 3·3 per cent in 1969-70, 3·9 per cent in 1970-71 and 3·6 per cent for the two year period as a whole. This is another area where the CSO estimates have a rather weak basis and the actual rate of growth might have been higher than given above. In a densely populated developing country, where poverty-induced services provide the only chance to many to eke out a living, the "other services" sector is unlikely to grow at a lower rate than the overall rate of growth of the economy.

22. This review brings out that, during the first two years of the Plan, while the rate of growth of agriculture has been slightly higher, and of public administration and defence much higher, than that envisaged in the Plan, on account of varying degrees of shortfalls, some of these quite serious, under other sectors, the overall rate of growth has shown a modest shortfall compared to the projected average annual rate. If the original Plan anticipations are to be realised the required overall and sectoral rate of growth will be as given in table 2. Two rates of growth have been worked out in each case. The first is in relation to the Plan target for 1973-74. The second is in relation to the adjusted target for the same year. The latest CSO estimates of net value added in different sectors in 1968-69 at current prices differ, by varying margins, from the estimates for that year taken as the basis of the Fourth Plan projections. The adjusted target for each sector has been worked out by taking the CSO estimate of net value added in 1968-69 as the base figure and the Plan implied rate of growth for the sector as the target. The adjusted sectoral targets and the estimated net factor income from abroad give the adjusted overall target for net national income in 1973-74. This works out to 99·4 per cent of the original target set in the Plan. The position is discussed below in relation to the adjusted targets.

23. In agriculture, the required average annual rate of growth during 1971-72 to 1973-74 is 4·9 per cent as against the actual average rate of 5·2 per cent during the first two years of the Fourth Plan. If the momentum of agricultural growth is maintained, it would be possible to realise the adjusted target. However, there is the need to re-orient development efforts in the agricultural sector towards correcting the growing internal imbalance in this ectors While there has been a large increase in the output of cereals, serious shortfall in the targets for cotton, jute, pulses and, possibly, oil seeds would be inevitable unless large increases in the output of these items are achieved during the remaining Plan period. The outlook in respect of sugarcane is not too reassuring, particularly in the context of rapidly rising domestic demand for sugar. From the record level of 13·8 m. tonnes (in terms of gur) in 1969-70, the output of sugarcane declined to 13·2 m. tonnes in 1970-71. There may be further decline in 1971-72. There is the urgent need to reverse this trend. If the overall adjusted target for agriculture is reached without correcting the internal imbalance in the sector, this would involve accumulation of excessive stocks of cereals and, at the same time, serious shortages of pulses, cotton, oilseeds, jute and sugarcane. In the agricultural sector, the problems thus are both sustained growth and better inter-crop balance.

24. A major task for the second half of the Fourth Plan period is the reinvigoration of industrial growth. Sluggish growth of industrial production is having widespread ramifications. Had industrial expansion proceeded as envisaged in the Plan, the outlook for financial resources (*via* the impact on the yield from excise duties, sales tax, and the income and corporation taxes), for import substitution, for exports, for adequate availability of basic consumption needs, for completion of projects on schedule, for price stability and for expansion of employment opportunities (particularly for skilled personnel) would have been considerably better than is currently the case. The present position needs to be rectified urgently and effectively. In

TABLE 2 : *Overall Sector Rates of Growth : Required performance from* 1971-72 *to* 1973-74 *to achieve the Fourth Plan Targets*

(net value added in Rs. crores at 1968-69 prices)

sl. no.	sector	1973-74 target as in the Plan	1973-74 target adjusted[1]	1970-71 quick estimate	col. (2)— col. (4)	col. (3)— col. (4)	col. (5) as % of col. (4)	col. (6) as % of col. (4)	required annual rate of growth 1971-72 to 1973-74 (%) in relation to plan target	required annual rate of growth 1971-72 to 1973-74 (%) in relation to adjusted target
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	*agriculture* . .	18951	18486	16039	2912	2447	18·2	15·3	5·7	4·9
2	agriculture . .	18212	17712	15362	2850	2350	18·6	15·3	5·8	4·9
3	forestry and logging	539	564	497	42	67	8·5	13·5	2·7	4·3
4	fishing . . .	200	210	180	20	30	11·1	16·7	3·6	5·3
5	*mining and manufacturing* . . .	5966	5883	4403	1563	1480	35·5	33·6	10·7	10·1
6	mining and quarrying	465	464	331	134	133	40·5	40·2	12·0	11·9
7	large scale manufacture	3490	3412	2405	985	1007	41·0	41·9	12·1	12·4
8	small scale manufacture	2011	2007	1667	344	340	20·6	20·4	6·4	6·4
9	*electricity, gas and water supply* . . .	370	379	287	83	92	28·9	32·1	8·8	9·7
10	*construction* . .	1772	1944	1417	305	527	21·5	37·2	6·7	11·1
11	*transport and communications* . .	1785	1790	1444	341	346	23·6	24·0	7·3	7·4
12	railways . .	595	596	496	99	100	20·0	20·2	6·2	6·3
13	communications .	265	255	194	71	61	36·6	31·4	11·0	9·5
14	others . . .	925	939	754	171	185	22·7	24·5	7·1	7·6
15	*real estate and ownership of dwellings* .	797	826	747	50	79	6·7	10·6	2·2	3·4
16	*trade, storage and hotels, etc.*	4357	4395	3427	930	968	27·1	28·2	8·3	8·7
17	*public administration and defence* . .	1444	1478	1559	(—)115	(—)81	(—)7·4	(—)5·2	(—)2·5	(—)1·7
18	*banking, insurance and other services* .	2914	2898	2520	394	378	15·6	15·0	5·0	4·7
19	banking and insurance	554	578	544	10	34	1·8	6·3	0·6	2·1
20	other services . .	2360	2320	1976	384	344	19·4	17·4	6·1	5·5
21	*net domestic product at factor cost* . .	38306	38079	31843	6463	6236	20·3	19·6	6.4	6·2
22	*net factor income from abroad* . . .	(—)408	(—)390	(—)274	(—)134	(—)116	—	—	—	—
23	*net national product at factor cost* . .	37898	37689	31569	6329	6120	20·0	19·4	6·2	6·1

[1]Explained in Paragraph 22.

order to achieve the adjusted Plan target, the mining and manufacturing sector would need to grow at an average annual rate of 10·1 per cent during 1971-72 to 1973-74. The indications are that during 1971-72 the actual rate is likely to be much below this figure. It may not even exceed the 1970-71 rate of 3·2 per cent. Substantial shortfall in the Plan adjusted target for net value added in mining and manufacturing seems unavoidable. This shortfall is likely to occur mostly under the mining and quarrying and the large-scale manufacturing sub-sectors. The required average annual rate of growth during 1971-72 to 1973-74 in the two cases is 11·9 per cent and 12·4 per cent respectively. Since in 1971-72 the actual rate in the two sub-sectors is likely to be much below the required rate, even taking into account the envisaged vigorous efforts to ease the various constraints on industrial growth, substantial shortfall in the adjusted Fourth Plan target is unavoidable. It is only in the small scale manufacturing sub-sector, where the required rate of growth during 1971-72 to 1973-74 is 6·4 per cent, that it may yet be possible to realise the Plan target.

25. In the electricity, gas and water supply sector, the required average annual rate of growth during 1971-72 to 1973-74 to realise the adjusted Plan target is 9·7 per cent as against the actual average rate of 8·7 per cent during the first two years of the Plan. Some shortfall in this sector is anticipated as power generation in 1973-74 is expected to be about 80 billion KWh as against the Plan target of 85 million KWh. The contribution of gas and water supply to net value added in this sector is relatively too small to have a significant effect on the overall performance of the sector.

Gross Fixed Investment

26. The step up of net investment during 1971-72 to 1973-74 now envisaged implies average annual rate of growth of gross investment of about 9 per cent during this period. If the proportion of gross fixed investment in total gross investment could be assumed to continue more or less as in 1970-71, the former would be growing at about the same rate as the latter. Since construction activity relates to gross fixed investment, the investment anticipations for the last three years of the Plan suggest the growth of construction in terms of net value added of the order of 8 per cent. The required rate for the fulfilment of the adjusted Fourth Plan target for this sector is 11·1 per cent. A considerable shortfall in the Plan target is thus likely. This reflects the shortfall in gross fixed investment in real terms compared to that implied in the Fourth Plan estimates of net investment.

27. The required average annual rate of growth in the transport and communications sector during 1971-72 to 1973-74 for the realisation of the adjustd Plan target is 7·4 per cent as against the realised average rate of 4·9 per cent during the first two years. If the present momentum of agricultural growth is maintained, if vigorous industrial revival materialises, particularly in industries that generate the bulk of the railway freight traffic, if exports and imports grow as currently anticipated, if the present difficulties limiting the railways' ability to take on all the available traffic are overcome, and if there are no serious shortfalls in the implementation of the Plan programmes of development of communications, the net value added in this sector may grow during 1971-72 to 1973-74 at a rate not for below the required average rate for the realisation of the adjusted Plan target.

28. The required average annual rate of growth during 1971-72 to 1973-74 for the realisation of the adjusted Plan target in respect of the real estate and dwellings sector is 3·4 per cent. This is only marginally higher than the estimated realised rate of 3·3 per cent during the first two years of the Plan. As mentioned earlier, the net value added estimates in regard to this sector have a weak statistical basis and probably imply an understatement of the growth of net rental income from housing and of net income from real estate business. In this sector the actual rate of growth during 1971-72 to 1973-74 might very probably be higher than that required for the realisation of the adjusted Plan target.

29. In the trade, storage etc. sector, the required average annual rate of growth during 1971-72 to 1973-74 is 8·7 per cent as against the realised average rate of 4·6 per cent during the first two years of the Plan. The actual rate during 1971-72 to 1973-74 would depend upon how far the momentum of agricultural development would be maintained, vigorous industrial revival achieved and the anticipations regarding exports and imports fulfilled. Even if all these conditions are met in good measure, a substantial shortfall in relation to the required rate of growth during 1971-72 to 1973-74 is likely.

30. Public administration and defence, in terms of net value added have been expanding much faster than visualised in the Plan. In fact, the adjusted Fourth Plan target was exceeded by an appreciable margin in the second year of the Plan. To some extent, considerations of external and internal security have made an increase inevitable. While the 2 per cent annual rate of growth of this sector set in the Plan was unrealistically low, the actual rate of 7·9 per cent during the first two years underlines the need for vigorous restraint wherever possible through such measures as rationalisation of civil administration and improvements in efficiency.

31. In the banking, insurance and other services sectors, the required average annual rate of growth during 1971-72 to 1973-74 is the same as the realised rate during the first two years, namely, 4·7 per cent. The prospects are that the actual rate of growth may be higher than the required rate. The adjusted Fourth Plan target for 1973-74 may thus be exceeded.

32. Within the above sector, the banking and insurance sub-sector has been growing much faster than visualised in the Plan, the actual rate during the first two years being 8·9 per cent as against 4·7 per cent in the Plan. In this sub-sector the pace of expansion might further quicken so that the Plan adjusted target might be exceeded by a fairly wide margin.

33. In the other services sub-sector, the required average annual rate of growth during 1971-72 to 1973-74 is 5·5 per cent as against the realised rate of 3·6 per cent during the first two years of the Plan. As mentioned earlier, the latter might well be an underestimate. In any case, the shortfall in this sub-sector has been fully offset by overfulfilment in the banking and insurance sub-sector. During the remaining three years, the other services sub-sector might well grow at about the overall rate of growth of the economy. If so, despite the shortfall during the first two years, this sub-sector might yet approach the adjusted Plan target set for it.

34. Taking the economy as a whole, the required average annual rate of growth of net domestic product during 1971-72 to 1973-74 to realise the adjusted national income target is 6·2 per cent. Against this the actual rate has been 5·2 per cent in 1969-70 and 4·8 per cent in 1970-71. In 1971-72 a further decline in the rate of growth may occur due to the sharp decline in the rate of industrial growth during the first half of the year. The economy is expected to pick up during the second half of 1971-72 and gain a further momentum during the next two years. However, the average for the three year period 1971-72 to 1973-74 is unlikely to reach the required rate of growth of 6·2 per cent a year. The savings estimates assumed an average rate of growth of 5·5 per cent in real income for the next two years. Even this would require a substantial improvement in the performance of the economy during the second half of the Plan period compared to the first half. In order to achieve that, among other things, it would be necessary to take vigorous corrective action to deal with the inter-sectoral and intra-sectoral imbalances that have emerged during the first half of the Plan period, on account of wide and varied divergences in the case of several sectors and sub-sectors, between the planned and the realised rates of growth.

CHAPTER 2

PHYSICAL PROGRESS IN OUTLINE

THE fulfilment of the physical targets in different sectors taken individually and collectively is one of the important tests of the Plan's success. In terms of aggregate real income, the performance of the economy during the first two years of the Plan was only slightly below the targeted rate of 5·5 per cent a year. However, this was the result of good agricultural production and more especially of foodgrains. In the sphere of industry, performance has been decidedly below expectation. The progress in infrastructure and social services has also fallen behind the Plan schedule.

2. The mid-term appraisal of the Plan suggests that while in many sectors performance in the remaining years can be improved (the appropriate means are discussed at some length in the relevant chapters), there will be substantial shortfalls in fulfilling Plan targets in practically all branches of the economy. The physical progress achieved so far in major sectors and likely prospects for the remaining years, as emerging from the appraisal, are briefly indicated in the following paragraphs.

Agriculture

3. The growth of crop production in the first two years of the Plan has on the whole been satisfactory. The index of output rose by 7·0 per cent in 1969-70 and the corresponding increase in 1970-71 is expected to be 6·7%. Much of this was the result of good harvests of foodgrains, which reached the record level of nearly 108 million tonnes in 1970-71. The performance as between different foodgrains has by no means been uniform. While wheat output continues to maintain a vigorous growth, that of rice, the country's most important cereal, has recorded only a small increase over the base production. The output of pulses has remained more or less stagnant. Among the commercial crops, sugarcane output can be considered reasonably satisfactory but the performance of fibres and oilseeds is well below expectation. In fact, the output of jute and cotton during the first two years of the Plan was below the base level output assumed in the Fourth Plan projections. The output of oilseeds in 1970-71 was only slightly higher than the base level.

4. The trend of output depends on the rate at which programmes for irrigation, fertilisers, high yielding varieties and other requirements of increased production are carried through. The progress in irrigation and fertilisers is, as of now, below the targets of the Plan. In the first three years of the Plan, only 40 per cent of the targeted additions to irrigation potential and about 44 per cent of postulated additions to area actually irrigated have been achieved. Since a number of projects are scheduled to be completed towards the end of the Plan, a substantial improvement of performance is likely in the remaining years. Nevertheless, increases in cost of the projects have affected the irrigation programmes and several irrigation schemes have had to be rescheduled. This has led to slowing down of several projects. Some of the projects scheduled to be completed in the Fourth Plan are now expected to spill over into the Fifth Plan. Consequently there would be a slight shortfall in the fulfilment of targets for both potential and utilisation from major and medium projects. The progress of minor irrigation schemes especially energisation of pumps, is, however, satisfactory.

5. The target for high-yielding varieties is likely to be fulfilled in the case of wheat; but shortfalls are expected in rice and jowar. Fertiliser consumption which is a major source of additional production, has not increased as planned. The targets are not likely to be reached. The likely consumption of nitrogenous fertilisers in 1973-74 is now reckoned at 2·60 million tonnes (N) as against the original target of 3·20 million tonnes (N). Against the Plan target of 1·4 million tonnes (P_2O_5) for phosphatic fertilisers, actual achievements are likely to be around 0·8 million tonnes (P_2O_5).

6. Table 1 on the next page indicates progress under important items.

7. The shortfall in physical programmes will naturally affect the realisation of production targets. Taken in conjunction with recent performance of different crops, it is anticipated that foodgrains output will reach 122-125 million tonnes by 1973-74—a shortfall of 47 million tonnes. The shortfall in fibres and oilseeds is likely to be relatively greater.

8. Progress has also been uneven as between regions. States like Gujarat, Rajasthan and Haryana have accomplished their entire Fourth Plan targets relating to additional foodgrains production. At the other extreme are States like Andhra Pradesh, Bihar, Kerala, Maharashtra and Orissa which, by the end of the second year of the Plan, have failed to reach even the assumed base year levels. In part this reflects differences in the quality of planning and implementation; but it also reflects deficiencies in the techniques of forecasting and target-setting at the State level.

TABLE 1 : *Selected Physical Targets and Achievements*

sl. no.	item	unit	Fourth plan target	1968-69 actuals	1969-70 actuals	1970-71 anticipated	1971-72 target	1973-74 likely achievement	shortfall
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	foodgrains production	million tonnes	129·0	94·0	99·5	107·8	112·0	122 to 125	(—)4.0 to 7.0
2	rice . . .	million tonnes	52·0	38·8	40·4	42·5	n.a.	n.a.	n.a.
3	wheat . . .	million tonnes	24·0	18·7	20·1	23·3	n.a.	n.a.	n.a.
4	pulses . . .	million tonnes	15·0	10·4	11·7	11·4	n.a.	n.a.	n.a.
5	cotton . . .	million bales	8·0	5·14	5·26	4·56	6·50	6·2 to 6·6	(—)1·4 to 1·8
6	jute . . .	million bales	7·4	2·93	5·66	4·91	6·40	6·0 to 6·2	(—)1·2 to 1·4
7	oilseeds . . .	million tonnes	10·5	6·9	7·7	9·19	9·5	9·8 to 10·0	(—)0·5 to 0·7
8	sugar cane . .	million tonnes	15·0	12·8	13·8	13·2	13·2	13·5 to 14·0	(—)1·0 to 1·5
	fertilisers								
9	nitrogenous . .	million tonnes	3·20	1·14	1·36	1·49	2·0	2·60	(—)0·60
10	phosphateic . .	million tonnes	1·40	0·39	0·24	0·46	0·80	0·81	(—)0·59
11	potassic . .	million tonnes	0·90	0·16	0·21	0·23	0·40	0·52	(—)0·38
12	minor irrigation .	million hectares	7·20	1·37	1·21	1·47	1·60	n.a.	..
	major and medium irrigation								
13	potential (gross) .	million hectares	23·3	18·5	19·14	19·75	20·39	22·5	(—)0·8
14	utilisation (gross)	million hectares	20·7	16·8	17·14	17·68	18·35	n.a.	n.a.

Industry

9. The overall performance of the industrial sector in the first half of the Plan period was unsatisfactory. At the beginning there were signs of recovery in industrial production. The index of industrial output rose by 6·6 per cent in 1968-69 and by 6·9 per cent in 1969-70. The rate of growth, however, declined to about 3·5 per cent in 1970-71. A further slump in the rate of growth was noticed in the first half of 1971. The index is subject to a number of limitation; it conceals some significant developments in certain newer fields; it does not reflect adequately the substantial contribution of some of the new industries set up since 1960—the base year for the current index; and it does not reflect the dynamism in the small-scale sector. It is also true that the poor record of overall industrial growth is largely the result of stagnation or even decline in the output of a few major industries, especially textiles, steel and transport equipment. The fact nevertheless remains that the growth is well below the Plan target (8-10 per cent a year). More disturbingly, the growth rate has declined.

10. *Core Industries.*—The progress of production in the core sector is given in table 2 on the next page.

11. Many of the industries in this category *e.g.* alloy and special steel, aluminium, nitrogenous fertiliser, agricultural tractors, power tillers, newsprint, coking coal and petroleum have registered an increase in production during the first two years of the Plan. However, there was a decline in production of several other items including copper, zinc, machine tools and most important of all, iron and steel.

12. The fall in steel production was mainly due to the operational difficulties of some steel plants in the public sector and the deteriorating labour situation. Corrective measures (as suggested in the relevant chapter) are being taken. It is anticipated that the rate of capacity utilisation of the existing plants would substantially improve in the remaining years of the Plan. Because of these problems and the delay on the Bokaro plant, steel output in 1973-74 is likely to fall considerably short of the target.

13. A review of progress of other core industries suggests that the targets for many of them will not be reached on schedule. Substantial shortfalls are indicated in non-ferrous metals, iron ore, some of the industrial machinery items, fertilisers, newsprint, petro-chemicals and petroleum. These shortfalls are, expected to be made good in the early years of the Fifth Plan. Production targets for alloy and special steel and chemical machinery are likely to be exceeded. With regard to electronics, it is expected that the target set for all the items under this head would be reached by 1973-74.

TABLE 2 : *Production Targets and Achievements—Selected Industries in the Core Sector*

sl. no.	item	unit	1973-74 target	1969-70 actuals	1970-71 actuals	1971-72 anticipated	1973-74 likely achievement	surplus/ shortfalls 1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	steel ingots	million tonnes	10·80	6·43	6·11	6·75	8·25	(—)2·25
2	finished steel	million tonnes	8·10	4·80	4·47	5·60	6·20	(—)1·90
3	pig iron for sale	million tonnes	3·80	1·40	1·25	1·40	2·80	(—)1·00
4	alloy and special steel	thousand tonnes	220·00	140·40	200·00	200·00	247·00	27·00
5	aluminium	thousand tonnes	220·00	135·00	168·70	179·80	210·00	(—)10·00
6	copper	thousand tonnes	31·00	9·80	9·33	9·50	14·00	(—)17·00
7	zinc	thousand tonnes	70·00	23·70	23·40	30·00	38·00	(—)32·00
8	chemical machinery	Rs. million	275·00	133·00	170·00	220·00	185·00	(—)90·00
9	printing machinery	Rs. million	80·00	2·40	3·60	6·60	25·00	(—)55·00
10	machine tools	Rs. million	650·00	272·00	230·00	420·00	600·00	(—)50·00
11	nitrogenous fertilisers	thousand tonnes	2500·00	715·60	930·00	1130·00	1800·00	(—)700·00
12	phosphatic fertilisers	thousand tonnes	900·00	221·50	229·00	300·00	458·00	(—)442·00
13	agricultural tractors	thousand nos.	50·00	17·10	20·00	35·00	60·00	10·00
14	newsprint	thousand tonnes	150·00	38·92	40·00	55·00	65·00	(—)85·00
15	iron ore	million tonnes	51·40	28·00	28·00	30·00	42·00	(—)9·40
16	coking coal	million tonnes	25·40	17·00	18·18	19·00	21·00	(—)4·40
17	petroleum (crude throughput)	million tonnes	26·00	16·20	18·00	19·00	21·50	(—)4·50
18	D.M.T.	thousand tonnes	20·00	—	—	—	18·00	(—)2·00
19	caprolactum	thousand tonnes	23·00	—	—	—	—	(—)23·00
20	acrylonitrite	thousand tonnes	16·00	—	—	—	—	(—)16·00
21	synthetic rubber	thousand tonnes	70·00	28·60	30·00	31·00	36·00	(—)34·00

14. Table 3 on the next page indicates progress in selected non-core industries.

15. In the non-core sector, although the overall performance was poor in 1970-71 as compared to 1969-70, increases in production have been achieved in a number of industries such as cotton textile machinery, sugar machinery, commercial vehicles, automobile tyres, electric transformers, electric motors, electric fans, storage batteries, radio receivers, paper and paper board and cement. Further step-up in production is anticipated in 1971-72.

16. On the other hand, there has been a fall in output in 1970-71 as compared to 1969-70 in cement machinery, power-driven pumps, sewing machines, diesel engines, sulphuric acid and sugar. Even here, significant recoveries are expected in most of these industries during 1971-72.

17. Cotton textiles, a major consumer industry which also has a large weight in the index of industrial production, have been more or less stagnant. Production of mill cloth was around 4200 million metres in 1969-70 and 1970-71 and is expected to be about 4300 million metres in 1971-72. The rate of progress is obviously inadequate to reach to the Plan target of 5100 million metres of cotton cloth in the organised sector. The likely achievement may be about 4500 million metres. This set-back in cotton textile industry is mainly due to the serious shortage of cotton and partly to power shortage in certain areas in the north.

18. An assessment of the likely achievements of production in the non-core sector of industries by 1973-74 reveals that the Plan targets would be fulfilled in respect of a number of industries such as power-driven pumps, electric transformers, eletric motors, paper and paper board, cement, auto-

TABLE 3 : *Production Targets and Achievements of Selected Industries other than Core Sector*

sl. no.	industry	unit	1969-70 actuals	1970-71 actuals	1971-72 anticipated	1973-74 target	1973-74 likely achievement	shortfall excess
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	cotton textile machinery	Rs. million	204	315	300	450	300	(—)150
2	cement machinery	Rs. million	98	89·3	100	190	150	(—)40
3	sugar machinery	Rs. million	124	152·8	170	210	190	(—)20
4	steel castings	thousand tonnes	46	52	75	225	155	(—)70
5	steel forgings	thousand tonnes	60	69	80	220	100	(—)120
6	power driven pumps (organised sector)	thousand nos.	333	280	400	450	350	(—)100
7	diesel engines	thousand nos.	133·4	67·4	70	200	80	(—)120
8	commercial vehicles	thousand nos.	35·5	41·5	45	85	60	(—)25
9	bicycles (organised sector)	thousand nos.	1914	2084	2300	3200	2700	(—)500
10	sewing machines (organised sector)	thousand nos.	327	235	380	600	500	(—)100
11	electric fans (organised sector)	thousand nos.	1552	1720	2000	3000	2500	(—)500
12	storage batteries (organised sector)	thousand nos.	927	1000	1100	1800	1500	(—)300
13	radio receivers (organised sector)	thousand nos.	1749	1830	2250	3800	3250	(—)550
14	electric trnasformers (above 33 kv)	mill. kva	2·5	3·0	4·0	6·4	6·4	—
15	electric trnasformers (33 kv and below)	mill. kva	3·8	6·5	7·0	5·5	8·6	(+)3·1
16	electric motors (above 200 hp)	mill. h.p.	0·2	0·3	0·4	0·68	0·68	—
17	electric motors (200 hp and below)	mill h.p.	2·42	3·0	3·5	2·72	3·82	(+)1·1
18	sulphuric acid	thousand tonnes	1129	1116	1350	2500	1750	(—)750
19	paper and paper board	thousand tonnes	724	756	800	850	850	—
20	cement	mill. tonnes	13·81	14·36	15·50	18	18	—
21	automobile tyres	mill. nos.	3·99	4·15	4·5	6	6	—
22	cotton cloth (mill sector)	mill. metres	4192	4200	4300	5100	4500	(—)600
23	jute manufactures	thou. tonnes	944	1050	1100	1400	1400	—
24	sugar	thou. tonnes	4260	3765	3400	4700	4700	—
25	vanaspati	thou. tonnes	477	525	550	625	625	—

mobile tyres, jute manufactures, sugar and vanaspati. However there might be substantial shortfalls in many others, notably in cement machinery, steel castings and forgings, diesel engines, bicycles, electric fans, sulphuric acid and cotton cloth.

19. It is clear that the Plan target of increase in overall industrial production is not likely, to be realised. However, given concerted efforts at creating a climate of expansion and at speeding up the implementation of projects, the 1973-74 targets for key industries and for overall industrial production could be reached in the early part of the Fifth Plan.

Power

20. The progress in the capacity for electricity generated during the first three years of the Plan is indicated in table 4.

TABLE 4 : *Progress of Installed Capacity*

(million Kw)

year	target	actual	cumulative total
(1)	(2)	(3)	(4)
1969-70	1·63	1·22	15·52
1970-71	1·32	0·97	16·50
1971-72	1·18	1·18[1]	17·68[1]

[1]Anticipated.

21. The shortfall in generation capacity during the first two years was mainly on account of the slow progress on projects. This in turn was primarily due to delay in the delivery of plant and equipment from the manufacturing units. Delay in the commissioning of the major power projects, particularly in the Northern Region, and the consequent shortfall in generating capacity has led to a serious power shortage in that region which affected the production of important industries like fertilisers and cotton textiles. The situation is expected to improve in the latter part of the Plan when a number of schemes will get completed. Total generating capacity in 1973-74 is likely to be around 21·2 million Kw. against a target of 23 million Kw.

22. The achievement in regard to rural electrification is summarised in table 5.

TABLE 5 : *Number of Villages Electrified*

year	villages electrified during the year	villages electrified cumulative total
(1)	(2)	(3)
as on 31-3-1969	—	71410
1969-70	18567	89977
1970-71	15461	105438
1971-72	17661	123099

23. It is anticipated that as many as 1,58,000 villages covering 43 per cent of the rural population might be electrified by the end of 1973-74. The Plan target for energisation of 12·5 lakh additional pumpsets would be realised by 1973-74.

Transport and Communications

24. The growth of freight traffic under railways in the first two years of the Plan has been below expectation. Against the targets of 214 million tonnes in 1969-70 and 217 million tonnes in 1970-71, the achievements of freight traffic were 208 million tonnes and 199 million tonnes respectively. This is mainly due to short-falls in production of major commodities like steel, coal, and iron ore for export. Since the Plan targets for industries, especially for steel, coal, cement, iron ore and fertilisers, are not likely to be realised, the level of freight traffic at the end of the Plan is likely to be below the targeted 265 million tonnes. On current reckoning the traffic in 1973-74 may be around 240 million tonnes.

25. The passenger traffic on the railways, however, has registered an increase. The originating traffic increased by 5·7 per cent in 1969-70 and 6 per cent in 1970-71. It is expected that the Plan target in terms of originating passenger traffic might be exceeded.

26. The traffic handled in major ports has increased from 54·6 million tonnes in 1969-70 to 56·0 million tonnes in 1970-71 and is expected to reach a level of 61 million tonnes in 1971-72. The expectation is that the Plan target of 77 million tonnes might be nearly achieved.

27. As regards shipping, the expectation was that the tonnage would increase from 2·14 million grt in 1968-69 to about 3·5 million grt in 1973-74 with another 0·5 million grt on order. The progress in the first three years however has been rather slow. By 1971-72 the operational tonnage is expected to reach 2·5 million grt. On present indications, the target of 3·5 million grt of operational tonnage for 1973-74 will be reached a year later.

Education

28. The Fourth Plan envisaged raising enrolment in the age-group 6-14 years from 67.76 million at the commencement of the Plan to 86.68 million at the end of the Plan. At the primary stage, 95 per cent of the Fourth Plan target of enrolling 13.8 million additional students will be achieved. The enrolment target for girls is, however, not likely to be realised. Keeping in view the likely achievements during the first three years (1969-72), the target of 5.46 million additional enrolment at the middle school stage may not be achieved fully. The anticipated achievement is about 4.65 million.

29. The progress in different States has been uneven. In relation to the Plan targets, progress has been particularly slow in Assam, Mysore and Punjab.

30. The target of additional enrolment of 3.3 million children in classes IX-XI may be fully achieved. There has also been rapid expansion of facilities for higher education. The number of students in arts, science and commerce classes rose form 1.7 million in 1968-69 to about 2.1 million in 1970-71. For the Plan as a whole, the increase is likely to be less than original expectation:

TABLE 6 : *Enrolment Targets and Achievements*

(million in figures)

sl. no.	class	Fourth Plan targets addl. enrolment	1969-71 achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)
1	classes I-V (6-11 years)	13·80	4·99	2·64
2	classes VI-VIII (11-14 years)	5·46	1.63	0·97
3	classes IX-XI (14-17 years)	3·27	1·13	0·69
4	university education arts, science and commerce	1·08	0·39	0·17

31. In the case of teacher education, the prevalence of considerable unemployment among trained teachers in many States has led to a reduction of the intake in training institutions and in some cases extension of the period of training from one year to two years. The real problem here is not so much of quantitative expansion as of qualitative improvement.

32. The main emphasis in technical education during the Fourth Plan has also been on improving quality. In view of unemployment among engineers there has been virtually no expansion in the enrolment in engineering colleges and polytechnics. Progress towards improving the quality of technical education has been very slow. The main reason would appear to be inadequate financial provisions in State Plans.

33. The progress of scholarships programmes which are important in helping poor and meritorious students take advantage of educational opportunities, has not been satisfactory. Against the total allocation of 14.73 crores, by the Ministry of Education, the likely achievement is expected to be only Rs. 6.24 crores. Similarly, under the UGC scheme, against a target of Rs. 5.75 crores, the expected outlay is placed at Rs. 1.36 crores.

Health and Family Planning

34. While the expansion of facilities for the training of doctors and nurses is in line with Plan targets, progress in strengthening primary health services and in programmes for control of communicable diseases is not commensurate with the targets. During the first two years of the Plan, against a target of 264 primary health centres, only 169 were established. During these two years, 10,500 beds have been added against five-year target of about 26,000. The slow progress in the communicable disease programme so far has been due to delay in finalisation of Plan schemes and resultant delays in sanction and release of funds to the implementing agencies. By clearing these bottlenecks, it should be possible in the remaining years to achieve quicker progress.

35. A greatly intensified programme for family planning is one of the distinctive features of the Plan. The aim was to establish a country-wide infrastructure to provide family planning advice and services and to spread the use of contraceptive methods. The progress so far has not been adequate both in financial and physical terms. The publicity programmes has clearly led to a mass awareness of family planning. But the actual use of contraceptive methods is not spreading as fast as expected and desired. While there is evidence of a rapid increase in the use of conventional contraceptives, the sterilisation and IUCD programmes have not made satisfactory progress. In fact, the annual rate of sterilisations and IUCD insertions has remained nearly stagnant over the last few years. In relation to annual Plan targets, the performance is disturbingly poor.

Water Supply

36. The progress on urban water supply has been fairly satisfactory except for the metropolitan cities like Bombay, Madras, Hyderabad and Delhi. In the rural areas, more than 6000 villages were provided with piped water supply, benefiting a population of 51 lakhs. Wells were constructed or renovated in nearly 12,000 villages, benefiting an additional population of 25 lakhs.

Social Welfare

37. In the social welfare sector, child welfare has been accorded high priority. An important development is the emphasis on removal of mal-nutrition among pre-school children. Two programmes have been under implementation since January 1971. In the programme for feeding pre-school children through Balvadis, about 1.2 lakh children are being provided with nutritional facilities at 3301 institutions by the Indian Council of Child Welfare, Harijan Sevak Sangh, Bhartiya Adimjati Sevak Sangh and the Central School Welfare Board. As part of the second programme for crash nutrition feeding among children in the age group of 0—6 years and for expectant mothers in slums and tribal areas, about 6.5 lakh children were covered in 1970-71. In 1971-72, a target of 20 lakh children is aimed at.

38. The programme for grants-in-aid to voluntary organisations, administered by the Central Social Welfare Board, has continued. Against the Plan provision of Rs. 6.5 crores, disbursements during the first three years are estimated to be around Rs. 4 crores. Quantitatively, the Plan targets are likely to be achieved. There are, however, qualitative aspects which need greater attention. There scope for improvement in the field-counselling services as also in the formulation and evaluation of grants-in-aid policy.

39. Shortfalls are expected in schemes for the welfare of physically handicapped, especially for expansion and establishment of national centres for the blind, deaf, the mentally retarded and the orthopaedically handicapped.

Backward Classes

40. An assessment of progress of expenditure on programmes for the development of Backward Classes shows that the Plan allocation of Rs. 60 crores under Centrally Sponsored Schemes will be fully utilised. Expenditure in excess of the Plan provision is anticipated under post-matric scholarships to scheduled castes and scheduled tribes students and schemes for the tribal development blocks.

41. For promotion of education among girls belonging to the backward communities, girls, hostels continue to be opened. In 1969-70 assistance was given for construction and expansion of 180 hostels. The Department of Social Welfare has reviewed the implementation of those schemes, liberalised the terms of assistance and extended the schemes to cover pre-matric and post-matric education.

42. For improving the placement of scheduled castes and scheduled tribes in the posts reserved for them, pre-examination training centres have been set up in 12 States and one Union Territory. There are two other centres for coaching candidates from these communities for the All India and Central Services Examinations. There are four centres for confidence building, career guidance and pre-employment coaching.

ANNEXURE I

Selected Physical Targets and Achievements

sl. no.	item	unit	Fourth Plan target	progress 1969-70 actual	1970-71 actual/anticipated	1971-72 target/anticipated achievement	1973-74 likely achievement
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	agriculture and allied programmes						
1	foodgrains	mill. tonnes	129·00	99·50	107·81	112·0	122 to 125
2	oilseeds	mill. tonnes	10·50	7·73	9·19	9·50	9·80 to 10·00
3	sugarcane (gur)	mill. tonnes	15·00	13·78	13·19	13·20	13·50 to 14·00
4	cotton	mill. bales	8·00	5·26	4·56	6·50	6·20 to 6·60
5	jute	mill. bales	7·40	5·66	4·91	6·40	6·00 to 6·20
6	high-yielding varieties programme	mill. hectare	25·00	11·41	14·61	18·00	25·00
7	multiple cropping (additional)	mill. hectares	9·00	1·52	1·59	1·90	9·00
8	minor irrigation (additional)	mill. hectares	7·20	1·21	1·47	1·60	7·20
9	soil conservation (additional)	mill. hectares	5·65	1·05	1·25	1·25	5·65
	consumption of fertilisers						
10	nitrogenous (in terms of N)	mill. tonnes	3·20	1·36	1·49	1·78	2·60
11	phosphatic (in terms of P_2O_5)	mill. tonnes	1·40	0·42	0·46	0·64	0·81
12	pottasic (in terms of K_2O)	mill. tonnes	0·90	0·21	0·23	0·34	0·52
13	plant protection	mill. hectares	80·00	34·61	43·20	50·76	70·00
14	short and medium term loans advanced	Rs. crores	750·00	542·00	601·06	650·01	750·00
	irrigation : major and medium						
15	potential (gross) (cumulative)	mill. hectares	23·3	19·14	19·75	20·39	22·5
16	utilisation (gross) (cumulative)	mill. hectares	20·7	17·14	17·68	18·35	N.A.
17	installed capacity	mill. KW	23·0	15·524	16·502	17·681	21·200
18	pumpsets energised	thou. nos.	2650	1354	1629	1929	2650
	industry and minerals						
19	steel ingots	mill. tonnes	10·8	6·43	6·1	6·75	8·25
20	finished steel	mill. tonnes	8·1	4·8	4·47	5·6	6·2
21	alloy and special steel	thou. tonnes	220·0	140·4	200·0	200·0	247·0
22	aluminium	thou. tonnes	220·0	135·0	168·7	179·8	210·0
23	copper	thou. tonnes	31·0	9·8	9·33	9·5	14·0
24	zinc	thou. tonnes	70·0	23·7	23·4	30·8	38·0
25	metallurgical and other heavy engg. machinery	thou. tonnes	75·0	18·0	20·0	25·0	40·0
26	agricultural tractors	thou. nos.	50·0	17·1	20·0	35·0	60·0
27	turbines (thermal)	mill. kw.	1·30	0·32	..	..	1·2
28	turbines (hydro)	mill. k.w.	1·65	..	..	..	1·1
29	production of nitrogenous fertilisers (in terms of N)	thou. tonnes	2500	715·6	930·0	1130·0	1800
30	production of phosphatic fertilisers (in terms of P_2O_5)	thou. tonnes	900	221·5	229·0	300·0	458·0
31	sulphuric acid	thou. tonnes	2500	1129	1116	1350	1750
32	coking coal	mill. tonnes	25·4	17·0	18·8	19·0	21·0
33	iron ore	mill. tonnes	51·4	28·0	28·0	30·0	42·0
34	production of crude petroleum	mill tonnes	8·5	6·7	7·0	7·5	8·5
35	refining capacity (in terms of throughput)	mill. tonnes	26·0	16·2	18·0	19·0	21·5
36	machine tools (organised sector)	Rs. million	650·0	272·0	230·0	420·0	600·0
37	ball and roller bearings	mill nos.	20·0	14·00	18·2	18·0	21·0
38	power driven pumps (organised sector)	thou. nos.	450·0	333·0	280·0	400·0	350·0
39	diesel engines (stationery and organised sector)	thou. nos.	200·0	133·4	67·4	70·0	80·0

ANNEXURE I—Contd.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
40	commercial vehicles . . .	thou. nos.	85·0	35·5	41·5	45·0	60·0
41	electric transformers above 33 kv.	mill. kv.	6·4	2·5	3·0	4·0	6·4
42	electric transformers 33 kv and below	mill. nos.	5·5	3·8	6·5	7·0	8·6
43	electric motors above 200 HP .	mill. hp.	0·68	0·20	0·30	0·4	0·68
44	electric motors 200 HP and below	mill. hp.	2·72	2·42	3·00	3·5	3·82
45	paper and paper board . .	thou. tonnes	850	724	756	800	850
46	cement	mill. tonnes	18·0	13·81	14·36	15·5	18·0
47	cotton cloth (mill sector) . .	mill. metres	5100·0	4192	4200	4300	4500
48	jute textile	thou. tonnes	1400·0	944·0	1050·0	1100·0	1400
49	sugar	thou. tonnes	4700·0	4260·0	3765	3400	4700
	village and small industries						
50	production of handloom, power-loom and khadi cloth . .	mill. metres	4250	3600	3760	3810	3900
51	raw silk	mill. kgs.	3·0	2·30	2·85	3·00	3·20
	transport and communications						
52	railways traffic originating .	mill. tonnes	265·0	207·9	199·0	208·0	240·5
53	major ports : traffic handled .	mill. tonnes	77·0	54·6	56·0	61·0	76·7
54	shipping tonnage . . .	mill. grt	3·5	2·3	2·4	2·5	2·83
	education						
55	addl. enrolment in classes I-V .	million nos.	13·80	2·22	2·77	2·64	
56	addl. enrolment in classes VI-VIII	million nos.	5·46	0·79	0·84	0·97	
57	addl. enrolment in classes IX-XI	million nos.	3·27	0·45	0·68	0·69	
58	university education (arts, science and commerce courses) . .	million nos.	1·08	0·17	0·22	0·17	
	health and family planning						
59	hospitals beds . .	thou. nos.	281·6	262·4	266·0	276·0	
60	family planning . . .						
61	sterilisation	million nos.	..	1·42	1·28		
62	IUCD insertions . . .	million nos.	..	0·46	0·46		

[1]Target of States and Union Territories for 1971-72 amounts to Rs. 677·66 crores.

CHAPTER 3

FINANCING THE PUBLIC SECTOR PLAN

THE Fourth Five Year Plan placed the estimate of resources for the Public Sector Plan at Rs. 15902 crores. The Centre was expected to mobilise Rs. 12796 crores—Rs. 9296 crores for its own Plan and Rs. 3500 crores for transfer to States as Central assistance for their Plans. In addition, the States were to mobilise Rs. 3106 crores to make up the total of Rs. 6606 crores of resources for the State Plans.

2. A reassessment of resources for the Public Sector Plan has been undertaken as part of the mid-term appraisal of the Plan. Based on the experiences of Plan financing during the first three years, the reassessment places the five-year estimate of resources for the Public Sector Plan at Rs. 15898 crores—Rs. 12128 crores to be mobilised by the Centre and Rs. 3770 crores by the States. As compared to the originl Plan estimates, the resources of the Centre are expected to show a decrease of about Rs. 670 crores whereas those of the States are expected to show more or less a corresponding increase. Central assistance for State Plans has been kept at the same level as originally envisaged. However, since Himachal Pradesh has become a State since January 1971, the total for all States (including Himachal Pradesh) has now been shown at Rs. 3567 crores as against Rs. 3500 crores in the original scheme of financing the Plan.

3. It may be noted that the revised estimates are at current prices for the first two years while for the rest of the Plan period they are at prices prevailing in the first four months of the current year. These estimates, are, therefore, strictly speaking not comparable to the original estimates which were at 1968-69 prices. It is not possible to rework the revised estimates in respect of individual items at 1968-69 prices. On a rough basis, however, the aggregate resources in real terms are estimated to amount to Rs. 14350 crores; nearly 10 per cent less than the original estimate.

4. Itemised details of resource mobilisation by the Centre and States are indicated for each of the first three years and the Plan period as a whole in the Annexure. The financing of the Public Sector Plan outlays in 1969-70, 1970-71 and 1971-72 is shown in table 1. The revised estimates emerging from the recent reassessment of resources for the Fourth Plan are also indicated in table 1 along with the original estimates :

TABLE 1 : *Financing of the Public Sector Plan*

(Rs. crores)

sl. no.	item	Fourth Plan original estimates	1969-70 actuals	1970-71 latest estimates	1971-72 latesst estimates	Fourth Plan revised estimates
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	*domestic budgetary resources other than negotiated loans and state enterprises market borrowings at* 1968-69 *rates of taxes, fares, freights and tariffs*	**8734**	**1250**	**1319**	**1333**	**7681**
2	balance from current revenues at 1968-69 rates of taxation	1673[1]	158[1]	157[1]	(—)61[1]	802[1]
3	contribution of public enterprises at 1968-69 fares, freights and tariffs :	2029	253	194	207	1171
4	railways	265	27	(—)19	(—)35	(—)118
5	posts and telegraphs	225	40	36	42	236
6	IDC, ARC, REC, and DVC and central power generation units	259	17	33	55	219
7	others	1280	169	144	145	834
8	retained profits of Reserve Bank.	202	8	47	60	269
9	loans from public by the central and state governments (net)	1415	211	285	289	1575
10	borrowings by FCI and financial institutions	405	22	130	58	405
11	food corporation of India	155	..	116	19	155
12	financial institutions	250	22	14	39	250

TABLE 1—*Contd.*

(0)	(1)	(2)	(3)	(4)	(5)	(6)
13	small savings	769	129	191	182	1000
14	annuity deposits, compulsory depostis, prize bonds and gold bonds	(—)104	(—)34	(—)18	(—)18	(—)98
15	state provident funds	660	156	144	154	782
16	misc. capital receipts (net)	1685	347	189	462	1775
17	*additional resource mobilisation*	**3198**	**191**	**429**	**715**	**3728**
18	centre[2]	2100	139	309	544	2630
19	States	1098	52	120	171	1098
20	*loans from LIC and state enterprises' market borrowings (gross)*	**506**	**126**	**133**	**153**	**746**
21	LIC loans to state governments for housing and water supply	100	18	20	30	126
22	market borrowings of state enterprises	258	75	68	79	400
23	loans from LIC etc. to state enterprises	148	33	45	44	220
24	*total domestic budgetary resources* (1+17+20)	**12438**	**1567**	**1881**	**2201**	**12155**
25	*budgetary receipts corresponding to external assistance*	**2614**	**574**	**547**	**574**	**2540**
26	other than PL 480	2234	356	425	428	1980
27	PL 480 assistance	380	218	122	146	560
28	*deficit financing*	**850**	**58**	**365**	**383**	**1203**
29	*aggregate resources* (24+25+28)	**15902**	**2199**	**2793**	**3158**	**15898**

[1]Inclusive of states' share in additional taxation by the centre.

[2]Net of states' share.

5. The outlay on the Public Sector Plan amounted to Rs. 2199 crores in 1969-70. To finance it, the Centre and the States mobilised Rs. 1567 crores of domestic budgetary resources. External assistance has provided Rs. 574 crores and only Rs. 58 crores of deficit financing was found necessary. This is the lowest amount of deficit financing in any single year since the beginning of the Third Plan.

6. In 1970-71, the Public Sector Plan outlay is estimated to have been raised by Rs. 594 crores to Rs. 2793 crores. Domestic budgetary resources of the Centre and States in that year are estimated at Rs. 1881 crores, or Rs. 314 crores, more than in the preceding year. But external assistance turned out to be lower and deficit financing had to be stepped up to Rs. 365 crores to match the resource requirement of the year's Plan.

7. Public Sector Plan outlay for 1971-72 has been fixed at Rs. 3158 crores, or Rs. 365 crores higher than the estimated level for 1970-71. For financing this enlarged Plan outlay, the Centre and the States are expected to raise Rs. 2201 crores from domestic budgetary sources. External assistance (exclusive of grants for providing relief to evacuees from Bangla Desh) is to contribute Rs. 574 crores. The remaining gap in resources amounting to Rs. 383 crores is to be filled in by deficit financing.

8. Such a large order of deficit financing, following an equally large amount of deficit financing in the preceding year, is itself a matter of concern when the economy is already showing symptoms of inflationary pressures. But it becomes a more serious matter when doubts are cast on the feasibility of containing it within the estimated amount. One such element which may significantly worsen the position is the burden of expenditure on relief to evacuees from Bangala Desh. The Central budget for the current year included a provision of Rs. 60 crores for such expenditure. Later, this provision was raised to Rs. 260 crores through a supplementary demand authorised by the Parliament to meet the expenditure upto December 1971. Against this, credit was taken for Rs. 70 crores of assistance from abroad, so that the provision made for expenditure from domestic resource was Rs. 190 crores. This has been responsible for raising deficit financing to Rs. 383 crores. The total cost of relief to evacuees in the current year is, on present expectations, likely to be substantially larger than indicated above. Unless matched by an equally large effort to raise resources through non-inflationary means, including additive external aid, deficit financing will further go up. This will aggravate the strains on the economy. It is to avoid this that the Central Government has recently taken steps to raise additional resources for meeting part of the expenditure on evacuees. The measures undertaken are expected to yield Rs. 13 crores in the current year and Rs. 35 crores in a full year. The States are also expected, to adopt measures for raising additional resources towards meeting the expenditure on evacuee relief. Some States have already announced such measures while action in other is yet to be taken. The task of raising additional resources for evacuee relief needs to be assigned the utmost urgency if the economy is not to be thrown into an inflationary spiral of Plan resources seriously eroded.

9. For the next two years, domestic budgetary resources of the Central and State Governments are estimated at Rs. 6506 crores. This is on the assumption that the Central and State Governments enterprises would undertake additional resource mobilisation of about Rs. 620 crores for the Plan in these years. A sum of Rs. 300 crores is expected to be raised by the Central Government and its enterprises and the balance by State Governments and their enterprises. No provision has been made for any outlay on relief of evacuees from Bangla

Desh in these years nor has any credit been taken for external assistance for evacuees or for the yield from the measures specifically meant for meeting the cost of evacuee relief. Besides, no provision has been made for further increase in dearness allowance, or pay at the Centre and in most of the States or for any larger disbursement on food subsidy beyond the current level of Rs. 30 crores a year. Consistent with the objective of price stablility, the safe limit for deficit financing in the next two years has been taken at Rs. 400 crores. This takes into account the postulated growth of national income in real terms, extension of banking facilities in rural areas and consequential growth of bank deposits as also the rise in the proportion of cash spending on consumption and capital goods in the rural sector. The actual quantum of deficit financing in each year will, however, have to be determined in the light of the emerging situation. Net budgetary receipts from external assistance over the next two years have been taken at a total of Rs. 845 crores.

10. Brief comments on the estimates for the Fourth Plan in respect of individual items are given below :

Balance from Current Revenues

11. The balance for the Plan from the current revenues of the Central and State Governments at 1968-69 rates of taxation, but inclusive of the States' share in additional taxation by Centre, amounted to Rs. 158 crores in 1969-70 and is estimated at Rs. 157 crores for 1970-71 and at (—) Rs. 61 crores for 1971-72. For the next two years it is placed at Rs. 548 crores. This estimate takes credit for the likely growth of revenues in response to the rising level of production and incomes and the efforts to step up revenue collections after allowing for only a moderate gowth in non-Plan expenditure. On this basis, the total balance for the five-year period of the Plan now works out at Rs. 802 crores as against the original Plan estimates of Rs. 1673 crores.

12. At the Centre, the balance from current revenues at 1968-69 rates of taxation is expected to show a deterioration of as much as Rs. 929 crores, due mainly to increase in expenditure on defence, revision of emoluments of Government employees food subsidy, relief to evacuees from Bangla Desh and non-Plan schemes for providing rural employment and employment to technically trained and educated persons. The tax and non-tax revenues have been more buoyant than envisaged earlier. But this would go to offset only a part of the deterioration caused by the factors mentioned above.

13. In the States, the balance at 1968-69 rates of State taxes is expected to show a modest improvement, due mainly to an increase in their share in Central taxes, inclusive of the share in fresh taxation by the Centre since 1969-70, and greater buoyancy of revenues from the States' own tax and non-tax sources partially offset by increases in emoluments of Government employees, teachers etc. and larger expenditure on relief from natural calamities in some States.

Contribution of Railways

14. The contribution of railways towards the financing of their development programme at 1968-69 fares and freight charges amounted to Rs. 27 crores in 1969-70. For 1970-71 however, the latest estimates at 1968-69 fares and frieght charges indicate a negative contribution of Rs. 19 crores. In 1971-72, the negative contribution is expected to increase to Rs. 35 crores. The deterioration in railways' position is attributable mainly to the failure of the freight traffic to come up to the eariler expectations and increase in working expenses on account of the grant of interim relief to employees and rise in prices. On present expectations, the railways are expected to make a negative contribution of Rs. 118 crores over the Fourth Plan period as a whole at 1968-69 fares and freight charges instead of a positive contribution of Rs. 265 crores as originally envisaged.

15. It may be mentioned that the time of the finalisation of the Fourth Plan also, it was noted that railways, contribution at 1968-69 fares and freight charges might fall short of the estimate of Rs. 265 crores, but the shortfall was expected to be made up by the railways through additional resources mobilisation beyond the level of Rs. 150 crores taken credit for in the scheme of Plan financing. The additional resources mobilisation already undertaken by the railways is expected to yield about Rs. 235 crores over the Fourth Plan period and some further effort by them towards making up the shortfall in their total contribution for the Plan could be expected in the remaining period of the total contribution for Plan also. Despite this further effort, the railways, the Plan is now expected to show a large shortfall as compared to the original estimate.

Contribution of Posts and Telegraphs

16. The contribution of Posts and Telegraphs at 1968-69 postal rates amounted to Rs. 40 crores in 1969-70. It is estimated at Rs. 36 crores for 1970-71 and at Rs. 42 crores for 1971-72. For the Plan period as a whole, the total contribution is expected to show a moderate improvement over the original estimate.

Resources of IDC, ARC, REC, DVC and Central Power Generation Units

17. The resources of ARC, REC, DVC and Central power generation units amounted to Rs. 17 crores in 1969-70. The resources of these undertakings as also of the Indian Dairy Corporation are estimated at Rs. 33 crores for 1970-71 and at Rs. 55 crores for 1971-72. However, over the Plan period as a whole, the total resources of these institutions are expected to fall short of the original estimates by about Rs. 40 crores, due mainly to lower contribution by the Central power generation units and a decrease in resources of the Indian Dairy Corporation.

Contribution of other Public Enterprises

18. The contribution of other non-departmental undertakings of the Central Government amounted to Rs. 75 crores in 1969-70. The contribution in these years was far below the original expectation, due mainly to a set-back in production, particularly in the case of steel and fertiliser industries, rise in working expenses due to higher wage and material costs, larger inventories and labour troubles. In 1971-72 the contribution of the undertakings is expected to show a marked improvement. However, over the Plan period as a whole, the contribution of these undertakings is now expected to show a shortfall of Rs. 285 crores as compared to the original estimate. In the case of States, also, the contribution of non-departmental undertakings, mainly State Electricity Boards and Road Transport Corporations, has been running below the level originally envisaged primarily because of shortfall in sales of power and increases in emoluments of employees and other working expenses. Over the Plan period as a whole, the contribution of these undertakings towards the financing of their development programmes is expected to fall short of the original estimate by about Rs. 161 crores.

Retained Profits of Reserve Bank

19. These are expected to show an increase over the original estimate because of higher profits emerging from the larger quantum of deficit financing.

Market Borrowings

20. Net receipts from market borrowings by the Central and State Governments amounted to Rs. 211 crores in 1969-70 and Rs. 285 crores in 1970-71. For the current year, these are estimated at about Rs. 289 cores. Subscriptions to Government securities by institutional investors like commercial banks, Life Insurance Corporation and the Employees Provident Fund have turned out to be substantially larger than originally envisaged because of a distinct improvement in their investible resources. Over the Plan period as a whole, the net receipts of the Central and State Governments from market borrowing are now estimated at Rs. 1575 crores, or Rs. 160 crores larger than the original estimate.

Borrowings of FCI and Financial Institutions

21. The borrowings of the Food Corporation of India from the banking system for addition to buffer stocks of foodgrains amounted to Rs. 116 crores in 1970-71. For the Plan period as a whole, these have been taken at the same level as originally envisaged, viz. Rs. 155 crores. Market borrowings by financial institutions were rather low in 1969-70 and 1970-71 but are expected to pick up substantially in the current year. Over the Plan period as a whole, they are expected to be of the same order as estimated earlier.

Small Savings

22. Net collections of samll savings showed a marked improvement in 1970-71. When they reached the level of Rs. 191 crores. This was largely due to increase in interest rates and investment in postal time deposits by the Employees' Provident Fund. Net collections of small savings over the Plan period are now estimated at Rs. 1000 crores, or Rs. 231 crores more than originally envisaged.

Annuity Deposits

23. This item is expected to show only a minor variation as compared to the original estimate.

State Provident Funds

24. Net receipts from State Provident Funds, in 1969-70 and 1970-71 turned out to be substantially larger than envisaged earlier, due partly to the revision of emoluments of Government employees and crediting of a part of the increase in emoluments to the provident fund accounts of employees in some States. In the light of this, total net receipts from State provident funds over the Plan period are now estimated at Rs. 782 crores, which shows an improvement of Rs. 122 crores over the original estimate.

Miscellaneous Capital Receipts

25. Such receipts are expected to show a modest increase over the original Plan estimate due mainly to larger recoveries of loans and advances.

Additional Resource Mobilisation

26. The additional resource mobilisation already undertaken by the Centre, exclusive of the measures recently adopted to meet the expenditure on relief of evacuees, is expected to yield over the Plan period, net of States' share, over Rs. 2300 crores as against the Plan target of Rs. 2100 crores for the entire five year period. The measures adopted so far by the State Governments and their enterprises are expected to yield over the Plan period about Rs. 777 crores as against the Plan target of 1098 crores for the five-year period.

27. Both the Centre and the States will have to undertake further resource mobilisation in the remaining period of the Plan in order to augment the availability of resources for the Plan. The estimate of such resource mobilisation by the Centre has been taken to Rs. 300 crores. In the case of States, it has been taken at Rs. 321 crores, which represents the difference between the target and the anticipated yield over the Plan period from the measures already adopted by States for raising additional resources.

LIC Loans and Enterprises' Market Borrowings

28. The loans from the Life Insurance Corporation for housing and water supply as also to State

enterprises are expected to be substantially higher due mainly to an improvement in investible funds of the Corporation. Market borrowings of state enterprises amounted to a gross figure of Rs. 143 crores in the first two years of the Plan and are estimated at Rs. 79 crores for the current year. In view of this, such borrowings for the Plan period, are now estimated at a total of Rs. 400 crores (gross) as against the original estimate of Rs. 258 crores.

Budgetary Receipts Corresponding to External Assistance

29. Such receipts amount to Rs. 574 crores in 1969-70 and are estimated at Rs. 547 cores for 1970-71 and at Rs. 574 crores for the current year. For the next two years, these have been taken, as stated earlier, at a total of about Rs. 845 crores. On this basis, the total budgetary receipts corresponding to external assistance are now estimated at Rs. 2540 crores for the Plan period as against the original estimate of Rs. 2614 crores.

Deficit Financing

30. Deficit financing in 1969-70 amounted to only Rs. 58 crores. In view of the marked step-up in plan outlay in 1970-71, it rose to Rs. 365 crores in that year. For the current year, it is placed at Rs. 383 crores. Allowing for deficit financing of Rs. 200 crores a year in the next two years, as mentioned earlier, the total for the Plan period has been taken at Rs. 1200 crores, or Rs. 350 crores more than originally envisaged.

Policy Implications

31. The above assessment is necessarily based on certain assumptions. These could be realised only if appropriate policy decisions are taken well in time and put through. Some of the policy implications of the assumptions made are indicated in the following paragraphs.

32. Steps will have to be taken to accelerate the rate of growth of agricultural and industrial production to achieve the postulated rate of growth in national income. To maintain price stability, the growth of money supply will have to be kept in check. Both fiscal and monetary policies will have to be used in an integrated manner for this purpose. Not only will deficit financing by the public sector over the Plan period have to be limited to Rs. 1200 crores but a strict check will have to be exercised on the creation of money through increase in private indebtedness to the Reserve Bank. Besides, continuous watch over the trends in prices will have to be kept and operations of public agencies in the sale and purchase of commodities like foodgrains and essential raw materials may have to be so regulated as to even out such fluctuations in price as may endanger price stability. Imports on concessional term may have to continue in respect of commodities like raw cotton and their volume determined with reference to meeting anticipated shortages in supplies.

33. Only a limited provision has been made for expenditure on relief of evacuees from Bangla Desh, To the extent this expenditure turns out to be larger and is not offset by additional foreign aid, it will be necessary to undertake further resource mobilisation if inroads into the availability of resources for the Plan, are to be avoided.

34. A greater measure of financial discipline will have to be introduced if resource mobilisation is to take place under conditions of monetary and price stability. The Central and State Governments will have to exercise restraint on increases in avoidable expenditures and strengthen revenue collection machinery. Effective steps will have to be taken to prevent the States from incurring unauthorised overdrafts for financing their excess Plan outlays or increases in non-Plan gaps. Restraint will also be necessary on the grant of further pay increases or dearness allowance to Government employees, although this task will become easier if, as a result of the other policies recommended, prices remain stabilised at the current level. Every effort will have to be made to maximise resource mobilisation from non-tax sources. For this purpose, it will be necessary to adopt policies and measures aimed at restraining increases in private consumption, enlarging the volume of private savings and promoting their flow into productive uses. This would necessitate the extension of the activities of institutions like banks, LIC and postal savings banks, particularly in rural areas and adoption by these institutions of attractive schemes for mobilising agricultural surpluses. New devices like rural debentures may be tried for encouraging voluntary plough-back of surpluses with the farmers into productive schemes. It will be necessary to regulate investment policies of financial intermediaries like banks, LIC and the Employees' Provident Fund and an understanding, reached that their policies do not cut into their contribution to Plan resources. Wherever necessary, e.g., in the case of banks, the statutory ratio of investment in Governmet and approved securities may have to be raised to ensure that the stipulated share out of the enlarged resources of these institution, becomes available for the Plan.

35. The contribution of public enterprises as now, estimated shows a large shortfall as compared to the original estimates. Effective steps for increasing their operational efficiency, promoting better utilisation of capacity, ensuring satisfactory maintenance of plant and equipment and improving inventory control, management and industrial relations are urgently called for.

ANNEXURE I

Financing of the Public Sector Plan

(Rs. crores)

sl. no.	item	Fourth Plan original estimates			1969-70 actuals			1970-71 latest estimates		
		centre	states	total	centre	states	total	centre	states	total
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	*domestic budgetary resources, other than negotiated loans and state enterprises' market borrowings, at 1968-69 rates of taxes, fares, freights and tariffs*	**7232**	**1502**	**8734**	**907**	**343**	**1250**	**1034**	**285**	**1319**
2	balance from current revenues at 1968-69 rates of taxation	1625	48[1]	1673[1]	258	(—)100[1]	158[1]	198	(—) 41[1]	157[1]
3	contribution of public enterprises at 1968-69 fares, freights and tariffs	1534	495	2029	159	94	253	120	74	194
4	railways	265	—	265	27	—	27	(—)19	—	(—)19
5	posts and telegraphs	225	—	225	40	—	40	36	—	36
6	IDC, ARC, REC, DVC and central power generation units	259	—	259	17	—	17	33	—	33
7	others	785	495	1280	75	94	169	70	74	144
8	retained profits of Reserve Bank	165	37	202	2	6	8	34	13	47
9	loans from public by the central and state governments (net)	900	515	1415	128	83	211	186	99	285
10	borrowings by FCI and financial institutions	405	—	405	22	—	22	130	—	130
11	food corporation of India	155	—	155	—	—	—	116	—	116
12	financial institutions	250	—	250	22	—	22	14	—	14
13	small savings	274	495	769	54	75	129	89	102	191
14	annuity deposits, compulsory deposits, prize bonds and gold bonds	(—)104	—	(—)104	(—)34	—	(—)34	(—)18	—	(—)18
15	state provident funds	343	317	660	80	76	156	83	61	144
16	misc. capital receipts (net)	2090	(—)405	1685	238	109	347	212	(—)23	189
17	*additional resource mobilisation*	**2100**	**1098**	**3198**	**139**	**52**	**191**	**309**	**120**	**429**
18	by centre[2]	2100	—	2100	139	—	139	309	—	309
19	1969-70 measures	725	—	725	129	—	129	141	—	141
20	1970-71 measures				10	—	10	168	—	168
21	1971-72 measures	1375	—	1375	—	—	—	—	—	—
22	measures to be adopted in subsequent years			—	—	—	—	—	—	—
23	by states	—	1098	1098	—	52	52	—	120	120
24	1969-70 measures	—	414	414	—	52	52	—	87	87
25	1970-71 measures				—	—	—	—	33	33
26	1971-72 measures	—	684	684	—	—	—	—	—	—
27	measures to be adopted in subsequent years	—	—		—	—	—	—	—	—
28	*Loans from LIC and state enterprises' market borrowings (gross)*	—	**506**	**506**	—	**126**	**126**	—	**133**	**133**
29	LIC loans to state governments for housing and water supply	—	100	100	—	18	18	—	20	20
30	market borrowings of state enterprises	—	258	258	—	75	75	—	68	68
31	loans from LIC etc. for state enterprises	—	148	148	—	33	33	—	45	45
32	*total domestic budgetary resourecs* (1+17+28)	**9332**	**3106**	**12438**	**1046**	**521**	**1567**	**1343**	**538**	**1881**
33	*budgetary receipts corresponding to external assistance (net)*	**2614**	—	**2614**	**574**	—	**574**	**547**	—	**547**
34	other than PL 480	2234	—	2234	356	—	356	425	—	425
35	PL 480 assistance	380	—	380	218	—	218	122	—	122
36	*deficit financing*	858	—	**850**	**89**	(—)31	58	231	134	365
37	*aggregate resources* (32+33+36)	**12796**	**3106**	**15902**	**1709**	**490**	**2199**	**2121**	**672**	**2793**
38	*assistance for state plans*	**(—)3500**	**3500**	—	**(—)606**	**606**	—	**(—)628**	**628**	—
39	*resources for the plan* (37+38)	**9296**	**6606**	**15902**	**1103**	**1096**	**2199**	**1493**	**1300**	**2793**

[1]Inclusive of states' share in fresh taxation by the centre since 1969-70.

[2]Net of states' share.

ANNEXURE I—Contd.

sl. no.	item	1971-72 latest estimates			Fourth Plan received estimates		
		centre	states	total	centre	states	total
(0)	(1)	(11)	(12)	(13)	(14)	(15)	(16)
1	*domestic budgetary resources, other than negotiated loans and state enterprises' market borrowings, at 1968-69 rates of taxes fares, freights and tariff*	**989**	**344**	**1333**	**5858**	**1823**	**7681**
2	balance from current revenues at 1968-69 rates of taxation	(—)141	80[1]	(—)16[1]	696	106[1]	802[1]
3	contribution of public enterprises at 1968-69 fares, freights and tariffs	154	53	207	837	334	1171
4	railways	(—)35	—	(—)35	(—)118	—	(—)118
5	posts and telegraphs	42	—	42	236	—	236
6	IDC, ARC, REC, DVC and central power generation units	55	—	55	219	—	219
7	others	92	53	145	500	334	834
8	retained profits of Reserve Bank	50	10	60	220	49	269
9	loans from public by the central and state governments (net)	188	101	289	1000	575	1575
10	borrowings by FCI and financial institutions . .	58	—	58	405	—	405
11	food corporation of India	19	—	19	155	—	155
12	financial institutions	39	—	39	250	—	250
13	small savings	53	129	182	363	637	1000
14	annuity deposits, compulsory deposits, prize bonds and gold bonds	(—)18	—	(—)18	(—)98	—	(—)98
15	state provident funds	88	66	154	439	343	782
16	misc. capital receipts (net)	557	(—)95	462	1996	(—)221	1775
17	*additional resource mobilisation*	**544**	**171**	**715**	**2630**	**1098**	**3728**
18	by centre[2]	544		544	2630	—	2630
19	1969-70 measures	150	—	150	760	—	760
20	1970-71 measures	197	—	197	800	—	800
21	1971-72 measures	197	—	197	770	—	770
22	measures to be adopted in subsequent years . . .	—	—	—	300	—	300
23	by states	—	171	171	—	1098	1098
24	1969-70 measures	—	94	94	—	450	450
25	1970-71 measures	—	48	48	—	185	185
26	1971-72 measures	—	29	29	—	142	142
27	measures to be adopted in subsequent years . .	—	—	—	—	321	321
28	*loans from LIC and states' enterprises' market borrowings (gross)*	—	**153**	**153**	—	**746**	**746**
29	LIC loans to state governments for housing and water supply	—	30	30	—	126	126
30	market borrowings of states' enterprises . .	—	79	79	—	400	400
31	loans from LIC etc. for state enterprises . . .	—	44	44	—	220	220
32	*total domestic budgetary resources* (1+17+28) .	**1533**	**668**	**2201**	**8488**	**3667**	**12155**
33	*budgetary receipts corresponding to external assistance (net)*	**574**	—	**574**	**2540**	—	**2540**
34	Other than PL 480	428	—	428	1980	—	1980
35	PL 480 assistance	146	—	146	560	—	560
36	*deficit financing*	**383**	—	**383**	**1100**	103	**1203**
37	*aggregate resources* (32+33+36)	**2490**	**668**	**3158**	**12128**	**3770**	**15898**
38	*assistance for state plans*	**(—)720**	**720**	—	**(—)3567**[3]	**3567**[3]	—
39	*resources for the plan* (37+38)	**1770**	**1388**	**3158**	**8561**	**7337**	**15898**

[1]Inclusive of states' share in fresh taxation by the centre since 1969-70.

[2]Net of states' share.

[3]Includes assistance for Himachal Pradesh, which became a state in January 1971, for 1971-74.

CHAPTER 4

RESOURCES FOR PRIVATE INVESTMENT

PRIVATE savings left after meeting the draft made on it by the public sector through the various forms of borrowings together with the direct drawings on foreign savings by the private sector constitute the resources available for private investment. For assessing the availability of resources for investment in the private sector one has, therefore, to estimate the volume of private savings[1], the extent of the draft on it by the public sector and the private sector's direct draft on foreign savings. The estimates of all these constituents made at the time of the formation of the Plan have been reviewed and revised in the light of the more recent data that have since become available from institutional sources.

Private Savings

2. Private savings are now estimated at Rs. 16235 crores for the Plan period. This estimate is at current prices for the first two years and for the remaining three years at the prices prevailing in the first four months of 1971-72. When deflated[2] to 1968-69 prices the estimate of private savings gets reduced to Rs. 14,690 crores, which is slightly higher than the comparable figure of Rs. 14,160 crores given in the Plan document. This improvement is mainly accounted for by the increase in household savings of about the same order. The latest estimate for corporate savings, which appears in table 1, is marginally lower while that for cooperative savings is somewhat higher :

TABLE 1: *Private Savings*

(Rs. crores)

		Fourth Plan estimates				
		at current price		at 1968-69 prices		
sl. no.	item	1969-72 latest	1969-74 latest	1969-72 latest	1969-74 latest	1969-74 original
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	corporate savings	1153	2126	1059	1922	1950
2	household savings	7834	13959	7202	12635	12090
3	cooperative savings	82	150	76	136	120
4	*total* . .	**9069**	**16235**	**8337**	**14693**	**14160**

[1]Appendix to this chapter shows the method adopted in arriving at the estimates of public corporate and house-hold savings.

[2] In the absence of a more satisfactory index, the wholesale Price Index (Base 1961-62=100) has been used as the deflator.

3. Corporate savings indicated above represent retained earnings of non-financial and financial companies including banks and term-lending institutions (IDBI, IFC, ICICI and SFC).; The estimates of corporate savings also take into account the excess of depreciation provision over replacement expenditure of non-financial companies available for new investment. It will be seen from table 2 that in real terms the marginal decline in corporate savings results from a sizeable fall in the retained earnings of non-financial companies not fully offset by the improvement in other components:

TABLE 2: *Corporate Savings*

(Rs. crores)

		Fourth Plan estimates		
		at current prices	at 1968-69 prices	
sl. no.	item	latest	latest	original
(0)	(1)	(2)	(3)	(4)
1	retained earnings .	806	728	840
2	non-financial companies	723	652	770
3	financial companies including all banks, term-lending institutions	83	76	70
4	excess of depreciation provision over replacement expenditure[1]	1320	1194	1110
5	*total* . . .	**2126**	**1922**	**1950**

[1]"new" investment is to this extent larger than 'net investment'

4. Household savings consist of (i) institutionalised savings, and (ii) savings retained for direct investment by households in physical assets. Both the components of household savings share the improvement over the original estimate as will be seen from the break-up given in table 3.

TABLE 3: *Household Savings*

(Rs. crores)

		Fourth Plan estimates				
		at current prices		at 1968-69 prices		
sl. no.	item	1969-72 latest	1969-74 latest	1969-72 latest	1969-74 latest	1969-74 original
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	institutionalised savings of household	4375	7512	4022	6805	6450
2	retained savings of households	3459	6447	3180	5830	5640
3	*total*[2] . .	**7834**	**13959**	**7202**	**12635**	**12090**

[2]Exclusive of transfers from public sector for capital formation.

5. One element in the institutionalised savings of households is the increase in household claim on Government, non-financial companies, cooperatives and financial intermediaries including Reserve Bank, Commercial Banks, Life Insurance Corporation and Provident Funds. The increase in these claims is measured by the increase in the financial assets held by the households in the form of Government and approved securities, corporate and cooperative shares and debentures, currency, bank deposits, life

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insurance and provident funds. Another element in institutionalised savings is the increase in the institutions' claims on households and is measured by the increase in the borrowings of households from these institutions. Institutionalised savings of households result from the excess of the former over the latter and represent households' net claims on the institutions concerned. Table 4 presents the annual averages of the estimates for each of the components of the institutionalised savings of the households:

TABLE 4 : *Institutionalised Savings of Households (annual averages)*

(Rs. crores)

sl. no.	institution	Fourth Plan estimates			
		at current prices		at 1968-69 prices	
		1969-72	1972-74	1969-72	1972-74
1	Reserve Bank	320	228	295	202
2	Commerical banks	539	514	493	455
3	Cooperatives	(—)107	(—)124	(—)97	(—)110
4	Life Insurance Corporation	216	271	199	240
5	Provident funds	403	514	370	456
6	Public sector	19	88	18	78
7	Corporate sector	69	78	63	70
8	*total* . .	**1459**	**1569**	**1341**	**1391**

6. The improvement in institutionalised savings will materialise only if the increases in households, net claims on the non-banking institutions get further accelerated in the next two years as envisaged in the estimates given above. This is because the inflationary element in the expansion of household currency holdings and bank deposits during the first three years will have to be eliminated and the average annual increases in savings in these forms and, therefore, in the net claims on the banking system during the last two years made consistent with the objective of price stability. This devolves the responsibility on the financial institutions to improve upon their past performance in promoting and gathering voluntary savings of the households through further extension and intensification of their promotional activities and developmental efforts. The Central and State Governments will in turn have to pursue with greater vigour fiscal policies geared to the task of enlarging the pool of voluntary savings in the community, restrict reliance on 'forced' savings generated by deficit financing, and improve the techniques of resource mobilisation with a view to progressively stepping up their drawings on voluntary savings of the households. The cooperative and corporate enterprises will, likewise, need to attract in an increasing measure household savings into fresh issues of shares and debentures by showing progressive improvement in their operaional efficiency and profitability.

7. The retained savings of households represent the savings in cash or kind(own labour and material) directly invested in construction of houses, improvement of land, purchase of machinery and equipment, and increase in inventory by household enterprises. Such savings have been estimated by taking into consideration the borrowings of the households for capital formation from institutional sources and the matching contribution which the lenders require the households to make out of their own resources. Households obtain cash resources for making the matching contribution from the receipt of maturity payments of life policies, withdrawals from provident funds, running down of cash holdings, withdrawal of fixed, deposits, sale of Government securities, shares, debentures etc. Larger borrowings from institutional sources for direct investment by the households and correspondingly larger matching contribution by them account for the estimated increase in savings retained for direct investment by the households. Larger plough back by better-off farmers out of higher income resulting from the application of improved technology and high yielding varieties of seeds is yet another contributing factor.

Public Sector's Draft on Private Savings

8. Even if the estimate of private savings indicatted above materialises, the whole of it will not be available for private investment. The public sector will make a draft on private savings for financing outlays on capital formation and this draft during the Fourth Plan period is now estimated at Rs. 6732 crores. When converted to 1968-69 prices it turns out to be Rs. 380 crores higher than the comparable figure in the earlier estimate. Higher estimates under small savings, State Provident Funds, negotiated loans from Life Insurance Corporation and market borrowings of State Electricity Boards and deficit financing partially offset by lower receipts estimated under Governments' market borrowings and other debts and deposits, indicated in table 5, explain this increase

TABLE 5 : *Public Sector's Draft on Private Savings*

(Rs. crores)

sl. no.	item	Fourth Plan estimates				
		at current prices		at 1968-69 prices		
		1969-72 latest	1969-74 latest	1969-72 latest	1969-74 latest	1969-74 original
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	market borrowing(net)	1013	2010	927	1812	1848
2	small savings (net)	502	1000	461	903	769
3	state provident funds (net)	475	832	437	753	660
4	negotiated loans and market borrowings of state electricity boards (gross)	411	746	378	676	506
5	other debts and deposits (net)	460	941	424	850	1062
6	deficit financing	806	1203	729	1081	850
7	*total* . .	**3667**	**6732**	**3356**	**6075**	**5695**[1]

[1]For ensuring comparability the estimate of the public sector's draft on private savings indicated in the Fourth Plan document has been grossed up for non-Plan investment, and bank financed inventory increases in public sector undertakings as these are included in public investment. Further, cash losses of such undertakings has been taken as reduction in public savings, hence loans given to meet such losses have not been deducted while arriving at the net draft,

Private Sector's Draft on Foreign Savings

9. While public sector's draft on private savings goes to reduce the availability of resources for private investment, the direct draft made by the private sector on foreign savings enhances it. The Plan document takes credit for a sum of Rs. 30 crores as the net draft on foreign savings directly made for financing private investment. This was arrived at by deducting direct repayment of loans by the private sector from tbe gross amount estimated to be received by way of foreign investment and loans to private enterprise. Implicit in this calculation was the assumption that other capital receipts and outgoings on private account will match and the foreign exchange reserves of the country will remain unchanged over the Fourth Plan period. These assumptions have not been borne by the facts now available for the first two years. If adjustments are made for the transactions with the International Monetary Fund and the changes in foreign exchange reserves, the draft on savings directly made by the private sector turns into a negative figure during the first two years. There will be no further repayment to the Fund as the entire liability has been discharged and if one assumes no change in the foreign exchange reserves as well, the private sector's net draft on foreign savings in the last three years will be a positive figure, although of a small order. Even so, it will not offset the negative draft of the first two years and contrary to the original estimate, the private sector's draft on foreign savings over the Fourth Plan period will be a negative figure of a sizeable order. This will further cut into the resource availability for private investment.

Resources for Private Investment

10. The net effect of all the three determinants of the availability of resources for private investment is shown in table 6. The lastest estimate places the resources available for private investment at Rs. 9246 crores. When converted to 1968-69 prices this turns out to be Rs. 8369 crores or slightly lower than the comparable figure in the original estimate.

TABLE 6 : *Resources for Private Investment*

(Rs. crores)

		Fourth Plan estimates				
		at current prices		at 1968-69 prices		
sl. no	item	1969-72 latest	1969-74 latest	1969-72 latest	1969-74 latest	1969-74 original
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	private savings	9069	16235	8337	14693	14160
2	public sector's draft on private savings .	3667	6732	3356	6075	5695
3	private sector's draft on foreign savings .	(—)274	(—)257	(—)264	(—)249	30
4	*resources for private investment* (1-2+3) .	**5128**	**9246**	**4717**	**8369**	**8495**

11. Even this lower estimate will materialise only if the resource availability at 1968-69 prices (which remained almost stagnant during the first three years) shows a substantial step-up during the next two years as envisaged in the latest estimates. This will be possible, as shown in table 7, only if the public sector's draft on private savings remains stabilised around the level estimated for 1971-72, the assumption regarding no further change in the foreign exchange reserves hold goods and the order of step-up envisaged in the latest estimates of private savings materialises:

TABLE 7: *Resources for Private Investment*

(Rs. crores)

		Fourth Plan latest estimates					
sl. no.	item	1969-72	1970-71	1971-72	1972-73	1973-74	1969-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	private savings .	2806	2960	3303	3461	3705	16235
2	Public sector's draft on private savings	935	1217	1515	1495	1570	6732
3	private sector's draft on foreign savings .	(—)271	(—)10	7	8	9	(-)257
4	*resources available for private investment* (1-2+3)						
5	*at current prices* .	**1600**	**1733**	**1795**	**1974**	**2144**	**9246**
6	*at 1968-69 prices*	**1542**	**1582**	**1593**	**1750**	**1902**	**8369**

Availability of Resources for Investment

12. The marginal shortfall in resources for private investment now anticipated at 1968-69 prices would not be a matter of serious concern if the total availability of resources for investment in the economy turns out to be larger than estimated earlier. This is not, however, what is expected to happen. Resources for public investment also are now estimated to be substantially lower, as will be seen from table 8 because of a large shortfall in public savings and public sector's draft on foreign savings. Only a small amount of this shortfall is made good by the increase in public sector's draft on private savings.

TABLE 8 : Resources for investment in the Economy.

(Rs. crores)

		Fourth Plan estimates				
	item	at current prices		at 1968-69 prices		
sl. no.		1969-72 latest	1969-74 latest	1969-72 latest	1969-74 latest	1969-74 original
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	public savings . .	1707	4546	1568	4068	5861
2	public sector's draft on private saving . .	3667	6732	3356	6075	5695
3	public sector's draft on foreign savings . .	1743	2645	1605	2405	2719
4	*resources for public investment* . .	**7117**	**13923**	**6529**	**12566**	**14275**
5	*resources for private investment* . .	**5128**	**9246**	**4717**	**8369**	**8495**
6	*total resources for investment in the economy*	**12245**	**23169**	**11246**	**20935**	**22770**

13. The lower estimate of total resource availability for investment in the economy is also on the assumption that the order of step-up in both public and private savings envisaged in the latest estimates for the next two years, will materialise. for the draft on foreign savings, as will be seen from the table 9, is likely to decline in the coming years.

TABLE 9 : *Resources for Investment in the Economy*

(Rs. crores)

sl. no.	item	1969-70 latest	1970-71 latest	1971-72 latest	1972-73 latest	1973-74 latest
(0)	(1)	(2)	(3)	(4)	(5)	(6)
		at current prices				
1	*domestic savings*	3294	3596	3886	4675	5330
2	public savings	488	636	583	1214	1625
3	private savings	2806	2960	3303	3461	3705
4	*draft on foreign savings*	309	551	609	486	433
5	public	580	561	602	478	424
6	private	(—)271	(—)10	7	8	9
7	*resources for investment in the economy*	3603	4147	4495	5161	5763
		at 1968-69 prices				
8	*domestic savings*	3175	3283	3447	4147	4727
9	public savings	470	581	517	1077	1441
10	private savings	2705	2702	2930	3070	3286
11	*draft on foreign savings*	298	503	540	431	384
12	public	559	512	534	424	376
13	private	(—)26	(—)9	6	7	8
14	*resources for investment in the economy*	3473	3786	3987	4578	5111

14. Even if the expectations regarding the step-up in public and private savings are realised, the ratio of total resource availability to national income will turn out to be only 13·8 per cent as against 14·5 per cent envisaged earlier. If the ratio indicated in the Plan document is to be attained, further-step-up in domestic savings will be called for. This indicates the need for pursuing policies for increasing agricultural and industrial production so as to ensure the realisation of national income growth in real terms at a rate higher than 5·5 per cent while at the same time stabilising prices around the level reached during the first four months of 1971-72. Fiscal and monetary policies will also need to be geared for restraining increases in consumption expenditure. The net-work of savings institutions will have to be extended further and their activities so expended as to enable them to play their part effectively in generating and gathering increased savings out of the growing incomes of the community. More attractive instruments may also have to be designed to attract larger volume of savings. Cooperative and corporate enterprises will also have to exercise restriant on dividend distribution and improve their operational efficiency and profitability in order to enlarge their contribution to the pool of investible resources. These are imperative if the required step up in the total availability of resources for investment in the economy is to be successfully achieved.

TECHNICAL APPENDIX

Estimates of savings and investment in this document are derived from the financial flows in the economy rather than through the usual commodity flow method. The methodology followed for estimating and projecting different items is summarised in the following paragraphs:

1. *Corporate Savings.*—The Central Statistical Organisation and Reserve Bank of India both base their estimates of corporate savings on the balance sheet analysis annually conducted by the Reserve Bank in respect of public limited companies, private limited companies and foreign-owned companies. Corporate savings as derived from the Reserve Bank's sample are blown up in the ratio of the paid up capital of sample companies to the total paid up capital. The average rate of growth emerging from the series of such estimates has been used for projecting corporate savings over the Fourth Plan period in the series presented here. The projections in respect of financial companies including banks and term lending institutions are based on the rates of growth in the recent past as revealed by the analysis of their accounts.

2. *Cooperative Savings.*—Cooperative savings have also been projected on the basis of recent trends observed from the accounts of cooperatives.

3. *Household Savings.*—Institutionalised savings of the households have been estimated on the basis of the analysis of financial assets and liabilities of the concerned institutions. Net claims of households on the Reserve Bank as measured by the increase in their currency holdings, are derived for the first two years of the Fourth Plan, on the basis of the actual increase in currency with the public. For the remaining years, the projections have been worked out from the growth of money supply and the observed relationship between its two components-currency and demand deposits.

4. Net claims on commercial banks represent increase in household deposits with banks. This has been estimated from the projected growth of aggregate bank deposits by applying the ratio of household deposits to the total, as revealed by the Reserve Bank surveys of ownership of deposits of commercial banks. From the figures so derived, the projected amounts of bank credit to household based on recent trends have been deducted.

5. Net claims on cooperatives represent increase in household deposits with the cooperatives minus increase in cooperative credit to households.This has been projected on the basis of the observed trends in the recent past.

6. For estimating the net claims on Life Insurance Corporation the actual increase in life funds during 1969-70 has been taken as the base and projected at the annual rate of 12 per cent observed in the recent past. Deduction has been made for the projected amount of loans to policy holders.

7. Projections of net claims on provident funds have also been worked out by assuming the actuals for 1969-70 as the base and applying on it the observed rate of growth in recent past. This has been done separately for the State provident funds, Employees provident funds and for other provident funds.

8. Households' net claims on Government represent increases in the holdings of Government securities/bonds, small savings, other debts and deposits taken net of loans from Government. These have been projected on the basis of past trends and in the light of the forecasts of budgetary receipts of Central and State Governments for the Fourth Plan period.

9. Households net claims on corporate includes subscription to shares and debentures as also deposits with non-banking companies. These have also been projected on the basis of recent trends.

10. Direct investment by households in construction of houses, improvement of land, construction of wells, irrigaion channels, purchase of machinery and equipment and increase in inventory is made up of resources obtained by the households in cash by way of loans from Government, banks. Life, Insurance Corporation, cooperatives, term-ending institutions and the matching contribution made, by them out of resources obtained from maturity. of life policies, withdrawals from provident funds/ fixed deposits, running down of cash holdings, sales, of securities, bonds, shares etc. The data on such loans obtained from institutional and governmental sources for the recent past has been projected for future years. Based on all-India Rural Debt and Investment Survey, 1961-62 and National Sample Survey reports, 10 per cent of the total loan proceeds and matching contribution has been taken as the contribution of the households in kind i.e. 'own labour and material' and is included in the estimates, of direct investment by the household sector.

11. *Public Savings.*—Public savings have been worked out from table1 in the Chapter on 'Financing the Public Sector Plan.' The estimates of savings of the Central and State Governments at 1968-69 rates of taxation have been worked out by grossing up the balance from current revenues for inter account transfers such as appropriation for avoidance of debt and transfers to development fund and by deducting from it the current outlay on the Plan. To this additional resource mobilisation, as reduced by the amount proposed to be raised from the issue of rural debentures and additional contributions to State provident funds, has been added. The coverage of public savings in this estimate has been restricted to the Central and State Governments. Given the fact that the entire capital formation by the local authorities is financed by loans from State Governments, there is hardly any contribution by the local authorities to the pool of public savings.

12. To the savings of the Central and State Governments, savings of public undertakings have been added. From the aggregate of the contribution of public undertakings shown in the Plan financing table referred to above, deductions have been made for borrowings by DVC, and financial institutions as also for the contribution by REC out of PL480 accumulated funds. The remainder has been further reduced for the cash losses of Central Government's industrial and commercial undertakings. The figure so arrived at for each of the years has been grossed up for inventory increases and loan repayments out of internal resources of public undertakings.

13. *Public Sector's Draft on Private Savings.*—Public sector's draft on private savings has also been derived from table 1 in the Chapter on 'Financing the Public Sector Plan.' The draft comprises all forms of domestic borrowings, including deficit financing, additional resource mobilisation through rural debentures and additional accretion to State provident funds, and the amount of bank credits obtained by public undertakings for financing inventory increases. The item "Miscellaneous capital receipts" has also been suitably adjusted on account of non-Plan investments, loans to public undertakings for meeting cash losses, loan repay-

ment by public undertakings and inter-account transfers such as appropriation for avoidance of debt and transfers to development fund.

14. *Draft on Foreign Savings.*—The figures shown against external assistance for the public sector plan has been taken as the public sector's draft on foreign savings. This includes the gross amount of PL 480 and non-PL 480 aid received from foreign sources less repayment of principals falling due during the Fourth Plan period.

15. From the balance of payments data for 1969-70 the surplus of capital receipts over outgoings on private account has been adjusted for the transactions with the International Monetary Fund and change in foreign exchange reserves to arrive at the net draft on foreign saving by the private sector. The balance of payments data for the full year 1970-71 are not yet available. Estimates have been made on the basis of partial data only. For the remaining three years, it has been assumed that there will be no borrowings from or repayments to International Monetary Fund and the country's foreign exchange reserves will remain at the present level. The private sector's draft on foreign savings has been derived by deducting the repayments due from the projected amounts of foreign loans and foreign investment during each of the three years.

16. Excess of depreciation provision over the replacement outlays, though strictly speaking net saving, is taken into account as this represents funds available for financing new investment. It must be noted that the estimates of net savings produced by the Reserve Bank and Central Statistical Organisation exclude this item.

17. The estimates of savings for the first three years of the Fourth Five Year Plan, are the actuals or the likely actuals based on observed trends in component elements. The projections for 1972-73 and 1973-74 are based on three major assumptions, viz.

(i) prices will remain around the level reached in the first four months of 1971-72;

(ii) national income growth in real terms will be 5·5 per cent per annum; and

(iii) money supply will grow at the rate of 7 per cent per annum.

CHAPTER 5

EXTERNAL GAP AND ITS FINANCING

I. Fourth Plan Estimates and Assumptions

In the Fourth Plan document the position regarding foreign exchange payments and receipts during the Plan period was indicated as below :

Table 1 : *Foreign Exchange Payments and Receipts*

(Rs. crores)

sl. no.	item	foreign exchange
(0)	(1)	(2)
	payments :	
1	*imports*	**9730**
2	foodgrains	590
3	maintenance imports	7840
4	project imports	1300
5	invisible transactions (net)	140
6	repayments to IMF	280
7	debt service payments	2280
8	*total*	**12430**
	receipts:	
9	exports	8300
10	gross external assistance	4130
11	*total*	**12430**

2. Total import requirements during the Fourth Plan were estimated at Rs. 9730 crores. Of this total, Rs. 590 crores was for foodgrains imports (including those under PL 480 arrangements); Rs. 7840 crores for maintenance imports or imports of raw materials, components and spares required for sustaining and increasing the growth of industrial and agricultural production; and Rs. 1300 crores for project imports. The total level of imports was postulated to rise from Rs. 1904 crores in 1968-69 to Rs. 2220 crores by 1973-74 or, excluding foodgrains imports, from Rs. 1567 crores to Rs. 2190 crores. Concessional foodgrains imports under PL 480 were expected to cease by 1971, with only normal commercial purchases of foodgrains continuing for the rest of the Plan period.

3. The bulk of the increase in maintenance imports was expected to be on account of iron and steel, non-ferrous metals, fertilisers and fertiliser materials, pertroleum (crude and refined), and components and spares for machinery and transport equipment. In estimation the requirements of maintenance imports it was assumed that domestic production in the fields of agriculture, mining and industry would grow according to the Plan schedules and that the present restrictions on imports of consumer goods and of raw materials for the production of consumer goods would continue. In the case of project imports it was assumed that the requirements or complete machinery, plant and equipment would be met largely from indigenous production and that only plant and machinery of the more complex and sophisticated kinds which were not produced in the country would be imported. At the same time, it was assumed that in regard to the production of capital goods, the current import policy which provided for meeting the entire requirements of these industries for imported raw-materials, components and spares would continue. Stress was also laid in the Plan on a determined and sustained drive towards import substitution and rationalisation.

4. A net inflow of Rs. 140 crores was estimated on account of invisible transactions (excluding official grants and interest payment). Repayments to the IMF during the Plan period were estimated at Rs. 280 crores. In addition, it was assessed that debt servicing payment (including amortisation and interest payment on foreign loans) would total Rs. 2280 crores.

5. On the foregoing basis, the total payments of foreign exchange during the Fourth Plan period were estimated to amount to Rs. 12430 crores.

6. On the receipts side, the expectation was that the gross utilisation of external assistance during the Plan period would aggregate to Rs. 4130 crores, made up of Rs. 380 crores of assistance under PL 480 and Rs. 3750 crores as project and non-project aid. After taking into account a gross external assistance of this order, the Fourth Plan document assumed that the balance of foreign exchange requirements amounting to Rs. 8300 crores would have to be met out of export earnings. On this basis, the Plan provided for exports to increase from the level of Rs. 1360 crores in 1968-69 to around Rs. 1900 crores in 1973-74 involving an average rate of growth of 7 per cent per year. Most of the increase in exports was to be achieved through an expansion in the export of iron ore, iron and steel, engineering goods, chemical and allied products, footwear, leather manufactures, fish and fish preparations, cashew kernels and jute manufactures.

7. The Plan emphasised that an essential precondition for the fulfilment of the export programme was the realisation, according to schedule, of the production targets set in the agricultural, mineral and industrial sectors. Among other important conditions mentioned were restraints on the growth of domestic consumption of some commodities through fiscal and other measures, keeping in view the requirements of exports while licensing additional industrial capacity and/or permitting diversification of capacity, and maintaining reasonable internal price stability. The Plan also stressed the importance of ensuring stability in export policy, while providing for a measure of flexibility to meet effectively changes in the conditions abroad or in the domestic economy. Emphasis was also laid on the necessity of maintaining competitiveness in the cost and quality of export products, of effecting improvements in port, shipping and handling facilities especially in regard to bulk commodities, and of providing technical and financial assitance along with deferred payments arrangements for promoting exports of machinery and engineering goods.

II. Payments Position: 1969-70 and 1970-71

8. The balance of payments position as it has evolved during the first two years of the Fourth Plan is summarised below:

Table 2 : *Balance of Payment*

(Rs. crores)

sl. no.	item	1969-70	1970-71	1969-70 and 1970-71
(0)	(1)	(2)	(3)	(4)
1	exports . . .	1413	1535	2948
2	*imports* .	**1583**	**1669**	**3232**
3	foodgrains . . .	261	213	474
4	others . . .	1322	1456	2778
5	*trade balance* (1-2) .	**(—)170**	(—)134	**(—)304**
6	*invisible and capital transactions* . .	**(—)581**	**(—)819**	**(—)1400**
7	debt servicing . .	(—)412	(—)450	(—)862
8	repayments to IMF .	(—)126	(—)189[1]	(—)315
9	others including errors and omissions .	(—)43	(—)180	(—)223
10	*total deficit* (5+6) . *financing*	**(—)751**	**(—)953**	**(—)1704**
11	*external assistance of which :* . . .	**901**	**789**	**1690**
12	food and (including PL 480) . . .	170	120	290
13	non-food PL 480 . .	52	42	94
14	other aid . .	679	627	1306
15	change in reserves (minus means increase) . .	(—)150[2]	164[2]	14

[1]Includes Rs. 36 crores on account of gold payment to the IMF.

[2]Excludes accruals of S.D. Rs.

9. Exports in 1969-70 amounted to Rs. 1413 crores showing an increase of only 4·1 per cent over the previous year, as compared to an increase of 7 percent envisaged in the Annual Plan. Although exports recorded a satisfactory growth in the first quarter of the year, they became sluggish thereafter and until the end of November, 1969, a cumulative growth rate of only about 1 percent was recorded, as compared to the corresponding period of the previous year. In order to counter this deceleration in the growth of exports, a crash programme was initiated in December, 1969. The main features of this programme were: (1) speedy removal of obstacles in the way of exports; (2) encouragement for increasing exports ex-stock and from scheduled production and (3) encouragement for a fuller utilisation of idle capacity specifically for exports through adequate supply of raw materials, either imported or indigenous, and other essential inputs. As a result, the growth rate in exports picked up substantially during the last 4 months of the year.

10. In order to improve the competitiveness of our exports, the budget for 1969-70 reduced export duties on jute hessian and sacking, tea and mica, and completely abolished those on wool sacks, cotton bagging, degreased raw wool and package tea in metal containers.

11. The slow growth in exports during 1969-70 is attributable to a number of factors, both internal and external. The growth in exports of steel and engineering goods was much lower than anticipated because of domestic shortages of various types of steel and non-ferrous metals. Abnormal factors such as strickes also hampered the production and exports of a number of items. The decline in the output of oilseeds has adversely affected exports of oilcakes. Among external factors, mention may be made of a weakening in world demand for various primary products, a fall in the unit value of a number of export items, such as, tea, coffee, mica, cashew kernels and tobacco, and the restrictive import policies pursued by a number of countries notably the European Economic Community and the U.K.

12. In terms of commodities the slowing down in the growth of exports during the year 1969-70 was mainly the result of a substantial fall in exports of tea, jute manufactures and oilcakes. Exports of cotton piece-goods (mill made) and cashew kernels also recorded a decline. On the other hand, a number of non-traditional items, namely, engineering goods, leather and leather manufactures, marine products and iron ore recorded a substantial increase. There was also a marked rise in the exports of some traditional items like spices and cotton yarn.

13. The performance of exports during the first five months of 1970-71 was again unsatisfactory, but this was much more than compensated by the expansion of exports during the period September-December 1970. Over the year 1970-71 as a whole, exports totalled Rs. 1535 crores,[1] recording an increase of Rs. 122 crores or 8·6 per cent over the preceding year. This rate of growth in exports was not only in excess of the Annual Plan target of 7 per

[1]According to Customs data.

cent but also substantially higher than the growth rate recorded in 1969-70. It is important to note in context that there was a change in the procedure for recording exports adopted, by the DGCIS with effect from November 1970[1].

14. The poor performance of exports during the first five months of 1970-71 was both due to internal and external factors. Apart from the dock strike in Calcutta during June-July, 1970, which held up exports during these months, the growth of exports was hampered by supply costraints on basic inputs such as steel, non-ferrous metals and raw cotton. On the external front, there was stagnation in the demand for some export commodities, particularly jute carpet backing, hides and skins, leather and cotton yarn. In order to arrest the downward trend in exports, the Government took a number of measures, particularly with a view to improving the supply of essential materials to export industries. As a result of these measures as also of increased domestic production of raw materials, exports expanded substantially during the rest of the year. A number of commodities, both traditional and non-traditional, contributed to the overall increase in exports during the year. Sizeable increases were recorded in the case of tea, sugar, oil cakes, iron ore and engineering goods. Smaller increases were registered in chemical and allied products, mill-made cotton piece-goods, coffee, spices, mineral fuels and lubricants, and manganese ore. On the other hand, there was sharp decline in exports of jute manufactures, leather and leather manufactures (excluding footwear). Exports were also appreciably lower in the case of cotton yarn, fruits and vegetables and hides and skins.

15. In the field of export promotion, a major development during the year was the presentation of the Export Policy Resolution to Parliament in July 1970. This has stressed the need for promoting the expansion of exports at a high rate so as to quicken the country's progress towards self-reliant growth. In pursuance of this Resolution the Government set up a new organisation, namely, the Trade Development Authority in July 1970, to assist individual firms to build up exports through a package of personalised services in the field of trade information, market research and analysis, and production and sales promotion. The 25 per cent *ad valorem* duty on exports of coir fibre was abolished with effect from July 1970.

16. Imports in 1969-70 declined by Rs. 327 crores to Rs. 1582[1] crores. This represents a decline of 17 per cent as compared to the preceding year. Of the total decline, foodgrains imports accounted for Rs. 76 crores. and non-foodgrain imports Rs. 251 crores. The marked improvement in the domestic production of foodgrains contributed to the reduction in foodgrain imports. The decline in non-foodgrain imports spread over a number of items, such as cotton, chemical elements and compounds, fertiliser and fertiliser materials, metals and machinery and transport equipment. The decline in imports of fertiliser and fertiliser raw materials is attributable partly to an increase in domestic production and partly to a lower rate of growth in consumption than anticipated. Increased domestic production was also responsible for the fall in imports of chemical elements and compounds, and non-ferrous metals, particularly aluminium. The fall in imports of machinery and transport equipment, which was substantial, was a result of increased domestic availability of a variety of machinery and parts as also of the lagged effect of recession in the previous years. There were, however, small increases during the year in imports of P.O.L., paper and paperboard, and animal and vegetable oils and fats.

17. As a result of increased domestic production, the import policy for 1969-70 provided for the banning of an additional 316 items. These included boot and shoe grindery, ball bearings, garage tools, motor vehicle parts, drugs, some types of machine tools and a wide range of machinery.

18. Imports in 1970-71 increased by Rs. 87 crores to Rs. 1669[2] crores, an increase of 4·2 per cent. This increase in imports represents a reversal of the declining trend that had set in from 1966-67. Foodgrain imports recorded a further decline of Rs. 48 crores to Rs. 213 crores in 1970-71, as a result of increased foodgrains production. On the other hand, as against a decline of about 16 per cent in non-foodgrain imports in the preceding year, these imports registered an increase of 10 per cent from a level of Rs. 1322 crores in 1969-70 to Rs. 1456 crores in 1970-71. Imports which recorded substantial increases during the year were iron and steel, non-ferrous metals and raw cotton. The substantially larger imports of iron and steel were necessitated by the shortfall in domestic production and the increased imports of copper and other non-ferrous metals occasioned by the need to meet the increase in domestic demand arising mainly from the rural electrification programme. The larger imports of raw cotton were due to a decline in domestic production.

19. To promote fuller utilisation of domestic capacity, the import policy for 1970-71 banned the imports of 159 items or groups of items and restricted imports of another 56 items. This includes certain types of ball bearings, small tools, machine tools, electrical instruments, textile machinery accessories, drugs, medicines and chemicals. At the same time, the licensing of imports of raw materials in short supply like steel and raw cotton was further liberalised.

[1]Exports which were previously recorded on the basis of actual shipment (*i.e.* finally passed shipping bills) are now being compiled as and when the consignments are approved for shipments (*i.e.* on the basis of provisionally passed shipping bills). The export estimates on the basis of the provisionally passed shipping bills are bound to be over-estimates when considered from the balance of payments point of view. Although the short and shutout shipments got recorded, they are recorded as and when the intimations are received. And it is unlikely that the new system could have reached a steady state between November 1970 and March 1971.

[1]Customs data

[2]Adjusted Customs data.

20. As table 1 shows, there was a trade deficit of the order of Rs. 170 crores in 1969-70. This constituted a substantial reduction from the deficit of Rs. 551 crores recorded in 1968-69. This reduction in the deficit was accounted for by a large reduction in imports combined with a small increase in exports. The trade deficit fell further to Rs. 134 crores in 1970-71. This was because of an improvement of Rs. 122 crores in exports offset to the extent of Rs. 86 crores by the increase in imports.

21. Debt servicing payments (including both interest charges and amortisation on foreign loans) amounted to Rs. 412 crores in 1969-70 and Rs. 450 crores in 1970-71. Repayments to the IMF amounted to Rs. 126 crores in 1969-70 and Rs. 153 crores[1] in 1970-71. With these payments, the total outstanding short-term obligations to the IMF were liquidated and no further repayments to the IMF are anticipated during the rest of the Plan period. In addition to the trade deficit and the payments on account of debt servicing and repayments to IMF, the other elements of the balance of payments, including errors and omissions, show a net outflow of Rs. 43 crores in 1969-70. The outflow on account of these items rose to Rs. 180 crores in 1970-71, on account of lags in export receipts and other transactions.

22. Taking all the items in the balance of payments together there was, thus, a total deficit of the order of Rs. 751 crores in 1969-70. As against this, there was a gross utilisation of external assistance of the order of Rs. 901 crores. This was made up of project and non-project aid of Rs. 679 crores, food aid of Rs. 170 crores and non-food PL 480 aid of Rs. 52 crores. As a result, there was an accretion of Rs. 150 crores to the foreign exchange reserves in 1969-70. The overall deficit in 1970-71 was of the order of Rs. 953 crores. External assistance financed Rs. 789 crores of this deficit and the balance of Rs. 164 crores met by drawals on the foreign exchange reserves. Of the total assistance utilised during the year, project and non-project aid accounted for Rs. 627 crores, food imports for Rs. 120 crores and non-food PL 480 aid for Rs. 42 crores.

III. Reappraisal of the Payments Position

23. In the light of the trends in the balance of payments since the beginning of the Fourth Plan and, in the context of the reappraisal of the Plan, a reassessment has recently been made of the likely position of the different components of the balance of payments for the rest of the Plan period.

24. As seen earlier, exports during 1969-70 and 1970-71 amounted to Rs. 1413 crores and Rs. 1535 crores respectively. The reassessment of export prospects for the remainder of the Plan period indicates that exports may amount to Rs. 1660 crores in the current year (1971-72) and then rise further to Rs. 1760 crores in 1972-73 and Rs. 1907 crores in 1973-74. On this basis, the growth rate in exports would work out at 8·1 per cent in 1971-72, 6 per cent in 1972-73 and 8·4 per cent in 1973-74. Over the period of the Fourth Plan, as a whole, export earnings are now placed at a total of Rs. 8275 crores as compared to an estimate of Rs. 8300 crores given in the Plan document.

25. The reassessment of the export estimates has been made on the basis of the likely growth of production in the agricultural, minerals and industries fields. As in the Plan document, reasonable stability in internal prices has been assumed. Account has also been taken of the likely developments in world market conditions, and in particular, the introduction of the general scheme of preferences, the levy of a 10 per cent surcharge by the U.S.A. and the implications of U.K.'s entry into the European Common Market in 1972.

26. The largest increase in exports during the last three years of the Plan is expected in the case of engineering goods. Sizeable increases are also anticipated in iron ore, leather and leather manufactures, handicarfts, chemicals and allied products, fish and marine products and jute manufactures. Smaller increases are postulated in the case of tea, cotton, textiles, cashew kernels and cotton yarn and thread. On the other hand, a substantial decline in exports has been taken into account in regard to iron and steel. A number of other export commodities are expected to remain stagnant or register small decreases during this period.

27. In regard to tea exports it has been assumed that the Mauritius Agreement allotting a joint quota to India and Ceylon will operate till the end of the Fourth Plan and that this joint quota would be in the neighbourhood of 425 million kgs. As the price of tea has risen to an unusual high level in the current year, a lower unit value has been taken into account in calculating the value of exports. A nominal increase in the exports of mill-made cotton piece-goods has been assumed in view of the difficulties that the cotton textile industry has faced for a long time in the world market. It has been assumed that adequate amounts of raw cotton and other inputs would be made available to the textile industry. Exports of jute manufactures which have also been facing difficulties over the past few years on account of competition from synthetics and Pakistan, are expected to show a substantial increase in 1971-72 in view of the current difficulties in Bangla Desh. This level of exports is not expected to continue during the rest of the Plan period during which a somewhat declining trend has been assumed. It is expected that jute carpet backing, which enjoys a substantially higher unit value than hessian and sacking, would be the main component in our exports of jute manufactures.

28. Exports of fish and other marine products which have a great potential have been somewhat sluggish in the last two years owing to an insufficiency of fishing vessels as also of cold storage and

[1]In addition, there was a gold payment of Rs. 36 crores to the IMF.

transport facilities. It is assumed that good progress would be made towards removing these bottlenecks and that exports of this category would show a noticeable increase in the remaining years of the Plan. Iron ore is another growth item in our export trade. The growth rate in these exports has been somewhat lower than the expectation owing to mining, transport, and handling difficulties. With the efforts that are being made to overcome these difficulties, it is expected that exports of iron ore would improve materially from the current year onwards. Some shortfall is, however, expected in the quantum of iron ore exports as compared to the target mentioned in the Fourth Plan document.

29. As stated earlier, among manufactured products, engineering goods, leather and leather manufactures, chemicals and allied products and handicrafts are expected to show sizeable increases. India has made an inroad into world markets in the exports of a variety of engineering goods; and there is substantial scope for extending exports of this group of commodities. It is assumed that the essential inputs required by engineering industries notably steel and non-ferrous metals would be made available, particularly for export production. About two-thirds of our exports of handicrafts are accounted for by precious and semi-precious stones and jewellery. Exports of these products are expected to grow at a fairly fast rate during the last three years of the Plan.

30. Among commodities which are expected to show a decline in the coming years, the most prominent is iron and steel. Domestic shortages of steel are the main factor which have brought down exports of this commodity in the current year and are expected to be a major constraint on exports in the last two years of the Plan. However, pig iron, which is a component of this group, is in surplus in the country and exports at the current year's level are expected to continue. A sizeable decline in exports of steel are anticipated in the current year (1971-72) and a much sharper fall in 1972-73. Thereafter, in 1973-74, steel exports are expected to pick up somewhat owing to an improvement in the domestic supply situation.

31. Imports in the first two years of the Plan amounted to Rs. 1582 crores and Rs. 1669 crores respectively. The reassessment of import requirements indicates that there will be a sharp rise in imports in the current year (1971-72). Imports are estimated to increase from Rs. 1669 crores in 1970-71 to Rs. 2106 crores in 1971-72 a rise of as much as Rs. 437 crores. The next two years are expected to show increases of the order of Rs. 63 and Rs. 214 crores, imports for these two years being estimated at Rs. 2169 crores and Rs. 2383 crores. On this basis, over the Fourth Plan period as a whole, the total import requirements are placed at Rs. 9910 crores—or an increase of Rs. 180 crores as compared to the estimates given in the Fourth Plan document. Of this total, non-foodgrains imports are estimated at a total of Rs. 9240 crores as compared to the Plan figure of Rs. 9140 crores. In regard to foodgrains imports, the revised estimate is Rs. 669 crores as against the Plan estimate of Rs. 590 crores.

32. Non-foodgrain imports are estimated to show a marked increase from a level of Rs. 1456 crores in 1970-71 to Rs. 1971 crores in 1971-72, mainly because of increase in imports of machinery and transport equipment, metals, P.O.L., fertiliser, as also in a number of other imports. Smaller increase in non-foodgrain imports are potulated for 1972-73 and 1973-74, the levels assumed for these two years being Rs. 2140 crores and Rs. 2353 crores respectively. Foodgrains imports which are estimated to decline from Rs. 213 crores in 1970-71 to Rs. 135 crores in 1971-72 are expected to amount to only Rs. 30 crores each year in 1972-73 and 1973-74. Imports in these last two years would represent normal commercial purchases particularly rice, from abroad.

33. Over the Plan period as a whole, the reassessment of import requirement indicates that while imports of metals, including steel and non-ferrous metals, and P.O.L. would be substantially larger than the amounts assumed in the Plan, those of fertilisers and machinery transport equipment would be sizeably smaller. A part from these 'bulk' commodities, which account for a large proportion of total imports, an appreciable increase is also postulated in regard to 'other' imports.

34. The demand for iron and steel has been worked out on the basis of end uses. On the side of production, a smooth and uninterrupted operation of HSL plants has been assumed and a moderate improvement in the capacity utilisation in existing plants during the rest of the Plan period. In the case of petroleum products, the estimates have taken into account the domestic production of crude, refining capacity in the country, the likely demand for various products as also the recent and prospective trends in import prices. In the case of fuel oil, although the current trends in consumption reveal a high rate of growth, it has been assumed that demand would be restrained either by imposition of fiscal levies or through physical controls. In the case of finished fertilisers and raw materials, the demand for fertilisers has been estimated on the basis of the actual behaviour of consumption over the last two years, modified so as to take into account the impact of the intensive drive for the greater application of fertilisers over the remaining three years of the Plan. On this basis, the revised import reqirements of fertilisers and fertiliser materials may be smaller as compared to the Plan estimate. Imports of machinery and transport equipment during the years 1969-70 and 1970-71 have been lower than those envisaged at the beginning of the Fourth Plan. Several factors appear to have contributed to this development. The rate of growth of investment has been below that anticipated earlier and the actual structure of investment also seems to have diverged from the one contemplated. Furthermore, the domestic availability of machi-

nery and equipment have been larger than had been assumed earlier. The estimates of requirements of machinery during the remaining years of the Plan have been worked out on the basis of the anticipated levels and nature of investment. The imports of components and spare parts are required both for the manufacture of machinery in the country and also for replacement of worn-out parts in used machinery. The estimates relating to this category of imports have been worked out on the basis of past experience.

35. Among 'other' imports, a high level of imports is estimated in regard to raw cotton during the last three years of the Plan. This assessment is based on the assumption that there would be no major break-through in the production of raw cotton.

36. Debt servicing payments are estimated to amount to Rs. 450 crores in the current year and to Rs. 482 crores and Rs. 480 crores in 1972-73 and 1973-74 respectively. The estimates for the last two years of the Plan take into account interest payments on loans to be contracted after March 1971. Taking into account the payments made in the first two years, the total payments on this account over the Fourth Plan period are placed at Rs. 2274 crores which is of the same order of magnitude as the estimate given in the Fourth Plan. As stated earlier, no payments to the IMF are expected during the last three years of the Plan. On account of other invisible and capital transactions, including errors and ommissions, a net outflow of Rs. 147 crores is estimated for the last three years of the Plan.

37. On the foregoing basis, the payments position during the last three years of the Plan and the revised position for the Plan period as a whole would be as follows :

TABLE 3 : *Revised Balance of Payments Position*

(Rs. crores)

sl. no.	item	actual 1969-70 and 1970-71	revised estimate 1971-72 to 1973-74	Fourth Plan
(0)	(1)	(2)	(3)	(4)
1	exports	2948	5327	8275
2	imports	3252	6658	9910
3	trade balance (1-2) . .	(—)304	(—)1331	(—)1635
4	debt servicing . .	(—)862	(—)1412	(—)2274
5	repayments to IMF .	(—)315	nil	(—)315
6	other invisible and capital transactions (including errors and omissions)	(—)223	(—)147	(—)370
7	*total deficit* (3 *to* 6) .	(—)**1704**	(—)**2890**	(—)**4594**

38. As will be seen from table 2, the overall payments deficit during the last three years of the Plan are placed at Rs. 2890 crores. This, together with the actual deficit of Rs. 1704 crores recorded during the first two years of the Plan give a total deficit of Rs. 4594 crores for the Fourth Plan period as a whole. It has been seen earlier that the aggregate deficit of Rs. 1704 crores during 1969-70 and 1970-71 was financed to the extent of Rs. 1690 crores by way of gross external assistance and the balance of Rs. 14 crores by drawals on the foreign exchange reserves. If a gross external assistance of the order of Rs. 2890 crores actually becomes available for utilisation during the last three years of the Plan, the external accounts can be balanced without further drawals on the reserves. On this basis, the gross external assistance utilised during the Plan period would amount to Rs. 4594 crores or Rs. 464 crores more than the utilisation envisaged in the Fourth Plan document. To the extent, however, the utilisation of gross assistance during the Plan period falls short of this figure, there would be need to resort to further drawals on the foreign exchange reserves during the rest of the Plan period, and/or to impose cuts on the import programme envisaged.

CHAPTER 6

INVESTMENT AND SAVING

CREATION of real capital and of the institutions and skills required for its efficient utilisation form the core of the process of economic development. Investment is the process of creating real capital. The resources for this are released through saving. An underdeveloped country seeking growth alongside self-reliance has to step up investment and, eventually, finance it very largely, if not wholly, from its own savings. Accordingly, India, since the inception of planning, has been striving to raise its rate of investment and domestic saving.[1]

2. The rate of investment, defined as the ratio of net investment to net domestic product at market prices (hereafter NDP), both taken at current prices, reached 13·4 per cent in 1965-66, the terminal year of the Third Plan. This is the highest rate achieved so far. In the following three years of the so called Plan holiday when there were only Annual Plans and no Five Year Plan was operative, there was a fairly sharp decline in the rate of investment. It fell from 13·4 per cent in 1965-66 to 12·2 per cent in 1966-67, 10·6 per cent in 1967-68 and 9·5 per cent in 1968-69. The 1968-69 rate was, in fact, 2·5 percentage points below the rate of 12 per cent achieved in 1960-61, the terminal year of the Second Plan. Over these years, saving also behaved in a similar, though not identical, fashion. The rate of saving fell from the peak level of 11·1 per cent in 1965-66 to 9 per cent in 1966-67 and 7·9 per cent in 1967-68. It rose to 8·4 per cent in 1968-69, but, even so, is 0·5 percentage point below the 1960-61 level of 8·9 per cent. The movements in the rate of investment and domestic saving and the gap met by foreign saving since 1960-61 are given in table 1.

TABLE 1 : *Rate of Investment and Saving*

(percentage of NDP)

year	investment	domestic saving	foreign saving
(1)	(2)	(3)	(4)
1960-61	12·0	8·9	3·1
1961-62	10·8	8·6	2·2
1962-63	12·0	9·6	2·4
1963-64	12·7	10·7	2·0
1964-65	12·0	9·8	2·2
1965-66	13·4	11·1	2·3
1966-67	12·2	9·0	3·2
1967-68	10·6	7·9	2·7
1968-69	9·5	8·4	1·1

[1]In the Plan document, the rate of investment and saving has been expressed as ratio of net investment/net saving to net national income (net national product at factor cost). Since investment outlays are at market prices and not at factor cost, the rate of investment, and hence also of net saving, may be more appropriately expressed as percentage of net domestic or national product at market prices.

3. The sharp decline in the rate of domestic saving and the rise in the contribution of foreign saving in 1966-67 reflect, to a considerable extent, the fact that, as a result of the devaluation of the rupee in June 1966, the foreign funds flowing into the country were now valued at a higher rate (in terms of rupees). Even when allowance is made for this factor, there was undoubtedly a significant decline in the rate of investment during 1966-67 to 1968-69 and in the rate of domestic saving during the first two years of this period as a result of certain internal developments in the economy.

5. The Fourth Plan sought to put the economy back on a rising trend in respect of the rates of investment and domestic saving. In pursuance of the objective of economic self-reliance in the sense of dispensing with net aid after 1980-81, the rate of domestic saving was to rise at a higher rate than the rate of investment so that the dependence on foreign saving could be progressively reduced. Rate of investment as a proportion of national income was to rise from 11·3 per cent in 1968-69 to 14·5 per cent in 1973-74 while, over the same period, the rate of domestic saving was to rise from 8·8 per cent to 13·2 per cent. The dependence on foreign saving was thus to be reduced from 2·5 per cent of national income in 1968-69 to 1·3 per cent in 1973-74. In terms of NDP, the above projections implied a rise in the rate of investment from 9·9 per cent in 1968-69 to 13·1 per cent in 1973-74 and in the rate of saving, over the same period, from 8 per cent to 11·9 per cent. The implied decline in the dependence on foreign saving was from 1·9 per cent of NDP in 1968-69 to 1·2 per cent in 1973-74.

5. The actual rates of investment and saving in 1968-69 have turned out to be somewhat different from those estimated in the Fourth Plan. Net investment has now been estimated as 10·5 per cent and net saving as 9·2 per cent of national income in 1968-69 as against the Fourth Plan estimate of 11·3 per cent and 8·8 per cent, respectively. In terms of NDP, the actual rates of investment and saving in 1968-69 work out to 9·5 per cent and 8·4 per cent, respectively.

6. During the first two years of the Plan, there was a slight decline in the rate of investment and practically no change in the rate of domestic saving. In 1970-71, however, there was some improvement in the rate of investment but a marginal decline in

the rate of domestic saving. In 1969-70 there was a sizeable decline in the relative contribution of foreign saving to total investible resources, but in 1970-71 there was a substantial increase in the proportion of foreign to total saving. The position is summarised in table 2:

TABLE 2 : *Rate of Investment and Saving*

(percentage of NDP)

sl. no.	item	1968-69		1969-70	1970-71
		as in the Fourth Plan	actuals	actuals	likely
(0)	(1)	(2)	(3)	(4)	(5)
1	investment	9·9	9·5	9·2	9·6
2	domestic saving	8·0	8·4	8·4	8·3
3	foreign saving	1·9	1·1	0·8	1·3

7. The basic medium term and long term development objectives set out in the Fourth Plan require that the present virtual levelling off in the rate of saving must soon be made to give way to a quite sharply rising trend so that a corresponding rise in the rate of investment may be feasible on the basis of mobilisation of domestic resources. In this context, it would be instructive to analyse the factors that have caused the rate of saving in 1970-71 to be substantially lower compared to the levels reached in 1965-66. The data relevant to such an analysis are given in table 3 :

TABLE 3 : *Public and Private Disposable Income and Saving*

sl. no.	item	public sector		private sector	
		1965-66	1970-71	1965-66	1970-71
(0)	(1)	(2)	(3)	(4)	(5)
1	net disposable income as per cent of NDP	12·8	11.8	87·1	87·8
2	net saving as per cent of net disposable income	21·6	9·5	9·1	8·2
3	net saving as per cent of NDP .	2·8	1·1	8·4	7·2

NOTE: The net disposable income available to the rest of the world from India's NDP was 0·1 per cent and 0·4 per cent of NDP in 1965-66 and 1970-71, respectively.

8. Between 1965-66 and 1970-71, net public disposable income declined from 12·8 per cent to 11·8 per cent of NDP. During the same interval, the percentage of net saving to net disposable income declined from 21·6 to 9·5 per cent. As a result, public saving declined from 2·8 per cent to 1·1 per cent of NDP.

9. Private disposable income rose from 87·1 per cent of NDP in 1965-66 to 87·8 per cent in 1970-71. But, during the same period, private saving as percentage of private disposable income declined from 9·1 to 8·2. As a result, the rate of private saving declined from 8·4 per cent to 7·2 per cent of NDP.

10. The above suggests that a major thrust of the strategy for a sharp rise in the rate of saving must be towards (1) raising the proportion of net public disposable income to NDP and (2) raising the rate of net public saving to net public disposable income. The implications of this are discussed below.

11. Taking transfers (grants, etc.) from the rest of the world as given, a rise in the public disposable income requires one or more of the following.

(i) a rise in the ratio of tax revenues to NDP;

(ii) a decline in the ratio of subsidies to NDP;

(iii) a rise in the ratio of factor incomes comprising of (1) retained profits of non-departmental undertakings, (2) operating surpluses of departmental undertakings, and (3) Government interest receipts and other property incomes to NDP, and

(iv) a decline in net current transfers to the private sector.

12. The above is illustrated in table 4:

TABLE 4 : *Net Public Disposable Income by Sources*

(percentage of NDP)

sl. no.	item	1960-61	1965-66 estimated	1970-71
(0)	(1)	(2)	(3)	(4)
1	tax revenue (net) . .	9·6	12·5	11·9
2	tax revenue (gross) .	10·2	13·3	12·8
3	direct taxes . .	2.9	3.4	2.8
4	indirect taxes . .	7·3	9·9	10·0
5	less : subsidies . .	(—)0·6	(—)0·8	(—)0·9
6	factor incomes . .	1·4	1·6	1·7
7	less : current transfers to the private sector (net) .	(—)1·2	(—)1·6	(—)1·9
8	*total public disposable income (exclusive of current transfers from the rest of the world)* . .	**9·8**	**12·5**	**11·7**
9	current transfers from the rest of the world . .	0·3	0·3	0·1
10	*total public disposable income* . . .	**10·1**	**12·8**	**11·8**

13. Tax revenue (gross) rose from 10 ·2 per cent of NDP in 1960-61 to 13 ·3 per cent in 1965-66. During the same period, public factor incomes increased from 1 ·4 per cent to 1 ·6 per cent of NDP. There was thus an improvement of 3 ·3 percentage points under the two items. On the other hand, over the same period, subsidies increased by 0 ·2 percentage point and public current transfers to the private sector by 0 ·4 percentage point. There was thus a deterioration of 0 ·6 percentage point under the latter two items. The overall result was an improvement of 2 ·7 percentage points in the ratio of net public disposable income to NDP.

14. Between 1965-66 and 1970-71 the change was in the opposite direction. The position deteriorated by 0 ·5 percentage point under tax revenue (gross), 0 ·1 percentage point under subsidies, 0 ·3 percentage point under current transfers to the private sector and 0 ·2 percentage point under current transfers from the rest of the world. The total deterioration of 1 ·1 percentage point under all these items was offset by an improvement of 0 ·1 percentage point under factor incomes. There was thus a net deterioration of 1 ·0 percentage point in the ratio of net disposable income to ND^{D} over the period.

15. The financing scheme for the period 1971-72 to 1973-74 seeks to raise public disposable income broadly in the manner suggested by the above analysis. This is brought out in table 5.

TABLE 5 : *Estimated Net Public Disposable Income*

(Percentage of NDP)

sl. no.	item	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)
1	tax revenue (net) .	11 ·9	12 ·2	12 ·9	13 ·4
2	tax revenue (gross) .	12 ·8	13 ·1	13 ·8	14 ·3
3	direct taxes . .	2 ·8	2 ·9	3 ·1	3 ·2
4	indirect taxes .	10 ·0	10 ·2	10 ·7	11 ·1
5	less : subsidies .	(—)0 ·9	(—)0 ·9	(—)0 ·9	(—)0 ·9
6	factor incomes .	1 ·7	1 ·7	1 ·8	1 ·9
7	less : current transfers to the private sector (net) . . .	(—)1 ·9	(—)1 ·9	(—)1 ·7	(—)0 ·8
8	*total public disposable income (exclusive of current transfers from the rest of the world)* .	**11 ·7**	**12 ·0**	**13 ·0**	**13 ·5**
9	current transfers from the rest of the world	0 ·1	0 ·1	0 ·1	0 ·1
10	*total public disposable income* . .	**11 ·8**	**12 ·1**	**13 ·1**	**13 ·6**

16. Tax revenue (gross of subsidies) is anticipated to grow (inclusive of the envisaged additional tax effort during 1972-73 and 1973-74) from 12 ·8 per cent of NDP in 1970-71 to 14 ·3 in 1973-74. No substantial increase in subsidies is anticipated. As a result, tax revenue (net of subsidies) is anticipated to grow from 11 ·9 per cent of NDP in 1970-71 to 13 ·4 per cent in 1973-74, an improvement of 1.5 percentage points. The factor incomes are envisaged to increase from 1 ·7 per cent of NDP in 1970-71 to 1 ·9 per cent in 1973-74, that is, by 0 ·2 percentage point. The net current transfers to the private sector are anticipated to decline from 1 ·9 per cent of NDP in 1970-71 to 1 ·8 per cent in 1973-74, that is, by 0 ·1 percentage point. The total improvement of 1 ·9 percentage points under these three heads is anticipated. As a result of this improvement over the three year period, net public disposable income is anticipated to grow from 11 ·8 per cent of NDP to 13 ·6 per cent.

17. Improvement in the ratio of net disposable income to NDP would tend to raise the overall rate of saving only to the extent the public sector has a higher marginal rate of saving than the private sector. Only then will the transfer from private disposable income to public disposable income add to public saving more than the amount by which it reduces private saving. A higher marginal rate of saving in the public sector must, therefore, from an essential element of the savings strategy. As mentioned earlier, from 1965-66 to 1970-71, the average rate of saving in the public sector, measured by the ratio of net public saving to net disposable public income, fell from 21 ·6 per cent to 9 ·5 per cent. It was, primarily, this factor that lowered the rate of net public saving from 2 ·8 per cent of NDP in 1965-66 to 1 ·1 per cent in 1970-71. The decline in the average rate of net saving as a percentage of net disposable income was the result of a very low marginal rate of saving in the public sector during this period. This rate was, in fact, negative; the increase in public consumption was more than the increase in disposable income. This position does not conform to the requirements of a sound savings strategy. It is imperative to bring about a sharp rise in the marginal rate of saving in the public sector. In other words, a high enough proportion of further increments to net public disposable income must go to augment the present level of public saving. All avoidable public consumption must be rigorously curbed.

18. The financing scheme for the period 1971-72 to 1973-74 broadly conforms to the above approach. Though there is further deterioration in the ratio of net public saving to net public disposable income from 9 ·5 per cent in 1970-71 to 6 ·9 per cent in 1971-72, a sharp rise in this ratio during the next two years is contemplated. The ratio rises to 16 ·7 per cent in 1972-73 and 21 ·1 per cent in 1973-74, thus broadly reaching the previous high level of 21 ·6 per cent reached in 1965-66. The implied marginal rate of saving in the public sector during the next two years is as high as 73 ·5 per cent. During this period public consumption is anticipated to absorb no more than about one-third of the additional public disposable income. The position is summarised in table 6.

TABLE 6 : *Net Public Saving*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	net public disposable income as per cent of NDP . .	11·2	11·6	11·8	12·1	13·1	13·6
2	net public saving as per cent of net public disposable income	12·1	7·4	9·5	6·9	16·7	21·1
3	net public saving as per cent of NDP	1·4	0·9	1·1	0·8	2·2	2·9

19. It may, however, be pointed out that the estimates in respect of 1972-73 and 1973-74 given in the above table are subject to important qualifications. These do not make allowance for any expenditure on Bangla Desh refugees in these two years. Nor do they take into account any extra expenditure that might arise from any future increase in pay dearness allowance of Government employees. Should any expenditure on these accounts become necessary other things remaining the same, public saving would correspondingly go down. In that case, the above estimate of public saving could be realised only by either equivalent economies in public consumption or drawing enough of private disposable income into public disposable income. In the latter case, however the private saving would be adversely affected. The result would be that, while public saving may materialise as anticipated, aggregate domestic saving would be lower unless simulaneously effective measures are taken to raise the ratio of private saving to private disposable income beyond the levels now envisaged.

20. A rise in the ratio of net public disposable income to NDP implies an almost equal fall, in percentage points, in the ratio of net private disposable income to NDP. In the event if the ratio of net private saving to net private disposable income remains unchanged, private saving as a percentage of NDP would decline. Thus, even to maintain the previous levels of private savig, a higher proportion of net private disposable income must be saved. The financing scheme for the period 1971-72 to 1973-74 envisages an improvement, even if marginal, in the proportion of net private disposable income saved. Private saving is thus maintained at about the present level of a little over per cent of NDP. This is obviously an area where, given appropriate policies and measures, the Plan anticipations could be substantially exceeded. The position as now envisaged is given in table 7.

TABLE 7 : *Net Private Savings*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	net private disposable income as per cent of NDP . .	88·5	88·0	87·8	87·6	86·6	85·9
2	net private saving as per cent of net private disposable income	7·9	8·5	8·2	8·4	8·4	8·5
3	net private saving as per cent of NDP	7·0	7·5	7·2	7·4	7·3	7·3

21. Domestic saving is supplemented by inflow of funds from abroad. To the extent this inflow takes the form of current transfers to the public and the private sectors, this is reflected in the net disposable income, and hence in the net saving, of the two sectors. The balance which takes the form of net capital transfer to the two sectors supplements net domestic saving. The position in regard to the anticipated availability of foreign saving is given in table 8:

TABLE 8 : *Availability of Foreign Saving*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	factor income payments to the rest of the world (net) .	0·8	0·8	0·8	0·7	0·7	0·8
2	import of goods and services (net)	0·9	0·5	1·0	1·1	0·7	0·4
3	less : current transfers to India (net)	(—)0·6	(—)0·5	(—)0·5	(—)0·4	(—)0·4	(—)0·3
4	*capital transfers to India (net)*	**1·1**	**0·8**	**1·3**	**1·4**	**1·0**	**0·9**

22. Adding together domestic and foreign saving, the total availability of net investible resources has been given in table 9 :

TABLE 9 : *Total Availability of Investible Resources*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	domestic saving (net)	8·4	8·4	8·3	8·2	9·5	10·2
2	public	1·4	0·9	1·1	0·8	2·2	2·9
3	private	7·0	7·5	7·2	7·4	7·3	7·3
4	foreign saving	1·1	0·8	1·3	1·4	1·0	0·9
5	*total saving total availability of resources for net investment*	**9·5**	**9·2**	**9·6**	**9·6**	**10·5**	**11·1**

23. If the above anticipations materialise, net investment which had fallen to 9·5 per cent of NDP in 1968-69 compared to 13·4 per cent in 1965-66 would rise to 11·1 per cent in 1973-74. Even so, it would be below the 1960-61 level of 12 per cent of NDP. Over the same period, domestic saving would rise from 8·4 per cent of NDP in 1968-69 to 10·2 per cent in 1973-74. It would thus once again exceed the 1960-61 level of 8·9 per cent of NDP and would be approaching the 1965-66 level of 11·1 per cent. Clearly, the country has yet to go a long way before it attains adequate rates of investment and saving.

24. Net foreign saving available to the Indian economy has been flowing mainly into the public sector. At the same time, the public sector has also been making a large draft on private saving. As a result, as shown in table 10, public investment is much larger than public saving.

TABLE 10 : *Availability of Investible Resources to the Public Sector*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	public saving	1·4	0·9	1·1	0·8	2·2	2·9
2	draft on private saving (net)	2·8	2·7	3·2	3·7	3·4	3·4
3	draft on foreign saving (net)	1·2	1·6	1·4	1·4	1·0	0·8
4	*total investible resources*[1]	**5·4**	**5·4**	**5·7**	**5·9**	**6·6**	**7·1**

[1]Include besides the amount invested in the public sector, the amount made available, on Plan account, for investment in the private sector.

25. The public sector draws on private saving in several ways. Firstly, there are the market borrowings by the Centre and the State Governments, the public financial institutions and the public enterprises. Secondly, there is the amount raised through the various small saving schemes. Thirdly there are the accumulations in the State Provident Funds arising from the contributions by Government employees and the interest accruals thereon. Fourthly, at one time, annuity deposits and compulsory deposits were instituted to transfer resources from the private to the public sector. Since these were later given up the Fourth Plan provided for a net out-go of resourses on this account by way of repayment of these deposits. In other words, the transfer of funds has been from the public to the private sector, Firstly, there are the negotiated loans taken by the State Governments and State enterprises from the Life Insurance Corporation. Sixthly, there are the public sector receipts by way of loan repayment and other miscellaneous capital transfers from the private sector.

Finally, private saving is effected and transeferred to the public sector through deficit financing. The item-wise details are given in table 11 :

TABLE 11 : *Public Sector Net Draft on Private Saving*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	market borrowings	0·78	0·89	1·30	1·05	1·21	1·30
2	small savings	0·36	0·37	0·50	0·44	0·53	0·57
3	state provident funds	0·34	0·45	0·39	0·37	0·37	0·36
4	annuity deposits, compulsory deposits, negotiated loans from the L.I.C. and other misc. capital receipts	0·45	0·84	0·03	0·88	0·86	0·73
5	deficit financing	0·83	0·17	0·96	0·93	0·45	0·43
6	*total*	**2·76**	**2·72**	**3·21**	3·67	**3·42**	**3·39**

26. As a result of the public sector net draft on private saving, the investible resources available to the private sector are correspondingly reduced. The inflow, positive or negitive, of capital funds from abroad into the private sector is generally a negligible amount. The position in regard to availability of investible resources to the private sector is given in table 12.

TABLE 12 : *Available of Investible Resources to the Private Sector*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	private saving	7·0	7·5	7·2	7·4	7·3	7·3
2	less : public sector net draft on private saving	(—)2·8	(—)2·7	(—)3·2	(—)3·7	(—)3·4	(—)3·4
3	draft on foreign saving	(—)0·1	(—)0·8	neg.	neg.	neg.	neg.
4	*total investible resources*	**4·1**	**4·0**	**4·0**	**3·7**	**3·9**	**3·9**

27. The position in respect of the distribution of investible funds between the public and the private sectors summarised in Table 13.

TABLE 13 : *Distribution of Investible Funds by Public and Private Sector*

(percentage of NDP)

sl. no.	item	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	public sector	5·4	5·2	5·7	5·9	6·6	7·1
2	private sector	4·1	4·0	4·0	3·7	3·9	3·9
3	*total*	**9·5**	**9·2**	**9·7**	**9·6**	**10·5**	**11·0**

28. It may be pointed out that the above table indicates the availability of investible resources to the two sectors and not the actual investment in these. Of the amount available to the public sector, under the various Plan programmes, a substantial amount is transferred to the private sector for investment. To the extent of this amount, the actual investment in the public sector is less, and that in the private sector more, than what is indicated in table 13.

29. As mentioned in paragraph 4, the rise envisaged in the Plan, works out in terms of NDP, in case of investment, from 9·9 per cent in 1968-69 to 13·1 per cent in 1973-74, and in case of saving, from 8 per cent to 11·9 per cent. Against this, according to present anticipations, the rates of investment and saving in 1973-74 would be 11·0 per cent and 10·2 per cent respectively. Investment would thus be short of the envisaged 1973-74 level by 2·1 percentage points and saving by 1·7 percentage points. A short-fall in saving would occur despite the fact that the actual rate of saving in 1968-69 turned out to be higher (8·4 per cent of NDP) than the implied level (8 per cent of NDP) taken as the base figure in the Fourth Plan.

30. The first two years of the Fourth Plan have seen visible improvement in the balance of payments but the stagnation in the rate of saving has persisted. As a result the paucity of domestic saving is now increasingly showing up as an even more serious constraint on development that than foreign exchange resources. There is a pressing need for effective action to step-up the rate of domestic saving.

31. A major thrust of the savings effort must be towards raising the rate of public savings. The Fourth Plan, very rightly, looked to this to yield the greater part of the required step-up in the overall rate of saving. The rate of public saving in 1973-74 was set at 4·5 per cent of net national income (at factor cost). This would correspond to a rate of 4·1 per cent of NDP. There has been no improvement in the rate of public saving during the first two years of the Fourth Plan; the rate of 1·1 per cent in 1970-71 is slightly lower than the actual rate in 1968-69. In 1971-72 because of large additions to public consumption on account of refugee relief, drought and flood relief and additional defence outlay, the rate is anticipated to decline to 0·8 per cent of NDP. It is imperative to reverse this trend and bring about a sharp rise in the rate of public saving. It has been envisaged that, subject to qualifications mentioned in para 19, this rate will rise to 2·2 and 2·9 per cent of NDP in 1972-73 and 1973-74 respectively.

32. Public saving is not only a very necessary but also a very desirable means of stepping up domestic saving. It has several notable merits. Firstly, if the required switch from private to public disposable income is achieved mainly at the expense of the better off strata of society and if the curbs on public consumption are mainly directed to items that contribute little to the welfare of the masses, public saving can be most equitable devise to lift the economy to a higher rate of saving. Secondly, since private saving involves private asset formation and since the bulk of the private saving is inevitably accounted for by the well-to-do minority, it tends to greater inequality of income and wealth, with successive rounds of saving and investment. Public saving, on the other hand, adds to collective wealth and income of the community and thus could be an important lever for growth and for social justice. Thirdly, public saving involves simultaneous generation and mobilisation of investible funds. Canalisation of savings into higher priority investment thus presents no additional problem. Private saving, particularly household saving, often presents formidable problems of mobilisation and appropriate canalisation. The importance of public saving in a well conceived savings strategy can scarcely be over emphasised.

33. The emphasis on public saving should not in any way belittle private saving. At present, private saving accounts for the greater part of total domestic saving and, as far as can be seen would continue to do so in the future. In this contest, it is necessary to distinguish between the two problems: (i) that of re-channelling the flow of private saving and (ii) that of augmenting it at the expense of private consumption. While the same device may sometimes serve both the purposes, the two problems are quite distinct.

34. Saving, being a flow, by definition cannot be idle. An idle flow should be as inconceivable as fried ice. There is, however, a popular impression that cash hoards represent idle saving and if these are drawn into banking deposits or some other financial assets there will be a corresponding addition to the flow of savings. This is not correct. Cash hoards are an idle asset only from the point of view of the individual but not from that of the community. All additions to currency with the public, whether these go into hoards or active cash, are the counter-part of the expansion of net central bank credit to the public sector (the so called deficit financing) or to the private sector via the commercial and the cooperative banks.[1] The resources thus released to the public and the private sectors represent the active use of the private saving effected by obliging the general public to hold additional currency. Similarly, bank credits and bank investment in Government securities represent the active use of savings effected through bank deposits. The mere switch from one asset to another, for example, from cash to bank deposits, or from banks deposits to private and public bonds, does not represent, by itself, any additional saving on the part of the person undertaking this switch. It represents rechannelling of saving, not its augmentation. Of course, appropriate canalisation of savings remains an important problem in India. It should be an important objective of financial planning to restrain investment in luxury house buildings, speculative investories and real estate, smuggled gold and clandestine foreign exchange balance and to divert it instread into higher priority investments. Nevertheless, in all these cases, what is sought to be achieved is better canalisation rather than large flow of saving. There is no escape from the fact that the total flow of private savings can be enlarged only by restraint on private consumption. The various opportunities for acquiring suitable financial assets (bank deposits, private bonds and shares, small savings, public

[1]Increase in currency circulation resulting from the net acquisition of foreign exchange assets by the Reserve Bank, is not very significant in the present context in India.

bonds, provident funds, life insurance policies, rural debentures, Units, etc.) or for physical investment in agriculture, industry, transport, residential and commercial housing, etc. are helpful only to the extent these draw in funds which otherwise might have gone into consumption. To the extent there is just diversion from one asset to another, these devices are of significance only as an instrument for appropriate canalisation rather than for raising the rate of saving.

35. Private sector comprises of (i) the private corporate sector, (ii) the cooperative sector and (iii) the household sector. Correspondingly, the three components of private disposable income are: (i) private corporate disposable income, (ii) cooperative disposals income, and (iii) household disposable income. Since there is no such thing as corporate or cooperative consumption, corporate and cooperative disposable income[1] is synonymous with corporate and cooperative saving. In other words, the rate of saving in the case of these two components of private disposable income is cent per cent. This rate is much lower in the case of household disposable income. The implied rate in the original Fourth Plan estimates of household saving in 1968-69 and 1973-74 is 6·7 and 8·1 percent respecttively. And the latest anticipations in this regard are not very different. It follows that the higher the proportion of corporate disposable income (corporate saving) in the total of private disposable income, the higher will tend to be the overall rate of private saving. Today, corporate disposable income accounts for a very small fraction of the total private disposable income. The original Fourth Plan estimates imply no more than 1·04 per cent in1968-69 rising to 1·16 per cent in 1973-74. The current assessment is about the same. The low ratio of corporate disposable income to total private disposable income may thus be identified as a major factor for the present low rate of private saving. The expansion of the corporate sector and enabling it to achieve reasonably good profitability must, therefore, form another major plank of a well-conceived savings strategy. It is equally necessary to close various loopholes that result in open or clandestine diversion of corporate incomes into private consumption. The above approach does not necessarily imply growth of private big business. It should be possible to achieve the required expansion of the corporate sector mainly by nurturing and promoting medium entrepreneurs and by exploiting the full potential of the joint sector concept.

36. The same argument applies to the cooperative sector. Cooperative disposable income[2] is synonymous with cooperative saving. Accordingly, an improvement in the proportion of cooperative disposable income to total private disposable income will tend to raise the overall rate of private saving. In recent years, as a result of vigorous Government promotional effort, cooperative sector credit as well as non-credit, has been growing quite fast, even if not as fast as it might be wished. However, cooperative saving (cooperative disposable income) remains an insignificant amount. In the Fourth Plan, it was not even mentioned separately. In the mid-term appraisal, credit has been taken only for an insignificant amount under this head. The expansion of the cooperative secfor and enabling it to achieve good financial results must, therefore, form another important plank of an effective savings strategy.

37. Even if a spurt in corporate and cooperative saving materialises soon enough, in the forceable future, household saving will remain the main component of private saving. Vigorous efforts to raise the rate of household saving are thus very much needed. As mentioned earlier, this rate is, currently, quite low, barely 7-8 per cent of household disposable income. Any significant rise in this rate is not going to be an easy matter, for, there are formidable constrains on household saving. Serveral of these relate to the rather high degree of inequality obtaining in the society.

38. Firstly, a sizable class has large enough income to be able to afford living standards and patterns obtaining in the highly developed countries. Not only their own consumption makes heavy draft on the limited resources of the nation but they set the pace for the less well-to-do strata. Through them, the so called demonstration effect of higher living standards abroad is communicated to many millions more, thus creating consumption motivations of an intensity and of types that play havoc with the nation's will and capacity for higher domestic savings effort. Secondly, there is every evidence that non-functional consumption like that on ceremonials, rituals, and superstitious practices, is on the increase. The problem, once again, is deeply rooted in the prevailing inequality. The upper strata, particularly, the new rich thrown up by the two decades of planned development, have the means to indulge in such consumption in a big way. They thus set in motion a chain reaction which eventually engulfs even those who cannot afford one square meal a day. In the case of unaccounted income and wealth, the motivation for consumption and for such inessential investment as luxury houses, real estate and gold where such income and wealth can be easily "digested" is immensely reinforced.

39. It is commonly claimed in defence of inequality that it atleast yields a higher rate of saving. In India, this hypothesis does not hold good. Inequality, in fact, is a major constraint on efforts to step up the rate of household saving. It may be pointed out that, during the years of the great inflationary rise in prices during the mid Sixties, when inequality must have increased, the rate of household saving did not go up. In fact, it somewhat declined.

40. In recent years, an additional constraint on household saving has become a matter of concern. This is the growing tendency of the borrowers from the cooperatives and the government, particularly the more substantial among them, to default on re-

[1]Taken, in the present context, net of dividend payments. Household disposable income includes dividends received from the corporate and the cooperative sectors.

[2]Taken, in the present context, net of dividend payments.

payments. They thus fail to generate the saving needed, to meet their obligations. A more vigorous enforcement of obligations could be beneficial to saving.

41. Emphasis on widespread financial institutions and on appropriate instruments to cater to the varied needs of the savers is very necessary and must figure prominently in a comprehensive savings strategy. But, in the absence of an effective national effort to deal with some of the basic causes of the low rate of household saving, the results are unlikely to come up to the nation's requirements.

42. As explained earlier, public saving must be viewed as the most dynamic element in the savings strategy. In order to raise public savings as percentage of NDP it would be necessary (i) to raise net public disposable income as a proportion of NDP and (ii) to raise the ratio of public saving to public disposable income.

43. Public sector comprises of (i) the public corporate sector (that is, the non-departmental public undertakings) and (ii) the general government (including the departmental undertakings). Correspondingly, public disposable income comprises of (i) public corporate disposable income and (ii) general government disposable income. Public corporate disposable income is synonymous with public corporate saving. In other words, the rate of saving in respect of this component of public disposable income, being cent per cent, is much higher than that in the case of general government disposable income. the other component. It follows that the higher the proportion of public corporate disposable income in the total of public disposable income, the higher will tend to be the overall rate of public saving. Since the acceptance of a socialist pattern of society as the basic development goal of Indian planning, the public corporate sector has rapidly expanded. However, corporate net saving remains a negligible figure and makes little contribution to public saving. This is incompatible with the requirements of accelerated development. It is imperative to recognise that the generation of savings in the form of retained surpluses is as important a responsibility of the public sector as filling the physical gaps in the economic structure. Every possible effort must be made to improve the operational efficiency of the public corporate sector in terms of financial results.

44. Taxation is the most important instrument to raise the proportion of NDP becoming available as net disposable income to general government. In fact, this proportion is very closely related to the ratio of tax revenue to NDP. Subsidies and other current transfers to the private sector need to be closely scrutinised with a view to weeding out the inessential ones. Finally, it is as necessary to avoid non-functional public consumption as to curb non-functional household consumption.

45. In the final analysis, the investment saving problem of the Indian economy may be viewed as one of restructuring disposition of NDP. Adequate growth requires that net investment should claim a higher proportion of NDP than is currently the case. Further, there is, at present, a net import of goods and services. The deficit on this and other components of the balance of payments has to be financed by external assistance. The self-reliance objective requires that, as early as possible, the country must generate, from its net domestic product, a large enough net export of goods and services to meet the deficit arising from large and growing investment income and capital amortization payments to the rest of the world. A rise in the proportion of NDP absorbed in net investment and the conversion of the present net import of goods and services into an adequate export surplus would necessarily involve a corresponding decline in the proportion of NDP absorbed in consumption, public and private. This is the essence of the investment saving problem. The changes in the disposition of NDP over the Fourth Plan period and the projections for 1980-81 are given in table 14.

Taken net of dividend payment General government disposable income includes dividend received from non-departmental public undertakings.

TABLE 14 : *Disposition of Net Domestic Product*

(percentage of NDP)

sl. no.	item	investment	Consumption public	Consumption private	total	Net export of goods and services	total
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Fourth Plan original estimate (implied)[1]						
1	1968-69	10·0	9·8	81·2	91·0	(—)1·0	100·0
2	1973-74	13·1	9·8	77·6	87·4	(—)0·5	100·0
	actual (provisional)[2]						
3	1968-69	9·5	9·9	81·5	91·4	(—)0·9	100·0
4	1969-70	9·2	10·8	80·5	91·3	(—)0·5	100·0
	estimates						
5	1970-71	9·6	10·8	80·6	91·4	(—)1·0	100·0
6	1971-72	9·6	11·2	80·2	91·4	(—)1·0	100·0
7	1972-73	10·5	10·9	79·3	90·2	(—)0·7	100·0
8	1973-74	11·1	10·7	78·6	89·3	(—)0·4	100·0
	Fourth Plan projections						
9	1980-81	15·9	9·6	74·2	83·8	0·3	100·0

[1]At 1968-69 prices. [2]At current prices.

46. The above table shows that the country has yet to go a long way in the matter of re-structuring the NDP before it can reach the pattern projected in the Fourth Plan for 1980-81. The ground to be covered is a measure of the required investment saving effort during the Seventies.

CHAPTER 7

PRICE TRENDS AND POLICIES

THE stabilisation of foodgrain prices and the general prices level was emphasised in the Plan against the background of a continuous price rise since the commencement of the Second Plan. The whole-sale prices rose during the Second Plan period at an annual rate of 6 per cent. There was a slowing down in the rate of rise during the initial years of the Third Plan but it accelerated thereafter. The annual rate of rise works out at 9 per cent for the period 1963-66 as against 6 per cent for the Third Plan period as a whole. The annual rate of rise jumped to 16 per cent during 1966-67 under the impact of droughts in two consecutive years and war with Pakistan. The rate of rise 11 percent in 1967-68 though smaller than in the preceding year was significantly higher than in the earlier years. It was only in 1968-69 that a certain measure of price stability was restored when unlike the preceding years the general index of whole-sale prices registered a marginal fall of 1 per cent instead of a rise. The order of price change in different commodity groups is indicated in table 1.

TABLE 1 : *Annual Rate of Variation in the Index of Wholesale Prices*
(*Base*—1952—53=100)

(percent)

sl. no.	commodity group	Second Plan	Third Plan	1963-64 to 1965-66	1966-67	1967-68	1968-69
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*all commodities*	6·3	5·8	8·9	15·9	11·0	(—)1·0
2	food articles	6·9	7·2	10·3	18·4	21·2	(—)4·5
3	liquor and tobacco	6·4	4·8	7·8	(—)4·6	4·8	55·3
4	fuel, power, etc.	4·8	5·1	6·5	10·9	8·5	4·6
5	industrial raw materials	8·4	5·8	11·7	20·9	(—)4·2	1·6
6	manufactures	4·5	3·8	5·1	9·2	1·5	1·9

2. The all India Working Class Consumer Price Index followed closely the trends in the wholesale price index. As will be seen from table 2, the rise in the consumer price index remained sharp till 1967-68 and a measure of stability was attained during 1968-69.

TABLE 2 : *Annual Rate of Variation*

period	wholesale price index	all India working class consumer price index
	1952-53=100	1949=100
(1)	(2)	(3)
Second Plan	6·3	5·3
Third Plan	5·8	6·5
1963-64 to 1965-66	8·9	8·9
1966-67	15·9	13·0
1967-68	11·0	11·5
1968-69	(—)1·0	(—)0·5

3. This large increase in the cost of living adversely affected the real incomes of wage and salary earners despite upward adjustments in money earnings. As will be seen from table 3, the rising trend in real earning of factory workers was reversed in 1963 and a downward trend commenced. This trend continued till 1967 when the index of real earnings reached 91 although that for money earnings rose to 151. It was only in 1968 that the index of real earnings again to 95 following a further rise in money earnings and the stabilisation of the cost of living.

TABLE 3 : *Index Number of Money and Real Earnings of Factory Workers*

(base 1961=100)

year	money earnings of factory workers	real earnings of factory workers
(1)	(2)	(3)
1963	109	103
1965	128	97
1966	139	95
1967	151[1]	91[1]
1968	162[1]	95[1]

[1]Provisional.

SOURCE : Indian Labour Statistics—1970.

4. Increases in dearness allowance had also to be given to certain categories of Central Government employees every time the 12 monthly average of the consumer price index registered a rise of 10 percentage points. The several rounds of such increases together with their annual cost to the Central exchequer are shown in table 4.

TABLE 4 : *Increase in Dearness Allowance to Central Government Employees*

effective date	all India working class consumer price index (12 monthly average	estimated cost per annum of each increase (Rs. crores)
(1)	(2)	(3)
1-7-59	115	21·74
1-11-61	125	16·10
1-7-62	ad hoc	10·85
1-2-64	135	17·36
1-10-64	145	36·38
1-3-65	155	25·21
1-12-65	165	35·50
1-8-66	175	28·90
1-2-67	185	29·05
1-11-67	195	30·00
1-9-68[1]	205	30·00

[1]Does not include the cost due to merger of dearness allowance into pay, effective from 1-12-68, the cost of which was estimated at Rs. 18 crores per annum.

5. For similar reason demands for increases in the emoluments were also made by the Government employees in the States. These had to be almost invariably conceded. Such increases in pay and allowance during the Third Plan period cost the State Governments as much as Rs. 284 crores rising from a level of Rs. 16 crores in 1961-62 to a cumulative figure of Rs. 138 crores in 1965-66. With the increase in the intensity of inflationary pressures on prices further increases in emoluments had to be given during the next two years. The cost of these increases amounted to nearly Rs. 100 crores during 1967-68 in contrast to an annual average of a little under Rs. 60 crores during the Third Plan period.

Fourth Plan Policies and Price Trends

6. While aiming at accelerating the pace of development, the Plan stressed the need for maintaining stability in prices. As the supplies and prices of foodgrains play a crucial role, the strategy to contain prices was particularly directed towards stabilising foodgrain prices besides maintaining a balance in aggregate demand and supply within the economy. Together with the programmes for increasing foodgrains production of the Plan provided for the building of a buffer stock of 5 million tonnes and supported the continuance and expansion of the system of public procurement and distribution. It also re-commended increased participation of public agencies in the allocation of scarce imported commodities and the strengthening of the system of cooperative distribution of foodgrains and other commodities of mass consumption. For ensuring the aggregate balance, emphasis was laid on additional mobilisation of internal resources in a manner which would not give rise to inflationary pressures. In the plan deficit financing by the Government was to limited to Rs. 850 crores or about 5 per cent of the total resources to be raised for the public sector Plan, the quantum of deficit financing being determined from year to year in the light of emerging situation and the need for keeping an even balance between the demand for and supply of money.

7. Towards implementing the policies recommended in the Plan consistently high priorities were assigned in the Annual Plans to the programmes and policies for increasing foodgrains production. Newer and better seeds of foodgrains were introduced and the area under high yielding varieties, multiple cropping, minor irrigation and improved agricultural practices was extended. Public procurement through the agency of Food Corporation of India was continued and procurement prices so fixed as to provide sufficient incentive for increasing foodgrain production.

8. In the first two years of the Plan, unlike the earlier period, the pressure on prices did not emerge so much from the food front. As a result of significant increase in the production of foodgrains along with adequate public distribution system, the index of wholesale prices for foodgrains registered an increase of only 3·6 per cent in 1969-70 and declined, though marginally, in 1970-71. The small rise in foodgrain prices during 1969-70 occured despite a sharp fall in wheat prices after the release of rabi harvest during the preceding agricultural year because the output of rice improved only marginally and that of jowar was actually lower. Pulses also registered a small increase. In the second year the fall would have been sharper as both the rabi and kharif outputs were significantly larger. But this did not happen because of the support at procurement prices and the addition of nearly one million tonne to the buffer stock of foodgrains during the year. While foodgrain prices remained stable during 1970-71. prices of other articles like milk and milk products, vegetables, meat, fish and eggs, and edible oils came under pressure as their supplies could not match the increased demand.

9. Among agricultural products, the rise in the prices of commercial crops exercised the major pull on wholesale prices during the first two years. In the absence of high yielding varieties the programmes for increased production of commercial crops could not make a sustained progress. The growth in their output lagged behind the growth in demand and the gap between the two widened with adverse weather conditions. In turn the upward pressure on their prices got accelerated. The output of cotton in 1969-70 remained around the previous years' level and declined in 1970-71. This provided a ground for specu-

lative elements to become active. Although forward trading in kapas was banned and bank advance against raw cotton restricted, the average index of wholesale prices of cotton which rose by 11 per cent in 1969-70, advanced further by 22 per cent in 1970-71. The output of oilseeds fell sharply in 1968-69, recovered somewhat in 1969-70 and improved considerably during 1970-71. Even so the available failed to keep pace with demand. Despite imports of soyabean oil and mutton tallow and curbs on bank credit against oilseeds, the average wholesale index of oilseeds prices incresed by as much as 26 per cent in 1969-70 and rose further by 10 per cent in the subsequent year.

10. To promote industrial production steps were taken to meet shortages in critical raw materials. The supplies of raw cotton, oilseeds, steel, non-ferrous metals and chemicals were augmented through imports. Imports policy for steel was liberalised in 1970 to help the steel consuming industries both in large and small scale sectors. Imports reduced the pressure on supplies, but failed to bridge the gaps. The gaps often persisted because of delays in the timing of imports also. The policy of distribution control was extended to all products of steel and the distinction between scarce and non-scarce varieties was removed. Restrictions on the movements of gur were also removed in 1970-71. The quota for free sale of sugar under the system of partial control was enhanced in 1970-71 and the control finally lifted subject to the regulation of releases a few months back.

11. In spite of the measures indicated in paragraph 10, industrial output grew only by 6·9 per cent in 1969-70 and 3.5 per cent in 1970-71. A situation of excess demand prevailed in respect of several manufactures and the wholesale price index of manufactures rose by 6.8 per cent in 1969-70 and a further rise of 7.9 per cent occurred during 1970-71. The situation of slow growth in output in releation to the increase in demand for manufactures was the major force behind the rise in the over all index of wholesale prices in 1969-70 and 1970-71. A part of the rise in prices of manufactures was also a reflection of the cost-push caused by increases in prices of steel, cement and coal.

12. Statutory control on prices of certain varieties of mill cloth, cement synthetic rubber, vanaspati, kerosene and industrial alcohol, was continued. Statutory control on prices of aluminium and its products, electric wires and cables was imposed in 1970-71. Prices of drugs and pharmaceuticals were also brought under a comprehensive regulation and control. Informal control on prices of soap, rubber tyres and tubes, bicycles, matches and iron and steel was maintained and extended to paper products.

13. The expansion in money supply also exceeded the growth in real output by a substantial margin. In 1969-70 national income in real terms went up by 5.3 per cent but money supply increased by 10.5 per cent. In 1970-71 national income is estimated to have gone up by not more than 5 per cent but money supply expanded by nearly 12 per cent. While the increases in bank credit to private sector and in foreign exchange reserves were mainly responsible for the increase in money supply in 1969-70, a large increase in Government indebtedness to the Reserve Bank was the major factor in 1970-71. The raising of statutory ratio of Government and approved securities to bank deposits, the tightening of selective credit control in respect of advances against raw cotton and oilseeds, and the step up in bank rate to 6 per cent had a restraining effect on bank credit to the private sector, but deficit financing by Government increased from Rs. 58 crores in 1969-70 to Rs. 365 crores in 1970-71 thus bringing the total to Rs. 423 crores in the first two years itself against the Fourth Plan limit of Rs. 850 crores. Between April 30, 1971 and September 13, 1971 money supply increased by Rs. 141 crores as compared to Rs. 16 crores in the corresponding period last year. Here too increase in Government indebtedness to the Reserve Bank has been mainly responsible.

14. The net effect was the emergence of a mild pressure on prices in 1969-70 and its aggravation in 1970-71. The annual average index of wholesale prices registered an increase of 3.7 per cent in 1969-70 but it advanced further by 5.5 per cent in 1970-71. The average index in the first six months of 1971-72 i.e. April to September 1971 has also been higher by 3.5 per cent over the corresponding period last year.

TABLE 5 : *Percentage increase in the Index of Wholesale Prices*

(1961-62=100)

sl. no.	commodity group	annual average 1969-70 over 1968-69	annual average 1970-71 over 1969-70	six-monthly average April to September 1970 over 1969	six-monthly average April to September 1971 over 1970
(0)	(1)	(2)	(3)	(4)	(5)
1	*all commodities*	3·7	5·5	5·5	3·5
2	food articles	—0·1	3·6	4·2	1·9
3	foodgrains	3·6	—0·7	2·4	—0·6
4	liquor and tobacco	1·3	—5·2	—8·1	1·9
5	fuel, power light and lubricants	4·4	4·3	4·5	4·8
6	industrial raw materials	14·5	9·6	8·5	—1·2
7	chemicals	8·7	2·2	4·9	3·4
8	machinery and transport equipment	2·8	8·6	8·8	6·9
9	manufactures	6·8	7·9	7·6	8·6

15. The annual average of the All India Consumer Price Index for working classes (1949—100) registered an increase of 1.4 per cent in 1969-70 and 5.1 per cent in 1970-71 against a rise of 3.7 per cent and 5.5 per cent in the annual average index of wholesale prices respectively. The average consumer price index for the period April to August 1971 was higher by 1.8 per cent over the corresponding period of 1970.

16. The increase in the cost of living as reflected in the consumer price index led to additional dearness allowances and wage increases. Following the recommendations of the Third Pay Commission the Central Government granted an interim relief to its employees with effect from 1.3.1970 which involed an expenditure of Rs. 107 crores. A specified part of D. A. was also merged with pay. Some State Governments also sanctioned higher emoluments to their employees. Increases in pay and allowances were given to teachers and various other categories of employees as well. Upward revision in wages was also effected in a number of industrial and other enterprises both in the public and private sectors. In the steel industry a wage agreement valid for 4 years was arrived at between the management and the workers. Similar agreements were reached in banking and insurance companies. Wage increases were also made during 1970-71 on the basis of Wage Board Awards for workers in sugar, road transport, engineering, and electricity undertakings besides port and dock workers. Earlier, wage increases were also given to workers in the jute manufactures, plantations and cotton textile industry in West Bengal.

17. The review of policies and price trends during the first half of the Plan period brings out that a certain measure of success has been attained in the stabilisation of foodgrain prices. The policies pursued in regard to prduction, buffer stock, public procurement and public distribution of foodgrains have to be continued. The upward pressure on prices may still emanate form the deficiency in supplies of raw materials of agricultural origin. Here the answer lies in the evolution of high-yielding and better quality strains of seeds through intensive research effort in commercial crops. Pending this, adequate and timely imports of raw cotton, soyabean oil, mutton tallow etc. may have to be undertaken. The operations of public agencies like the Cotton Corporation and jute Corporation with a view to ironing out price fluctuations from year to year have also to be systematically carried on. More effective adjustments in selective credit control to curb speculative activities would also be necessary as these thrive under conditions of chronic shortages of particular commodities and inflationary situations in the economy.

18. Larger industrial production is again the lasting remedy for keeping down the pressure on the prices of manufactures. The removal of shortages in the raw materials of agricultural origin could make a tangible contribution in this direction but efforts will have also to be made to promote output of intermediate goods, particularly, steel and not-ferrous metals through effective solution of operational difficulties, imporved industrial relations and capacity expansion. A success in this direction would reduce pressure on prices of end-products, engineering goods, machinery and transport equipment which have lately exercised a strong pull on general price level. Advance action for timely and adequate imports of such raw materials could only be a temporary expedient to reduce bottlenecks to expansion in industrial production and that too within limits imposed by constraint on foreign exchange resources.

19. Efforts to stabilise particular or sectoral prices get defeated in situations of excess demand and need to be supplemented by stricter discipline all round. In a situation where the possibilities of augmenting current availabilities through drawing down of existing stocks or through increasing imports are not significant, the only way of solving the problem of rising prices is to curtail private consumption as well as not-essential government purchases. Suitable physical controls and fiscal and monetary measures have to be devised for curbing excess demand, failing which the efforts made by organised sectors of wage and salary earners to protect real earnings through higher money wage demands may prove to be self defeating.

CHAPTER 8

LABOUR AND EMPLOYMENT

I. Labour Welfare And Craftsmen Training

An outlay of Rs. 39.70 crores has been provided in the Fourth Plan in respect of Labour Welfare and Craftsmen Training Programmes in the Central and State sectors. The progress of expenditure in the first two years of the Fourth Plan period and the expenditure anticipated during 1971-72 are indicated in table 1.

Table 1: *Outlay and Expenditure on Labour Welfare and Craftsmen Training Programme*

(Rs. lakhs)

sl. no.	item	Fourth Plan outlay (1969-74)	actual expenditure (1969-70)	anticipated expenditure (1970-(71	anticipated expenditure (1971-72)	total anticipated expenditure (1969-72)
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	centre . .	1000	92	111	192	395
2	states .	2682	255	421	464	1140
3	union territories .	**288**	**23**	**41**	46	**110**
4	*total* . .	**3970**	**370**	**573**	**702**	**1645**

It may be seen from the above that the total likely expenditure during the first three years of the plan would be of the order of Rs. 16 crores.

2. Under the Craftsmen Training scheme, implemented by State Governments, only marginal expension of capacity has been envisaged to cover new trades such as tool and die making, electronics and chemicals. It was also proposed to diversify the existing seating capacity by reducing certain trades with inadequate demand and introducing more popular trades and consolidating the facilities in the existing institutes by making good the deficiencies in equipment, trained staff, building for institutes and hostels and the other facilities like workshop and library. At the end of March 1971, 357 industrial training institutes were functioning with a total seating capacity of 1.54 lakhs as against 356 industrial training institutes with a capacity of 1.47 lakhs at the begining of the Plan.

3. Under the ApprenticeshipTraining Programme, which is implemented by the Centre and the States in their respective spheres. nearly 45,000 persons are at present undergoing training in about 4,000 establishments in public and private sectors as against 37,000 apprentices in 3,000 establishments at the beginning of the Plan. Diversification of the apprenticeship training programme was started with the designation of certain new trades; so far 196 industries or classes of establishments have been specified undet the Apprenticeship Act. Under the Act 54 trades have been designated for imparting apprenticeship training. A proposal to amend the Apprentices Act. 1961 to provide for training of engineering graduates and diploma holders is under consideration.

4. The other major programmes taken up in the Central sector relate to the setting up of three institutes for training of special categories of craftsmen for industry and supervisory staff, namely Advanced Training Institute, Madras, Foreman Training Institute. Bangalore and Central Staff Training and Research Institute, Calcutta. Preparatory work including procurement of the necessary equipment is expected to be completed soon and training courses are likely to be started during the current year. The training programme at the Central Training Institutes for instructors is being re-oriented to facilitate the consolidation and diversification of the training programme in Industrial Training Institutes.

5. The Employment Service Programme provides placement facilities to all categories of work seekers. It renders special assistance to the physically handicapped, ex-servicemen and scheduled castes or tribes, 480 Employment Exchanges including 48 University Employment Information and Guidance Bureaux have been functioning at the end of March 1971. In addition, 188 Employment Information and Assistance Bureaux, which cater to the needs of rural areas, have been functioning in different Community Development Blocks, Besides placement facilities, the Employment Service collects and disseminates employment market information and conducts surveys and studies in the field of employment and occupational reserach. Emphasis was laid on revitalising vocational guidance and career advice services.

6. The Labour Bureau has taken up a survey relating to working class family income and expenditure at 60 industrially important centres to be utilised for the construction of a new series of Consumer Price Index Numbers. The Workers Education Programme recorded substantial progress. The number of worker teachers and workers trained up to the end of May 1971 was 22,627 and 10,95,000 respectively as against about 16,000 and 8,65,000 respectively at the end of March 1969. The Indian Institute of Labour Studies is proposed to be expanded and reorganised as the National Labour Institute—a centre

for research and training in labour matters. It is expected that during the Plan period, arrangements for acquisition of land and construction of buildings would be completed and the work of the Institute started on a modest scale.

7. Considering the anitcipated progress of expenditure in the first three years of the Plan period and the approximate outlay that is likely to be require for the coming two years, it is expected that the total expenditure during the Fourth Plan on account of these programmes may be about Rs. 33 crores.

TABLE 2 : *Anticipated Expenditure in Fourth Plan*

sl. no.	item	Rs. crores
(0)	(1)	(2)
1	centre	9·00
2	states and union territories . .	24·0
3	*total*	33·0

II. EMPLOYMENT

8. The Committee of Experts on Unemployment Estimates set up by the Planning Commission to advise on the methodological aspects regarding estimation of unemployment and employment generation submitted its report in March 1970. The main conclusions of the Committee are that (i) the concepts of labour force and of measurement of unemployment and under-employment in terms of man-years as adopted in developed economies are unsuitable for an economy like ours with its preponderance of self-employment and production within the household enterprises, (*ii*) estimates of unemployment and under-employment presented in one dimensional magnitude are neither meaningful nor useful as indicators of the economic situation, (*iii*) studies should be be undertaken to obtain data on different segments of the labour force, taking into account important distinguishing characteristics such as region, rural-urban residence, status of workers, educational attainment, age and sex and (*iv*) various imporvements should be made in the collection and presentation of data by agencies such as the Census. National Sample Survey and Employment Exchanges. The suggestions made by the Committee were examined in consultation with the various agencies engaged on employment and manpower work. Some of the suggestions have already been implemented by the data collecting agancies. A comprehensive labour force survey is proposed to be undertaken by National Sample Survey in 1972-73. Selected studies are proposed to be undertaken in the field of employment in pursuance of the Committee's recommendations.

9. On the basis of information available from the Directorate General of Employment and Training, employment in all the establishments in the public sector and such establishments in private sector employing 10 or more workers increased from 16.63 million in March 1969 to 17.04 million in March 1970 and 17.45 million in March, 1971 reflecting a moderate growth in employment as may be seen from table 1.

TABLE 3 : *Industry-wise Employment in Organise Sector during* 1966-71

(million)

sl. no.	industry	employment in March 1966	1967	1968	1969	1970	1971
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Plantations, livestock, forestry, fishing, etc.	1.13	1.10	1.10	1.07	1.08	1.07
2	mining and quarrying	0.67	0.65	0.61	0.60	0.60	0.59
3	manufacturing	4.53	4.45	4.44	4.53	4.68	4.76
4	construction	1.02	0.99	0.90	0.94	0.95	1.02
5	electricity gas, water and sanitary services	0.34	0.38	0.39	0.41	0.45	0.48
6	trade and commerce	0.49	0.51	0.53	0.55	0.58	0.62
7	transport, storage and communications	2.21	2.24	2.24	2.27	2.29	2.32
8	services	5.80	6.00	6.12	6.26	2.41	6.59
9	*total*	**16.19**	16.32	16.33	**16.63**	**17.04**	**17.45**

10. Employment growth rate during 1969-70 and 1970-71 remained more or less steady at 2.6 per cent in the services group. In manufacturing, the growth rate was about 1.6 per cent in 1970-71 compared to 3.2 per cent in 1969-70. Under transport and communications, the growth rate showed a slight increase from 0.9 per cent in 1969-70 to 1.2 per cent in 1970-71. There was, however, some decrease in the employment in mining and quarrying.

11. An analysis of the data relating to employment in the public sector and private sector establishments presented in table 4 shows that employment in the organised sector showed an increase of 2.2 per cent in 1970-71compared to 2.5 per cent in 1969-70 and 1.8 per cent in 1968-69. While the public sector establishments showed a steady increase in the growth rate during the past three years, the growth rate in the private sector showed a sharp decrease from 2·4 per cent in 1969-70 to 0·7 per cent in 1970-71.

TABLE 4 : *Employment in the Public and Private Sector Establishments*

March of	employment (in lakhs) public	private	total	percentage change over the previous year public	private	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1966 .	93·8	68·1	161·9	—	—	—
1967 .	96·3	66·8	163·2	2·7	(—)1·9	0·8
1968 .	98·0	65·3	163·3	1·7	(—)2·4	0·1
1969 .	100·3	66·0	166·3	2·2	1·3	1·8
1970 .	103·5	66·9	170·4	2·5	2·4	2·5
1971 .	107·1	67·4	174·5	3·2	0·7	2·2

12. State or Zone-wise analysis of the employment growth in the organised sector during 1969-70 and 1970-71 is given in table 3.

TABLE 5 : *Employment Growth in the Organised Sector in the different States/Zones* : 1969-70 *and* 1970-71

Sl. no.	zone/state/union territory	(percentage change over the previous year)	
		1969-70	1970-71
(0)	(1)	(2)	(3)
1	*Northern Zone*	**4·0**	**3·8**
2	Haryana	8·6	8·1
3	Punjab	3·8	4·3
4	Himachal Pradesh . .	(—)0·1	12·9
5	Chandigarh . . .	2·8	8·2
6	Delhi	4·8	(—)0·5
7	Rajasthan . . .	2·6	3·0
8	*Central Zone* . . .	**3·0**	**2·0**
9	Madhya Pradesh . .	1·9	2·0
10	Uttar Pradesh . . .	3·6	1·9
11	*Eastern Zone* . . .	**1·1**	**(—)0·1**
12	Assam	(—)0·2	(—)0·3
13	Manipur	3·3	(—)0·8
14	Tripura	1·5	4·1
15	Bihar	0·9	(—)0·4
16	Orissa	0·1	2·0
17	West Bengal . . .	1·8	(—)0·2
18	*Western Zone* . . .	**3·2**	**4·5**
19	Gujarat	3·8	2·7
20	Maharashtra . . .	3·1(2·3)	5·2
21	*Southern Zone* . . .	**2·3**	**2·3**
22	Andhra Pradesh . . .	2·5	2·4
23	Kerala . . .	(—)1.7(—2.2)	1.0
24	Mysore	4·9	4·0
25	Pondicherry . . .	3·6	3·1
26	Tamil Nadu . . .	2·9	1·9
27	Goa	n.a.	7·5[1]
28	*total*	**2·5**	**2·2**

[1] The Employment in the organised sector in Goa was only about 39,000 at the end of March 1971 and its inclusion does not make any significant difference. The figures in paranthesis are the estimated real growth rates, after taking into consideration the comparability aspect and revisions made by the State Governments.

The rate of growth in employment during both the years was high in Haryana, Punjab, Maharashtra and Mysore, whereas it was very low in the State and Union Territories of the Eastern Zone. Employment growth was uneven in the different zones with the lowest rates in the Eastern Zone.

13. In conformity with the emphasis laid in the Fourth Plan for generating more and more employment opportunities, the Planning Commission advised Central Ministries, State Governments and Union Territories to take effective steps to give employment orientation to the programmes to be taken up in the Fourth Plan through the successive Annual Plans and to adopt appropriate labour-intensive technologies with due regard to efficiency and economy.

14. While the programmes of economic development with an employment bias would provide the bulk of the employment opportunities during the Plan period, it was considered necessary to formulate specific programmes, both in the Plan and outside designed to deal directly and effectively with the more vulnerable sections of the population and areas affected by unemployment and under-employment. Recognising the urgent nature of the problem and the need to initiate action, provision has been made in the budget of 1970-71 and 1971-72 for schemes designed to benefit the small farmers, marginal cultivators and agricultural labourers and also to meet the employment needs of certain areas. In view of the chronic unemployment and under-conditions in drought-prone areas, a rural works programme has been undertaken for providing employment on productive works. Further, a crash scheme for rural employment has been undertaken with effect from April 1971. It is expected to generate additional employment for about, 1,000 persons in each district. These programmes have been reviewed in detail in the chapter on Agriculture.

15. The question of providing employment to the increasing number of educated persons and trained technical personnel is being given special attention. Emphasis is being attached to the vocationalisation of education. Stress has been laid on the diversification of trades in Industrial Training Institutes and on the opening of facilities in the newly emerging trades such as tool and die making, electronics and chemicals and on the apprenticeship programme including provision of basic training facilities. Schemes have been undertaken such for as investigation and preparation of project reports irrigation, power, industrial and other programmes included in the Plan. Utilisation of consultancy and design services is likely to provide increasing technical personnel. For enabling technical and other qualified persons to engage in productive, activities, schemes of assistance for self employment have been undertaken. The State Bank of India is operating a scheme of special assistance to entrepreneurs to set up small industries on their own under which liberal financial assistance is given. Similar schemes are also being operated by certain other nationalised banks and some State Governments. The Ministry of Industrial Development has initiated a scheme for training engineering entrepreneurs for self-employment.

16. A special provision has been made in the Central Budget for 1971-72 for schemes designed to suit the educated unemployed including engineers and technicians, Programmes formulated by various Central Ministries involving an annual outlay of just over Rs. 25 crores have been sanctioned. These programmes are expected to continue in the coming two years. Brief particulars of these programmes are indicated on page 50.

(i) Ministry of Education

The proposal envisages the appointment of 30,000 additional teachers in primary schools annually, besides providing, employment to a large number of inspectors and other categories of educated personnel.

(ii) Ministry of Irrigation and Power

A scheme of Rural Engineering Surveys has been proposed envisaging 500 soil survey parties to undertake surveys in selected districts. Each team would consist of about nine members, comprising of engineering and agricultural graduates, matriculates and unskilled personnel.

(iii) Ministry of Petroleum and Chemicals

The proposal of the Ministry provides for assistance to unemployed graduates for setting up dealerships under the Indian Oil Corporation. The proposal envisages payment of subsidy to cover the interest payments to Banks on loans advanced by them to the entrepreneurs. A revolving fund to assist young engineers by way of seed capital is also contemplated.

(iv) Ministry of Agriculture

The Department of Cooperation is taking up a scheme for expansion of retail centres of selected consumer cooperatives which is expected to provide employment to matriculate clerks, store assistants, accountants and cashiers.

The Department of Agriculture has formulated a scheme for promoting the setting up of 200 agro-service centres by providing training and financial assistance to engineering graduates.

(v) Ministry of Industrial Development

The proposal envisages provision of assistance to technically qualified persons for setting up small-scale industries through the National Small Industries Corporation and State Industrial Development Corporation.

(vi) Ministry of Shipping and Transport

The scheme envisages advance action for investigation of road works to be taken up in the Central sector in the Fifth Plan.

(vii) Ministry of Health and Family Planning

The scheme relating to rural water supply envisages setting up of design units covering all States for drawing up designs with a view to building up a shelf of well designed and feasible projects from which projects would be chosen for execution during the Fifth Plan.

CHAPTER 9

REGIONAL IMBALANCES

GREATER inter-regional and regional balance has been one of the long-term objectives of planning. The Fourth Plan recognises the problem of inter-regional or inter-State imbalances as highly complex and as one that requires, in addition to specific measures, multi-level coordinated efforts at Central, State and district levels.

Inter-State Imbalances

2. Keeping in view the sources and sectors from where differences in development arise, the Fourth Plan identified three directional measures to be initiated by the Centre for rederessing inter-State differences :

(*i*) allocation of Central assistance;

(*ii*) location of Central projects; and

(*iii*) adjustments in procedures and policies of financial and other institutions with a view to encouraging private investment.

In order to give effect to the policy of correcting inter-regional imabalances, the criterion for allocation of Central assistance to States was modiffed by the National Development Council so as to favour the relatively backward States which were identified on the basis of average *per capita* incomes for 1962-65. According to the new formula, ten per cent of Central assistance was set apart for States whose *per Capita* income was lower than the national average. This has benefited Bihar, Kerala, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. Also, the special problems of the border States, in addition to their backwardness measured in terms of *per capita* incomes, were separately reckoned in the allocation formula under which Assam, Jammu and Kashmir and Nagaland become entitled to a much larger share of Central assistance. Under the special pattern for Hill Areas, 90 per cent of Plan outlay on hill areas in three States was agreed to be given as grant and 10 per cent by way of loan. Similarly, a special pattern of assistance 50 per cent grant and 50 per cent loan in the proportional assistance for the hill areas of U.P.,West Bengal and Tamil Nadu, was simultaneously introduced to deal with the problems of hill areas. Under the revised formula, assistance is no longer tied to projects: the States have flexibility in using the assistance for programmes that would benefit the backward areas.

3. Location of Central projects in the backward areas, subject to their techno-economic feasibility and viability, was accepted even before the commencement of the Fourth Plan. There is no change in this policy. Following the recommendations in the reports of the working groups on Identification of Backward Areas and on Fiscal and Financial Incentives for starting Industries in Backward Areas, other financial measures have been taken towards attracting private capital to the backward areas and for off-setting the locational disadvantages suffered by the backwad areas. One such measure is a 10 per cent subsidy for the location of private projects in backward areas whose capital investment does not exceed Rs. 50 lakhs Capital subsidy under this scheme is available for two districts each in backward States and one district in others. Districts eligible for subsidy have been identified and given in Annexure I.

4. A scheme of transport subsidy to attract industrial enterprises into the backward and border States of Jammu and Kashmir and north-eastern States has recently been introduced. Government now meets 50 per cent of the transport cost from (or to) the nearest rail-head to (or from) the site of industrial units. Subsidy is available for bringing in raw materials from outside the State and taking out finished products to other States : no subsidy is available for internal movement of raw or finished goods.

Intra-State Imbalances

5. The removal of intra-State disparities is the responsibility of State Governments. States have been urged to formulate integrated programmes for accelerating the development of these backward areas so that the gap that exists between various ares in the States can be narrowed down. The Planning Commission asked the States to identify their backward areas on a rational basis and prepare integrated development plans for such areas. To assist the States in these tasks, the Commission prepared a set of indicators for identifying the backward areas and guidelines for the formulation of district plans which could be used, with necessary modifications, by States in the formulation of plans for backward areas or districts.

6. The Commission has stressed the significant role of local planning and urged State Governments to take up the formulation of district plans, particularly for backward areas, on scientific lines. The district plans are expected to take into account the existing levels of development in various sectors and in different parts of the district, the local problems and needs, and potentialities of the districts arrived at from a study of the available resources. The plans would bring out overall sectoral

and spatial requirements of the backward districts which would help in removing the inter-district disparities within a State.

7. A list of backward areas identified by States is given in Annexure II. Some States have also initiated action on the formulation of district plans. Work in three districts of Punjab, two in Haryana, four in Uttar Pradesh and one each in Gujarat, Bihar, Orissa, Jammu and Kashmir, Himachal Pradesh and Mysore is in progress. A regional plan for Rayalaseema, consisting of four Districts in Andhra Pradesh, has been prepared and submitted to the Rayalaseema Development Board. The preparation of an integrated Plan for Telengana is in progress. In Maharashtra, Government has decided to prepare plans for all districts, and work on the collection and analysis of data has been taken up. The Government of Tamil Nadu have issued guidelines for collection of basic information for the preparation of district plans. Seven districts have been selected in Madhya Pradesh for the formulation of district plans.

8. In pursuance of a decision of the National Development Council, 209 industrially backward areas or districts have been selected by the States in consultation with the Commission for concessional finance. Concessional finance in the form of lower rates of interest and a longer amortisation period for the repayment of loans is available for starting small and medium industrial enterprises in these industrially backward areas. At present, these concessions are offered by the public sector financial institutions. Industrially backward districts selected for concessional finance have been named in Annexure III.

9. Government have set up a Rural Electrificatin Corporation for advancing loans for financing electrification projects on favourable terms. These include lower scales of minimum returns and rates of interest, and easier terms of repayment. The corporation has approved of 132 schemes, 52 in the backward areas.

10. The proposed Fourth Plan outlays and expenditure in the first two years of the Plan for States which have specifically allocated funds for the development of backward and special areas are shown in table 1: The emphasis is on programmes of communications, horticulture, electrification, water supply, health and education. To enable

TABLE 1 : *Outlay and Expenditure for Selected States*

(Rs. lakhs)

sl. no.	state	Fourth Plan outlay	1969-70 expenditure	1970-71 anticipated expenditure	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)
1	Assam (Hill Areas)	3200·00	447·00	630·00	690·00
2	Gujarat .	1255·00	322·00	269·00	251·00
	Jammu & Kashmir				
3	Ladakh .	600·40	55·10	91·10	115·80
4	Border Blocks and Backward Areas	200·00	23·52	30·00	45·00
5	Meghalaya .	50·00	—	8·00	5·00
6	Tamil Nadu	300·00	35·00	41·00	40·00
	Uttar Pradesh				
7	Eastern Districts .	21955·00	3900·00	6220·00	6890·00
8	Bundelkhand	5402·00	710·00	840·00	104·00
9	Uttarakhand	200·00	340·00	470·00	400·00
10	Other Hill Districts	4500·00	880·00	1030·00	770·00

speedier and integrated development of backward areas, special bodies have been set up in some States with varying responsibilities and functions. They are :

Andhra Pradesh	1. Rayalaseema Development Board
	2. Telengana Development Committee
Bihar	Development Authority for Chhota Nagpur and Santhal Parganas
Maharashtra	1. Marathawada Development Corporation
	2. Development Corporation of Vidarbha
	3. Development Corporation of Konkan
	4. Western Maharashtra Development Corporation
Punjab	Rural Development Board and Special Advisory Committee
Uttar Pradesh	U.P. Hill Development Board

11. An analysis of the allocation of Central assistance during the Fourth Plan shows that even under the revised formula, *per Capita* Central assistance to Bihar and Uttar Pradesh, which are the two most backward States, remains below the average Central asistance to all States. The absence of a method by which Central assistance can be linked with the levels of development and sectoral requirements is a problem that needs fuller examination. Two steps that have been initiated in the Commission are (*i*) analysis of the spatial distribution of economic activities and infrastructural services as a prelude to formulating spatial strategies at different levels of responsibilities and decision making; and (*ii*) reappraisal of the Central assistance in the overall perspective of development. In addition, the whole question of Centre-State financial relationships is under review in the Planning Commission.

12. There are indications that only a few entrepreneurs have approached the financial institutions for concessional finance, notwithstanding wide publicity given to the scheme. However, it is too early to judge the effectiveness of these two schemes in attracting industry into backward areas. Only six States have earmarked separate outlays for the development of backward and special problem areas. It is important for the States to recognise that without special efforts, including allocation of separate funds, disparities between different areas will not be eliminated.

13. From the experience of the first two years of the Fourth Plan and the indications for 1971-72 it can be stated that a systematic beginning in dealing with regional imbalances has been made. as for the intra-State disparities, the problem is not only of Plan finances but also of speedier flow of resources from the financing institutions to entrepreneurs and cultivators. The solution to this problem lies to a great extent within the power of State Governments which must pay greater attention to mobilisation of additional resources, the financial viability of their public sector undertakings and strengthening of cooperative and other institutions. Appropriate decisions will have to be taken with the concurrence of the National Development Council for the allocation of proportionately greater resources to the weaker States and for more direct participation by the Central Government in the exploitation of local resources and development of infrastructural facilities.

14. In the matter of removal of intra-State imbalances, only the State Governments are in a position to tackle the problem since local planning has to be the main plank of any strategy for balanced spatial development within a State. The process of planning should be decentralised and priorities as well as sectoral proposals should be put forward at the district and regional levels to be later integrated into State Plans. If this is to be done, there will have to be a basic reorientation of the planning process and considerable strengthening of the planning machinery at the State, regional and district levels. Even at the level of the Central Government, the planning process will have to be reoriented by providing a spatial dimension to the temporal and sectoral perspective and the operational plans. As a corollary to the spatial approach to planning at the national and State levels, the policies with regard to the licensing of industrial activities, metropolitan development, allocation of development resources, functioning of promotional and financing institutions, provision of incentives and even the pricing of essential raw materials, inputs and products will have to be carefully examined.

15. The Commission has initiated some action for the collection and analysis of information regarding the level, trends and potentials of developments of various districts with the objective of evolving a spatial strategy for the country as a whole, An Area Planning unit has been set up to collect relevant information for formulating strategies of development as well as to assist States in the peparation of district plans, especially for backward areas. Steps are proposed to be taken to encourage States to initiate similar exercises at their own level and also to build up the machinery for multi-level planning. It is hoped that by the end of the Fourth Plan, these steps will provide as basis for introducing appropriate measures into the Fifth Plan for accelerated development of backward areas and correction of regional imbalances.

ANNEXURE I

List of Industrially Backward Districts/Areas selected to qualify for the Central Subsidy of 10 *per cent on fixed Capital Investment by Industries (as on October* 5, 1971)

sl. no.	state	district/areas
(0)	(1)	(2)
1	Andhra Pradesh	2 Areas One from Rayalaseema region comprising 13 Blocks from the districts of Chittor (1 Block) Cuddapah (7), Anantapur (2) and Kurnool (2); the other from Telengana region comprising 16 Blocks from the districts of Medak (1), Karimnagar (4), Warangal (3) Khammam (2), Nalgonda (4) and Mahbubnagar (2)
2	Assam	Goalpara and Mikir Hills
3	Gujarat	Panchmahals
4	Bihar	Darbhanga and Bhagalpur
5	Haryana	Mohindergarh
6	Himachal Pradesh	Kangra
7	Jammu & Kashmir	Srinagar and Jammu
8	Kerala	Aplleppey
9	Madhya Pradesh	2 Areas One comprising 12 Blocks from the districts of *Bilaspur* and *Raipur* (6 Blocks each) and the other of 10 Blocks from the districts of *Dewas'* (2 Blocks), *Shajapur* (3 Blocks), Raigarh (2 Blocks) and *Guna* (3 Blocks)
10	Maharashtra	Ratnagiri
11	Mysore	Raichur
12	Meghalaya	United Khasi and Jaintia Hills & Garo Hills.
13	Nagland	Kohima and Mokokchung
14	Orissa	Kalahandi and Mayurbhanj
15	Punjab	Hoshiarpur
16	Rajasthan	Alwar and Jodhpur
17	Tamil Nadu	A unit area of 10 Talukas from the districts of Ramanathapuram (6 Talukas) Madurai (1 Taluka) and Tiruchirapalli (3 Talukas)
18	Uttar Pradesh	Ballia and Jhansi
19	West Bengal	Purulia
	Union Territories	
1	Andaman & Nicobar Islands	The entire Territory
2	Dadra and Nagar Haveli	The entire Territory
3	Laccadive, Minicoy and Amindivi Islands	The entire Territory
4	N.E.F.A.	
5	Tripura	
6	Manipur	
7	Goa, Daman and Diu	Entire district excluding the area within the municipal limits of their Capitals
8	Pondicherry	

ANNEXURE II

Backward areas as identified by State Government

sl. no. (0)	district (1)	taluka/block (2)
	1. *Andhra Pradesh*	
	(107 C.D. Blocks in 14 Districts)	
1 Guntur	1 Tadikonda	7 Nadendla
	2 Rajupalam	8 Gurasala
	3 Phirangipuram	9 Macharia
	4 Tyallur	10 Pidugurlla
	5 Korisapadu	11 Vinukonda
	6 Narsaraopet	12 Impur
2 Nellore	13 Binjamur	16 Velligandla
	14 Rapur	17 Tarlapadu
	15 Kanigiri	18 Tallur
3 Chittoor	19 Thambulapally	
4 Cuddapah	20 Lakkireddipalli	21 Jammalamadugu
5 Anantapur	22 Singanamala	27 Kalyandurg
	23 Tadipatri	28 Kambadur
	24 Goody	29 Raydurg
	25 Uravakonda	30 Kankal
	26 Chennakothapally	31 Kadri West
6 Kurnool	32 Adoni	36 Dhone
	33 Yammiganur	37 Nandikothur
	34 Alur	38 Narkapur
	35 Pathikonda	39 Ranaganapall
7 Mahboob-nagar	40 Mahboobnagar	47 Kolahpur
	41 Jadcherla	48 Gadwal
	42 Shadnagar	49 Alampur
	43 Kalwakurthy	50 Makthal
	44 Amangal	51 Atmakur
	45 Bijanapally	52 Kodangal
	46 Nagarkurnool	53 Kosgi
8 Hyderabad	54 Ibrahimpatnam	56 Tandur
	55 Chevella	57 Vicarabad
9 Medak	58 Jogipet	60 Zahirabad
	59 Patancheru	61 Narayankhed
		62 Siddipet
10 Nizamabad	63 Bheemgal	65 Kamreddy
	64 Madnoor	66 Demkenda
11 Adilabad	67 Adilabad	71 Mudhol

(0)	(1)	(2)
	68 Noath	72 Luxettipet
	69 Nirmal	73 Asifabad
	70 Khanapur	74 Chinnur
		75 Sirpur
12 Karimnagar	76 Gangadhara	81 Mahadevpur
	77 Bheemadevarapalli	82 Metapalli
	78 Peddapalli	83 Jagtial
	79 Sultanabad	84 Vemulawada
	80 Manthani	85 Sircilla
13 Warrangal	86 Ghanapur	91 Chityal
	87 Wardhanpet	92 Marripeda
	88 Jangaon	93 Gudur
	89 Kodakendla	94 Eturnagaram
	90 Cheriyal	
14 Nalgonda	95 Mungodo	101 Paddavoora
	96 Suryapet	102 Devakonda
	97 Nagaram	103 Chintapalli
	98 Ramannapet	104 Huzurnagar
	99 Mothkur	105 Kodad
	100 Miryalaguda	106 Kothagundem
		107 Yellandu
	2 *Assam*	
	(Four hill districts)	
1 Garo[1]		
2 United Khasi and Jaintia[1]		
3 United Mikir and North Cachar		
4 Mizo		

Besides, there are backward areas in plans districts which are predominantly inhabited by the Tribal population, Scheduled Castes and other Backward Classes.

3 *Bihar*

(Four districts)

1 Saharsa
2 Darbhanga
3 Champaran
4 Muzaffarpur

[1]Now in Meghalaya

ANNEXURE II—contd.

(0)	(1)	(2)
	4 *Gujarat*	
	(56 Talukas in 14 Districts)	
1 Amreli	1 Khambha	
	2 Lilia	
2 Kutch	3 Khadir	4 Khevda
3 Kaira	5 Balasinor	
4 Jamnagar	6 Kalyanpur	
5 Junagadh	7 Bhesan	
6 Dangs	8 Dangs	
7 Panchmahals	9 Jambughoda	14 Lunawada
	10 Jhalod	15 Shener
	11 Dohad	16 Santrampur
	12 Devgadh Baria	17 Holal
	13 Limkhoda	
8 Banaskantha	18 Kankre	22 Dhnaera
	19 Tharad	23 Vav
	20 Danta	24 Santalpur
	21 Doeadar	
9 Broaco	25 Jhagadia	29 Valia
	26 Dediapada	30 Sagbara
	27 Nanded	31 Hanset
	28 Vagra	
10 Mehsana	32 Sami	
11 Baroda	33 Chhota Udepur	36 Naswadi
	34 Jambugam	37 Vaghodia
	35 Tilakwada	
12 Bulsar	38 Umbargaon	40 Dharampur
	39 Chikhli	41 Bansda
13 Sabarkantha	42 Khedbrahma	45 Maipur
	43 Bayad	46 Meghraj
	44 Bhiloda	47 Vijayanagar
14 Surat	48 Olpad	53 Mandvi
	49 Uchhal	54 Vyara
	50 Nizar	55 Valod
	51 Mahuva	56 Songadh
	52 Mangrol	

5 *Haryana*

All the districts are under-developed except Mohindergarh and Jind districts which are regarded as undeveloped areas.

6 *Jammu and Kashmir*

Districts of Ladakh and blocks situated on the ceasefire line.

7 *Kerala*

(19 Talukas in 8 districts)

(0)	(1)	(2)
1 Cannanore	1 Kasargode	3 Taliparamba
	2 Hosdur	4 North Wynad
2 Kozhikode	5 Ernad	7 South Wynad
	6 Tirur	8 Quilandy
3 Alleppey	9 Shertallai	11 Karthigappally
	10 Kuttanad	
4 Trivandrum	12 Nedumangad	13 Chirayinkil
5 Kottayam	14 Devicolam	15 Udumbanchola
6 Palghat	16 Ponnani	17 Perinthalmanna
7 Quilon	18 Karunagappally	
8 Trichur	19 Chowghat	

8 *Madhya Pradesh*

(22 districts)

1 Bastar	12 Chhindwara
2 Raigarh	13 Panna
3 Surguja	14 Shivpuri
4 Mandla	15 Tikamgarh
5 Jhabua	16 Raisen
6 Khar	17 Rewa
7 Khargone	18 Rajgarh
8 Bilaspur	19 Seoni
9 Sidhi	20 Guna
10 Shahdol	21 Chhatarpur
11 Begul	22 Shajapur

9 *Maharashtra*

(6 Districts)

1 Chanda	4 Bhir
2 Yeotmal	5 Nanded
3 Parbhani	6 Osmanabad

10 *Mysore*

(One district)

1 Bidar

11 *Nagaland*

No area has been identified as backward as the entire State is regarded as backward

12 *Orissa*

(Three districts)

1 Kalahandi	3 Phulbani
2 Bolangir	

13 *Punjab*

(Entire district of Hoshiarpur and a few selected areas in 10 *districts)*

1 Amritsar	(*i*) Bet areas of the Sutlej.
	(*ii*) Area falling between Saqoi nulla and river Ravi in Ajnala Tehsil.
	(*iii*) 154 flood affected villages in Patt Tarantaran and Ajnala Tehsils.
2 Jullundur	Bet areas of the Sutlej.
3 Ferozepur	(*i*) Bet areas of the Sutlej.
	(*ii*) Nathana Sub-tehsil.

ANNEXURE II—contd.

(0)	(1)	(2)
4 Ludhiana		Bet areas of the Sutlej.
5 Hoshiarpur		
6 Ropar		(*i*) Sub-mountain areas.
		(*ii*) Bet area of Chankaur Sahib.
		(*iii*) Sub-mountain areas in Kharar Tehsil.
		(*iv*) Naraingarh Tehsil.
7 Gurdaspur		(*i*) Bet areas within the jurisdiction of police station Kaunan.
		(*ii*) Pathankot tehsil excluding areas included in municipalities of Pathankot, Sujanpur.
		(*iii*) Areas between Kiran Nallah and Ravi river.
		(*iv*) 38 flood affected villages in Gurdaspur and Batala Tehsils.
8 Bhatinda		Mansa Tehsil.
9 Kapurthala		Bet areas *i.e.* the entire area of Bholath circle and the whole area of Kapurthala district towards the West of Kartarpur, Kapurthala, Didwindi old Road and Dadwindi Dall New Ferozepur Road.
10 Sangrur		Sunam Sub-Tehsil.
11 Patiala		(*i*) Sub-Tehsil of Samana.
		(*ii*) Areas covered by Police Stations Lal and Deara Bassi of Rajpura Tehsil.

14 *Rajasthan*

No area has yet been identified by the State as backward.

15 *Tamil Nadu*

(31 Talukas in 8 Districts)

(0)	(1)	(2)
1 North Arcot	1 Tirupathar	
2 Dharmapuri	2 Hosur	
	2 Krishnagair	
	4 Harur	
	5 Dharmapuri	
3 Salem	6 Sankari	
	7 Tiruchengode	
	8 Namakhal	
4 Coimbatore	9 Dharapuram	
	10 Palladam	
	11 Avanashi	
5 Tiruchirapalli	12 Perambalur	
	13 Udayarpalayam	
	14 Karur	
	15 Kolathur	
	16 Alangudi	
	17 Tiremayam	
6 Madurai	18 Dindigul	
	19 Palani	
	20 Tirumangalam	
7 Ramanathapuram	21 Tiruvadani	
	22 Paramakudi	
	23 Ramanathapuram	
	24 Mudukulathur	
	25 Aruppukkottai	
	26 Sattir	
8 Tirunelveli	27 Sankarankoil	
	28 Koilpatti	
	29 Nanguneri	
	30 Tiruchendur	
	31 Srivaikuntam	

16 *Uttar Pradesh*

(27 Districts)

Eastern Districts

1 Allahabad
2 Mirzapur
3 Varanasi
4 Jaunpur
5 Pratapgarh
6 Sultanpur
7 Faizabad
8 Ghazipur
9 Ballia
10 Azamgarh
11 Deoria
12 Gorakhpur
13 Gonda
14 Basti
15 Bahraich

Bundelkhand Region

16 Jalaun
17 Jhansi
18 Hamirpur
19 Banda

ANNEXURE II—contd.

(0)	(1)	(2)	(0)	(1)	(2)
Hill District			27	Dehra Dun	
20	Naini Tal				
21	Almora			17 *West Bengal*	
22	Tehri Garhwal			(4 Districts)	
23	Garhwal		1	Purulia	
24	Chamoli		2	Darjeeling (excluding Siliguri Sub-Division)	
25	Uttarkashi		3	Sunderbans	
26	Pithoragarh		4	Bankura	

ANNEXURE III

List of Industrially Backward Districts seleted to qualify for concessional finance from the financial institutions (as on August 5 1971)

sl. no.	states	districts
(0)	(1)	(2)
1	Andhra Pradesh	Nalgonda, Medak, Mahbubnagar, Karimnagar, Warangal, Khammam, Chitoor, Anantapur, Kurnool, Nizamabad, Srikakulam, Cuddapah, Nellore and Ongole.
2	Assam	Goalpara, Cachar, Nowgong, Kamrup, Mikir Hills and Mizo Hills District.
3	Bihar	Santhal Parganas, Bhagalpur, Palamau, Champaran, Saran, Darbhanga, Purnea, Muzaffarpur and Saharsa.
4	Gujarat	Panchmahals, Kutch, Amreli, Broach, Sabarkantha, Banaskantha, Bhavnagar, Mehsana, Surendranagar, and Junagadh.
5	Haryana	Mohindergarh, Hissar and Jind.
6	Himachal Pradesh	Chamba, Kinnaur, Kangra, Kulu and Lahaul & Spiti.
7	Jammu & Kashmir	Srinagar, Anantnag, Baramula, Jammu, Kathua, Udhampur, Doda, Ladakh, Poonch and Rajouri.
8	Kerala	Alleppey, Trivendrum, Cannanore, Trichur and Mallapuram.
9	Madhya Pradesh	Bastar, Mandla, Surguja, Seoni, Jhabua, Balaghat, Bilaspur, Sidhi, Betul, Rajgarh, Raipur, Dhar, Tikamgarh, Raigarh, Khargone, Shajapur, Shivpuri, Chhindwara, Rewa, Panna, Dewas, Mandsaur, Chhatarpur, Guna, Datia, Morena, Vidisha, Narsimhapur, Raisen, Hoshangabad, Daoh, Bhind and Sagar.
10	Maharashtra	Bhir, Osmanabad, Bhandara, Ratnagiri, Aurangabad, Yeotmal, Chanda, Dhulia, Buldhana, Nanded, Parbhani, Jalgaon and Kolaba.
11	Meghalaya	Both the districts of United Khasi and Jaintia Hills and Garo Hills.
12	Mysore	Belgaum, Bidar, Bijapur, Dharwar, Gulbarga, Hassan, Mysore, North Kanara, Raichur, South Kanara and Taumkur.
13	Nagaland	Kohima, Mokokchung and Tuensang.
14	Orissa	Bolangir, Mayurbhanj, Dhenkanal, Kalahandi, Balasore, Keonjhar, Koraput and Phulbani.
15	Punjab	Hoshiarpur, Bhatinda, Gurdaspur and Sangrur.
16	Rajasthan	Jalore, Banswara, Dungarpur, Nagaur, Churu, Alwar, Tonk, Udaipur, Jodhpur, Jhunjhunu, Sikar, Sirohi, Bhilwara, Jhalawar, Jaisalmer and Barmer.
17	Tamil Nadu	South Arcot, Thiruchirapalli, Madurai, Ramanathapuram, Kanyakumari, North Arcot, Thanjavur and Dharmpuri.
18	Uttar Pradesh	Almora, Azamgarh, Bahraich, Banda, Ballia, Badaun, Chamoli, Fatehpur, Garhwal, Ghazipur, Hamirpur, Hardoi, Pilibhit, Jalaun, Jaunpur, Jhansi, Mainpuri, Pithoragarh. Pratapgarh, Rae Bareli, Sultanpur, Tehri Garhwal, Unnao, Uttar Kashi, Barabanki, Basti, Bullandshahar, Etah, Etawah, Faizabad, Gonda, Mathura, Farrukhabad, Moradabad, Shanjahanpur and Deoria.
19	West Bengal	Purulia, Bankura, Midnapur, Darjeeling, Malda, Cooch Bihar, West Dinajpur and Murshidabad.
	Union Territories	
1	Andaman and Nicobar Islands	Entire area
2	Chandigarh	Nil
3	Dadar & Nagar Haveli	Entire area
4	Delhi	Nil.
5	Goa, Daman and Diu	Entire area
6	Laccadive, Amindive and Minicoy Islands	The inhabited Islands
7	Manipur	Entire area
8	N E F A	Entire area
9	Pondicherry	Entire area
10	Tripura	Entire area

CHAPTER 10

AGRICULTURE

THE Plan has set two objectives namely, to provide the conditions necessary for a sustained increase in agricultural production of about 5 per cent per annum over the next decade and to enable as large a section of the rural population as possible, including the small cultivator, the farmer in dry areas and the agricultural labourer to participate in development and share its benefits. The priority programmes of development in agriculture were thus classified into two broad categories, *i.e.*, those which aimed at maximising production and those which aimed at remedying imbalances. It was recognised that the success of the Fourth Plan would be judged mainly by the performance in agriculture.

2. In regard to the creation of conditions necessary for a sustained growth rate of 5 per cent per annum over the next decade, the experience of the first and second year of the Plan is a mixed one. Taking the two years together, in the aggregate, the agricultural sector recorded the requisite annual growth rate of about 5 per cent. This was, however, largely a reflection of a substantial increase in cereal production. As regards pulses, while the production in 1969-70 and 1970-71 somewhat recovered from the abnormally low level reached in 1968-69, production remained below the base-level assumed for the Plan. Among commercial crops, while oilseeds and sugarcane, recorded significant increases, production of cotton and jute remained substantially below the base line production specified. A similar uneveness is found among various agricultural development programmes. While, for instance, the expansion of coverage of high-yielding varieties programme is broadly according to schedule, the consumption of chemical fertilisers is lagging significantly behind the targets. Thus the achievement of an annual growth rate of 5 per cent in the first half of the Fourth Plan has had a rather narrow foundation and it is too early to say that a firm trend towards such a growth rate has been established. In the remaining Plan period, vigorous efforts will have to be continued towards development and extension of new agricultural technology coupled with the supply of inputs and services.

3. As a result of the appraisal, the main thrust of effort in re-orienting the Plan has been to provide for measures which will help overcome, as far as possible, the main deficiencies and shortfalls that have been identified. Accordingly, new programmes have been included in the Plan for strengthening research and extension activities in relation to cotton and jute. Provision has also been made for production and distribution of seed of short duration varieties of pulses with a view to propagating them as part of the multiple cropping programme. Additional outlays have also been provided for increasing the exploitation of the agricultural potential of selected command areas of major river valley projects. A re-structuring of the Plan to provide increased outlays for certain post-harvest aspects such as storage and marketing has also been done. It is expected that these measures will help towards creating conditions necessary for sustaining a high growth rate in agriculture.

4. The second major objective is "to enable as large a section of the rural population as possible including the small cultivators, the farmer in dry areas and the agricultural labour to participate in development and share its benefits." In the Fourth Plan, this objective was partly sought to be achieved by a number of special programmes such as, pilot projects for dry farming, programme of the small farmers development agencies, programme of marginal farmers and agricultural labour. These programmes, so far, have generally made a rather slow beginning. In the remaining Plan period, one of the principal tasks is to accelerate the pace of implementation of these programmes and also concurrently to review the experience thrown up by these with a view to evolving appropriate strategies for integrated rural development in different agro-climatic regions.

I. CROP PRODUCTION AND PROSPECTS

Foodgrains

5. In respect of all-India foodgrains production, the Plan assumed a base-level of 98 million tonnes. An increase of 31 million tonnes over the assumed base-level was projected, thus visualising a production level of 129 million tonnes at the end of the Plan. This implied a compound growth rate of 5.6 per cent per annum. Against these projections, the following figures reveal the actual progress made so far :

TABLE 1 : *Targets and Production of Foodgrains*

(million tonnes)

year	target of production	actual production
(1)	(2)	(3)
1968-69	—	94.01
1969-70	101·00	99·50
1970-71	106·00	107·81

The increase in foodgrains production in the first two years of the Plan, when compared to the actual production of 1968-69 has been quite satisfactory. However, if the production of 1970-71 is viewed against the assumed base-level of 98 million tonnes, the performance is found to be marginally below the targeted growth rate.

6. There is, however, considerable uneveness among different States so far as progress for foodgrains production is concerned. At one end of the spectrum are States like Haryana, Gujarat and Rajasthan which have already accomplished the Plan targets, at the other end are States such as Andhra Pradesh, Bihar, Kerala, Maharashtra and Orissa which have not recorded a production equal to the base-level assumed for these States. The performance of other States varies between these two extremes. A detailed statement is given at Annexure I.

7. The uneveness of growth in production is also discernable for different crops which compose foodgrains. As far as wheat is concerned, the Plan has envisaged an increase from a base-level of 18 million tonnes to 24 million tonnes in the final year. The actual progress recorded has exceeded what is envisaged in the Plan. From a production of 18.65 million tonnes of wheat attained in 1968-69, production has reached 20.09 million tonnes in 1969-70 and 23.25 million tonnes in 1970-71. Bulk of the increase is attributed to the programme of high-yielding varieties of wheat. This programme is making highly satisfactory progress and there is every prospect that the Fourth Plan targets of wheat production would be substantially exceeded.

8. As regards rice, the Fourth Plan has envisaged an increase of 13 million tonnes over an assumed base-level of 39 million tonnes. The actual production has been as follows :

TABLE 2 : *Production of Rice*

(million tonnes)

year	rice production
(1)	(2)
1968-69	39·76
1969-70	40·43
1970-71	42·45

During 1970-71, for the first time, a perceptible increase in rice production (over 2 million tonnes) has occurred. This shows that some of the initial problems that inhibited the success of the programme of high-yielding varieties of paddy are getting partially overcome. Under an all-India coordinated research project, massive programme of varietal breeding has been mounted. In the recent past, as many as 11 new paddy varieties have been released and some others are in the pipeline. While there is thus obviously a large potential for stepping up rice production in the areas being covered by high-yielding varieties, this will require a whole range of concerted measures. These include, among others, extensive field testing of new varieties so as to identify suitable varieties for specific areas. Considerable leeway has also to be made in the arrangements for production and distribution of seeds of these varieties. Above all, requisite promotional measures will be necessary to step up the application of fertiliser dosage alongwith connected agronomic practices.

9. In regard to coarse grains, the past performance and the future prospects are rather mixed. For bajra, the Plan target has already been exceeded. Even though the hybrid maize programme is virtually stagnant on account of various marketing and pricing problems, the production of indigenous maize is progressing satisfactorily, and is likely to do so in the remaining Plan period. Jowar production in 1969-70 and 1970-71 has been lower than the base-level assumed for the Plan. The programme of hybrid jowar has also been stagnant. Moreover, some of the major jowar producing States such as Andhra Pradesh and Maharashtra have been affected by drought during the period under review. It is expected that in the remaining Plan period, some improvement may be recorded in jowar production although the Plan target of 15 million tonnes is not likely to be reached.

10. Among foodgrains, pulse crops are presenting the most difficult problem. The Plan envisaged an increase in pulse production from a base-level of 12.5 million tonnes to 15 million tonnes for the final year of the Fourth Plan. The actual production of pulses, however, has been as follows :

TABLE 3 : *Production of Pulses*

(million tonnes)

year	production
(1)	(2)
1967-68	12·10
1968-69	10·42
1969-70	11·69
1970-71	11·58

Actual production recorded has thus been below the base-level assumed for the Plan. In the Plan, the main thrust of effort was expected to be in the form of introduction of short-duration pulses as a part of multiple cropping programme. So far, hardly any progress appears to have been made in this direction. In the remaining period of the Plan, besides intensification of research, concerted measures including production and distribution of seeds of suitable varieties will have to be taken up in order to push pulse production under the multiple cropping programme. For this purpose, a new scheme for production and distribution of seed of short-duration pulse varieties has now been included in the Plan.

11. The outlook for overall food production in the remaining Plan period is, on the whole, encouraging. Given a normal season, it is estimated that a production level ranging between

gramme is evaluated it is likely to yield valuable data which should enable the stepping up of the programme and its extension to all other major occupational groups. Another line of action which is urgently required is that the various Ministries and Departments of Government should appropriate literacy as an effective tool of communication and build it as an integral part of their programmes. It is only when the literacy effort becomes so wide-spread as to draw in its net voluntary agencies as well that a nation-wide impact can be produced.

Elementary Education

9. The Statewise progress of enrolment in classes I-V and VI-VIII, as given in Annexure III and IV suggests that at the primary stage (classes I-V) the progress of enrolment during the first three years of the Plan will be particularly slow in Assam, Mysore and Punjab. In Assam, the annual enrolment targets have been kept low in relation to the Fourth Plan targets. In 1969-70, significant shortfalls occurred in Haryana, Kerala, Madhya Pradesh, Mysore, Orissa, Punjab and Tamil Nadu, while in 1970-71, the shortfalls were prominent in Mysore and Punjab. At the middle stage, the States showing slow progress are Mysore, Punjab, Madhya Pradesh, Orissa and Uttar Pradesh. In most cases, the shortfalls are due to insufficient financial allocation and to their inadequate utilisation. The mechanism of earmarking outlays for Elementary Education has not worked well so far and some States divert funds from this sector for one reason or another.

10. Facilities of education at the primary stage (classes I-V) are available to over 95 per cent of the rural population. Considerable expansion of facilities is, however, needed at the middle stage (classes VI-VIII). It was envisaged that the States would prepare detailed district plans to ensure that facilities for universal enrolment at this stage are made available progressively, particularly in backward areas. No progress has been made in this regard. There has been no appreciable step-up in the expenditure on schemes for encouraging the enrolment of girls or children of backward communities. The coverage under the mid-day meals schemes were 11 million pupils at the commencement of the Plan. While some States have increased the coverage, Bihar has discontinued the scheme with the result that the all-India coverage remains at 11 million pupils. No appreciable progress was made in the construction of additional classrooms or in the provision of equipment. Out of every 100 children enrolled in class, I, only about 40 continue their studies in class IV. The rate of wastage and stagnation has remained more or less stationery since Independence. Economic conditions of the poorer sections of the population are to a large extent responsible for this heavy rate of drop-outs; but there are other contributing factors which can be removed by a comprehensive programme of school improvement. It was expected that some steps would be taken during the Fourth Plan to reduce this wastage. However, no effective measures have been taken in most States. As for the quality of elementary education, the only noteworthy achievement is the strengthening of science education in selected pilot schemes in almost all States and Union Territories. Some good work has been done to publish quality text-books. But the progress in setting up three printing presses for text books in the Central sector has been behind schedule.

11. In order to make up for the deficiencies of the first three years, it will be necessary.

(*a*) to earmark higher outlays for Elementary Education consistent with the minimum requirements of other sectors of Education to ensure adequate funds for appointment of additional teachers and other contingent expenditure and not to allow diversion of funds earmarked for Elementary Education;

(*b*) to prepare district plans to ensure proper allocation of resources for the backward areas or groups which require more attention;

(*c*) to undertake provision of physical facilities and other improvements with the assistance of the local community; and

(*d*) to strengthen the administrative and inspecting machinery, particularly at the district level, so as to ensure effective utilisation of funds.

Secondary Education

12. While the Plan target of additional enrolment of 3.27 million children in classes IX—XI may be fully achieved, the vocationalisation of secondary education and introduction of work experience programmes as well as schemes relating to the improvement of physical facilities in schools have not made satisfactory progress on account of constraint of resources and also to some extent the absence of properly tried out programmes. The Ministry of Education and Social Welfare has undertaken in association with the State Governments, a project on an experimental basis in four selected districts which aims at providing work experience and vocational bias as so to link education with the local manpower needs. The programme will be expanded after the results of the pilot projects are known.

13. In the last two years of the Plan, the stress should be on the improvement of science education and strengthening of vocational guidance services. Although no large scale programme of vocationalisation is possible during the Fourth Plan, States should carry out survey's on occupational education and training on the lines conducted in Osmanabad and the Haveli Taluka of Poona district so that these programmes could be taken up in the Fifth Plan.

Higher Education

14. There has been rapid expansion of facilities for higher education. The number of students in

arts, science and commerce, rose from 1.69 million in 1968-69 to 2.08 million in 1970-71. The corresponding increase in science courses was from 0.68 million to 0.75 million. At this rate, the enrolment estimated of 2.27 million set for the Fourth Plan are likely to be exceeded. Facilities for non-formal education have been expanded. Nine universities—Andhra, Delhi, Himachal, Madurai, Meerut, Mysore, Punjab, Punjabi and Rajasthan—have introduced education through correspondence courses but the courses available are mainly for undergraduate education and in the humanities. In organising these courses, the regional requirements need to be kept in view so that facilities could be more extensively utilised and the overhead costs reduced.

15. The University Grants Commission has been providing assistance for consolidation and improvement of facilities for higher education. Increasing grants were given for expansion and improvement of post-graduate education and research, development of centres of advanced study, extension of library and laboratory facilities, appointment of staff, extension of hostel facilities and student welfare programmes. Grants were given for the expansion and development of affiliated colleges. But the coverage under this scheme is not very large.

16. In the Fourth Plan, it was stated that proposals for setting up new universities would be carefully examined by the University Grants Commission and the Ministry of Education and Social Welfare. During this period, 9 new universities have been set up, bringing the total number to 94. In view of the huge overhead costs of setting up of new universities, it is necessary to adopt the utmost caution. Instead university centres may be set up in large cities to provide facilities for post-graduate education and research. These centres may be established within a complex of colleges with sizeable student population and may have a nucleus of university professors for teaching and research guidance. They should provide library and laboratory facilities of university standard.

17. The University Grants Commission Plan included about Rs. 3 crores for special schemes for science education like short courses in applied sciences and development of instrumentation workshops. The progress has been negligible. These programmes are of importance for promotion of science education and need to be implemented on a priority basis.

Technical Education

18. The main emphasis in Technical Education is on improving quality and standards and modifying technical education to suit the needs of industry more efficiently. Stress was, therefore, aid on restructuring the curricula of degree and diploma course, short-term and long-term training of teachers including practical training in industry, post-degree practical training of students, introduction of cooperative or sandwich courses in close collaboration with industry, organisation of short-term refresher courses or serving personnel from industry and training in industria engineeging. Apart from the scheme of apprenticeship training and training in industria engineering, these programmes have not registered the scheduled progress and their implementation will need to be accelerated. The Indian Institutes of Technology have been developed as centres of excellence for technological education and research and it is proposed to expand their facilities in areas suiting the industrial and other needs of the country. It has been decided to set up an Institute of Management at Mysore. The Polytechnic Reorganisation Committee has submitted its report and action will need to be initiated to implement its main recommendations regarding the involvement of industry in the planning and development of polytechnic education.

19. The progress of scheme of technical education has been slow. This is primarily because States have not been making adequate provision for programmes of qualitative improvement like training of teachers, sandwich courses, restructuring of courses at the diploma level and provision of laboratory equipment. The progress of these schemes would need to be accelerated if a huge shortfall in the expenditure on technical education programmes in the State sector is to be avoided.

20. An appraisal of the outlays provided for schemes of technical education under the Ministry of Education and Social Welfare has revealed that additional outlays would be required for programmes like the Regional Engineering College, Institutes of Technology, the programme of apprenticeship training and National Institutes for Training in Industrial Engineering. Further, because of the slow progress of schemes, shortfalls are expected under programmes like Central grants to non-Government institutions, quality improvement schemes, Institutes of Management and post-graduate courses and research. The uneven progress has been made in case of different schemes. The total additional outlay required for technical education will be Rs. 15 crores, which could be adjusted against the total Plan of the Ministry of Education and Social Welfare

Teacher Education

21. There have been heavy shortfalls in expenditure in this sector. There is considerable unemployment among trained teachers in many States. The in-take in training institutions has been reduced. States like Maharashtra and Mysore have taken advantage of this and increased the period of training from one year to two years. However, there has been no appreciable effort at utilising the spare training capacity by stepping up programmes of in-service education. Improvement in quality of teacher education has not received serious attention. The Regional Colleges of Education continue to organise correspondence courses for secondary teachers. The University Grants Commission has started a programme of strengthening departments of education in the universities and secondary train-

24. Progress has been quite slow so far. There has been some improvement in the second year but it is not adequate. Even at the end of the second year, 16 schemes have not registered any expenditure.

25. Under the all-India Coordinated Research Projects, considerable progress has been recorded in respect of several crops, more particularly rice, wheat and cotton. However, there are certain high priority sectors where research schemes have yet to pick up momentum. An important instance is dry land farming. A number of causes have contributed to the slow rate of implementation. In some cases, detailed formulation of schemes have not been done in advance, in others there has been failure in organisation, inordinate delays in the recruitment of personnel, and revision of some schemes on more than one occasion. These problems will have to be resolved and the necessary arrangements streamlined.

26. As a result of the appraisal, additional outlays have been provided for enlarging the scope of all-India Coordinated Research Projects on Cotton and Oilseeds. Provision has also been made on a selective basis for strengthening certain research institutes such as Central Soil Salinity Institute, Grassland and Fodder Institute and Jute Agricultural Research Institute. New schemes of research particularly concerning humid agriculture have also been included in the Plan. Another significant addition relates to establishment of suitable stations for taking care of research requirements of the North Eastern region more particularly Meghalaya, Manipur, Tripura, NEFA and Nagaland.

27. The development of agricultural universities constitutes the most significant scheme relating to agricultural education. It would seem to be necessary to ensure that the agricultural universities conform to certain broad minimum norms such as assumption of responsibilities for agricultural research and extension education as also concentration of at least two faculties at one campus.

Agricultural Extension and Farmers' Training

28. One of the principal elements in the farmers' training and education is the programme of national demonstrations which has been included in the central sector of the Plan and is being executed under the coordinated direction of ICAR. This programme envisages demonstrations in about 100 selected districts at the rate of 15 per district. The demonstrations are to be carried out by subject-matter specialists to establish the potentialities of each unit of land area per year through multiple cropping supported by package of improved practices. Progress on this important scheme has been poor. As against a Plan outlay of Rs. 245 lakhs, the expenditure incurred in the first two years has been only Rs. 41 lakhs. If this important programme should have an adequate impact on production, it would be necessary that in the second half of the Plan 1971, its various organisational and operational defects are effectively remedied and the supervision of the programme intensified.

29. While the programme of national demonstrations is to provide the first line of demonstrations, it has all along been envisaged that second line demonstrations would be organised on a large-scale by the normal agricultural extension machinery. It, however, appears that this aspect is getting increasingly neglected. The States have tended to give a rather low priority to their own programmes of demonstrations, farmers' training and other measures connected with agricultural extension. This tendency has also adversely affected the quality of implementation of agricultural production programmes. It will be necessary that in the remaining period of the Plan, an increased stress is laid on improving the quality and pace of agricultural extension activities in general and field demonstrations in particular.

Consumption of Chemical Fertilisers

30. The consumption of chemical fertilisers has been significantly lagging behind Plan targets. A statement indicating the Fourth Plan targets and the achievements of the first three years of the Plan in respect of increase in the consumption of chemical fertilisers is given in Annexure VI. In order to achieve the Fourth Plan targets, an annual compound growth rate of 26.6 per cent in the use of NPK was required to be attained. The annual compound growth rate actually achieved in the first two years of the Plan for NPK was only 11.7 per cent. Against the targets for 1969-70 and 1970-71 and 1971-72, which were itself quite modest in relation to the targets for the Fourth Plan, the actual consumption lagged far behind. The inadequacy in the increase in fertiliser consumption in the first two years of the Plan is also brought out by the fact that in the additional area covered by high-yielding cereal varieties during these years it is estimated that the actual dosage of fertiliser application was only about half of the recommended dosage in the case of Nitrogen, about one-fifth in the case of P_2O_5 and about one-fourth in the case of K_2O.

31. Annexures VII, VIII and IX show State-wise consumption targets of nitrogenous, phosphatic and potassic fertilisers, for the Fourth Plan for different States as also the actual consumption during 1969-70 and 1970-71. These annexures also show for each State the annual compound growth rate necessary to achieve the Fourth Plan target and the growth rate actually achieved during the first two years of the Fourth Plan period. It will be observed that while the performance in a few States has been encouraging, it has been unsatisfactory in others.

32. In the remaining period of the Fourth Plan, for stepping up fertiliser consumption, intensive efforts will have to be made in various directions such as intensification of extension

and sale promotion activities, effective utilisation and extension of soil testing facilities, improvement in the quality control of fertilisers, and expansion of short-term credit facilities to the farmers. Another aspect which will require pointed attention relates to arrangements for increase in the number and geographical spread of retail depots. In recent years, there appears to have been a significant contraction in the number of retail points serving the interior villages in several States. Necessary measures will have to be devised to counter this tendency.

33. While the measures indicated above are expected to help in stepping up the rate of growth in consumption of chemical fertilisers in the remaining Plan period, it is unlikely that Fourth Plan targets will be reached. A consumption level of 2·60 million tonnes of N, 0·81 million tonne of P_2O_5 and 0·52 million tonne of K_2O is postulated for 1973-74. This is against the Fourth Plan targets of 3·20 million tonnes of N, 1·4 million tonnes of P_2O_5 and 0·9 million tonne of K_2O. In other words, an overall shortfall of about 1·5 million tonnes of NPK in consumption is envisaged.

Plant Protection

34. With the introduction of high-yielding varieties adoption of the plant protection measures has assumed added importance. The following figures show the progress in the country as a whole :

TABLE 9 : *Targets and Achievements of Plant Protection Measures*

(million hectares)

year	target	actual/anticipated achievement
(1)	(2)	(3)
1969-70 . .	..	33·80
1970-71 . .	42·32	43·20
1971-72 . .	50·00	..
1973-74 . .	80·00	..

It will be observed that while progress in the first two years of the Annual Plan has been almost commensurate with the targets of the Annual Plan, there is considerable leeway to be made before the Plan target is reached. At Annexure X is a statement showing the progress and targets for different States. It will be seen that most of the States will have to step up considerably the plant protection programme. Even so, on present indications, the achievement in 1973-74 is not likely to exceed 70 million hectares.

35. Table 10 indicates the crop-wise targets and achievements under high-yielding varieties programme :

TABLE 10 : *Crop-wise Target and Achievements under High-yielding Varieties Programmes*

(million hectares)

sl. no.	crop	1968-69 target	1968-69 achievement	1969-70 target	1969-70 achievement	1970-71 target	1970-71 achievement	1971-72 target	1973-74 Fourth Plan target
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	paddy	3·44	2·60	3·24	4·34	5·66	5·50	7·00	10·10
2	maize	1·01	0·40	0·81	0·45	0·56	0·51	0·50	1·20
3	jowar	1·01	0·70	1·61	0·55	1·18	0·94	1·20	3·20
4	bajra	1·01	0·70	1·21	1·16	1·77	1·77	2·40	2·80
5	wheat	2·02	4·80	4·05	4·91	5·88	5·89[1]	6·90[1]	7·70
6	*total*	8·49	9·20	10·92	11·41	15·05	14·61	18·00	25·00

[1] This excludes an area of 1·2 million hectares of unapproved local high-yielding varieties of wheat (in U.P.) which had figured in the previous years reports.

It will be observed that, as far as wheat and bajra are concerned, the progress of coverage by high-yielding variety programme is satisfactory. As regards paddy, the progress is almost according to schedule. It is in respect of hybrid jowar and maize that the area coverage is poor. In fact, under hybrid jowar, the coverage under the first year of the Plan was lower than the achievement in the year preceding the Plan.

36. Annexures XI, XII, XIII, XIV and XV respectively give the State-wise break-up of the progress of the high-yielding varieties of paddy, wheat, maize, jowar and bajra. Annexure XVI is a composite annexure dealing with all the crops together and giving the State-wise picture. It will be observed from these annexures that while performance of most of the States in respect of high-yielding varieties programme is satisfactory, there are a few States like Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa and West Bengal which have shown inadequate progress in area coverage. It will be necessary for these States to accelerate the pace of implementation of these programmes in the remaining Plan period.

37. On present indications, there are fair prospects that the overall Fourth Plan targets of high-yielding varieties coverage of 25 million hectares would be reached by 1973-74. However, for individual crops, achievements are likely to vary from the targets as indicated in table 11.

TABLE 11 : *Crop-wise Targets and Achievements under High-yielding Varieties Programme at the end of the Fourth Plan*

(million hectares)

sl. no.	crop	target	likely achievement
(0)	(1)	(2)	(3)
1	rice . . .	10·10	10·10
2	wheat . . .	7·70	9·30
3	maize . . .	1·20	0·60
4	jowar . . .	3·20	2·00
5	bajra . . .	2·80	3·00
6	*total* . . .	25·00	23·00

Soil Conservation

38. Soil conservation on agricultural land is taken up under the State Plan. Against the Plan target of 5·65 million hectares, the actual/anticipated achievements during each of the 1969-70 and 1970-71 were 1·25 million hectares. The progress is thus satisfactory. A State-wise break-up is at Annexure XVII.

39. The most important programme in the centrally sponsored sector is soil conservation in catchment areas of river valley projects where soil conservation measures are being carried out to reduce the siltation of the reservoirs. Against the Fourth Plan target of 6 lakh hectares for soil conservation treatment, the achievement in 1969-70 and 1970-71 were 73,790 hectares and 96,790 hectares respectively. The pace of implementation in the latter period of the Plan will have to be accelerated.

Agricultural Credit

40. A review of the programmes with regard to cooperative short and medium and long-term credit is separately presented in the Chapter on Cooperation and Community Development. The Plan contemplated that, next to cooperatives, the most important institutional agency for provision of agricultural credit would be commercial banks. During 1969-70, the commercial banks opened about 1300 new banks in the rural areas. The increase in the volume of loaning for agriculture by the public sector commercial banks has also been significant as will be seen from the figures given below :

TABLE 12 : *Agricultural Credit through Public Sector Commercial Banks*

sl. no.	item	direct financing June 1969	direct financing June 1970	June 1971
(0)	(1)	(2)	(3)	(4)
1	number of accounts	172000	612477	806150
2	loans standing in the name of farmers (Rs. crores) .	38·02	160·38	206·52

While for the country as a whole there has been a significant expansion in direct advances by public sector banks for agriculture, the role played by these banks was quite uneven between different States. A statement indicating the State-wise position is given at Annexure XVIII. It will be observed that, generally speaking, States which are weak from the point of view of cooperative credit so far failed to attract adequate credit from the public sector banks to give particularly high priority in extending their operations in areas where cooperative short and medium-term credit structure is particularly weak.

41. In the sphere of agricultural credit, one of the significant developments has been the increasing role of Agricultural Refinance Corporation. Upto the end of 1968-69, the ARC number of sanctioned schemes under implementation were 233; their number increased to 458 at the end of 1970-71. Bulk of the schemes, numbering 237, were for development of minor irrigation. Other purposes for which refinance facilities from the ARC have been forthcoming relate to horticulture, land development and farm mechanisation. In recent years, ARC has also diversified its portfolio by refinancing fisheries development and poultry and dairy farming as well as construction of storage facilities. While thus, in the aggregate, there has been a very significant expansion of refinance facilities from ARC, the share of different States in such facilities has continued to be uneven, which is essentially a reflection of the under-developed stage of land-development banking institutions in certain States. A statement indicating the State-wise distribution of schemes sanctioned by ARC upto 30th June 1971 is given as Annexure XIX.

During the first two years of the Plan, seven agricultural credit projects were approved by IBRD/IDA in regard to financing capital investment in minor irrigation, farm mechanisation and other allied sectors. The ARC is the institution through which financial assistance for these projects is being channelled. In the light of these developments, in the reappraised Fourth Five Year Plan, the outlay for ARC has been stepped up from Rs. 200 crores to Rs. 300 crores. Against this outlay, the actual disbursement by ARC in the first two years of the Plan was Rs. 59·20 crores. During 1971-72, the additional disbursement is of the order of Rs. 65 crores. The balance amount is likely to represent the order of disbursement in the remaining period of the Plan.

Marketing, Storage and Warehousing

42. Prior to the Fourth Plan, the number of regulated markets and special markets was 1,616. The Fourth Plan visualised that the remaining 2,100 markets/sub-markets yards would be brought within the purview of regulation. Against this target, the achievement so far has been inadequate. In 1969-70, about 226 markets were regulated. For 1970-71, the additional number regulated are estimated at 73. It is obvious that considerable momentum will have to be given to this programme. And an even more pressing task in the remaining period of the Plan relates to the development of market yards and ancillary facilities.

The present market conditions in some of the areas where a substantial increase in market arrivals has taken place in recent years, are likely to act as a serious constraint on further production. Hence, in the subsequent Plan period, pointed attention is proposed to be given towards the development of markets facilities at mandis in Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan where the present facilities are under-developed and where a substantial increase in production already materialised or is in the offing.

43. With regard to storage, it was estimated on the eve of the Fourth Plan that the total owned storage with public agencies and cooperatives was about 75 lakh tonnes. The Plan visualised an addition of 55 lakh tonnes. The progress in the first two years of the Plan appears to have been quite unsatisfactory as will be seen from the details in Annexure **XX**. In the context of the programme of procurement and buffer stocking, there is an apparent need for pushing the pace of construction of storage by various public agencies. It will also be necessary in the remaining period of the Plan to see that the programme of cooperative storage is accelerated and for this purpose additional funds are being placed at the disposal of National Cooperative Development Corporation.

III. Programme for Special Classes and Areas

Small Farmers Development Agencies

44. One of the important special programmes that the Plan envisaged related to small but potentially viable farmers who have just enough land resources to become surplus producers if they are enabled to adopt improved techniques on the basis of support in terms of credit and material inputs. Such small holders have been generally identified with land holdings between 1-3 hectares. The Draft Fourth Plan envisaged 20 such pilot projects. Later on, it was decided to increase their number to 46 and make a total Plan provision of Rs. 67·5 crores. In view of the very difficult nature of the problem for which there was no practical experience to go by, it took some time to issue the guidelines and get detailed project reports prepared. While three projects were approved in 1969-70, the remaining projects were sanctioned only in 1970-71. In fact, the last project relating to Nagaland was cleared in 1971-72. The expenditure during the first two years of the Plan was only Rs. 3 crores. Thus the real work of implementation of these projects on the ground is expected to be taken in hand during 1971-72.

45. The experience gained so far under this programme has thrown up a number of problems. In the first place, even after the sanction of the project by the Centre, there is considerable time-lag between sanction and actual registration of the Small Farmers Development Agency and the posting of the staff. As a result, 1971-72 is the first year of the implementation of several projects which were actually sanctioned in 1970-71. Another problem relates to the fact that the funds from the Centre for each project are to be supplemented by finances from the States for administrative arrangements, infra-structure facilities and several other types of development programmes. With the resources of the State already committed to certain other programmes, it has not been always possible for the States to find the requisite resources and this, in turn, has handicapped the implementation of the activities of the SFDA.

46. The crucial feature of the scheme relates to facilitating the flow of credit to small farmers from financing institutions. In several areas, where cooperative credit is clogged on account of heavy overdues and consequently the flow of agricultural credit in general is stagnant or inadequate, the problem of re-orienting the loaning procedures and policies in favour of the less privileged sanctions is proving doubly difficult. In other areas where cooperative credit system is weak, commercial banks were expected to take a major responsibility. With their own difficulties relating to branch expansion etc. the commercial banks have not generally been able to do much in several SFDA areas. Hence, in the remaining period of the Plan, one of the principal tasks is to re-examine some of the assumptions behind the SFDA programme with regard to institutional credit and take such measures as will help increase the flow of credit into the hands of small farmers. Certain steps have already been taken in this direction. These include permission to the small farmers development agencies to give assistance to weak central banks with a view to providing non-overdue cover as well as to give assistance to non-members to buy up to four shares of the local credit cooperatives and thereby increase their borrowing power.

47. Based on the experience in the past one year and a half, it has become necessary to revise the earlier approach in certain respects. While the programme will continue to be focussed on the small but potentially viable farmers, there is need for including the relatively smaller and marginal farmers for certain operations like soil conservation, drainage work, custom service etc. which have to be done on an area basis. In such situations the Small Farmers' Development Agencies will identify the marginal farmers also programme-wise and give them necessary technical and financial assistance. The Small Farmers' Development Agencies may have to be permitted to undertake certain programmes without insisting on contribution from the State Plans for such programmes within the agency areas. Another direction in which modification may be made is to increase the types of activities for which subsidy or loan assistance should be available from the agency. Another area of modification is concerning the direct involvement of the agencies in what are primarily extension efforts like demonstration projects for the farmers, training in better agricultural production methods. A more direct investment by the agencies in setting up common facilities like chilling plants, feed mixing units etc. may also be necessary.

48. Special projects for development of marginal farmers and agricultural labour were conceived later than the SFDA programme. The first batch of five MFAL projects were sanctioned in the second quarter of 1970-71. Another 27 projects were approved during the remaining period of 1970-71. Against the total Plan outlay of Rs. 47·5 crores, the expenditure up to the end of 1970-71 was only Rs. 1 crore. It is obvious that, even more than the programme of small but potentially viable farmers, the programme of marginal farmers and agricultural labour will require significant acceleration in the remaining Plan period if the programme is to utilise the Plan provisions and to have requisite impact in terms of the objectives that were visualised.

Pilot Projects for Dry Farming

49. An important objective of the Plan was to seek to promote the economy of the farmers in dry areas. For this purpose, apart from provision made in the Plan for an all-India coordinated research project on dry farming, the Plan envisaged 24 integrated dryland farming projects at an outlay of Rs. 20 crores. These projects were conceived to test the application of new techniques for dry farming based on soil management, harvesting of water, introduction of new varieties of crops which are drought-escaping and new agronomic practices. This programme, however, has not made adequate headway so far. Up till the end of 1970-71, only nine pilot projects have been initiated. The remaining 15 projects have been taken up in 1971-72. It will be necessary to give pointed attention to accelerating the pace of this programme during the second half of the Fourth Plan period. This is particularly so in view of the decisive importance of this programme both from the point of view of agricultural development in general and redressing of regional imbalances in particular.

Drought Prone Area Programme

50. As stated in the Fourth Five Year Plan document, nearly Rs. 100 crores were likely to be made available, apart from the outlays included in the Plan, as grant from the Centre for areas which are prone to drought. The object is to create permanent works which will mitigate the effects of drought when it occurs and at the same time provide employment to the rural household. The implementation was started during 1970-71 and 54 districts which comprise all the drought prone areas have been covered. An expenditure of about Rs. 18 crores has been incurred so far. It has now been decided to include this scheme to be entitled as 'Drought Prone Area Programme' in the Plan with a provision of Rs. 70 crores for the remaining two years (i.e. 1972-73 and 1973-74) of the Plan.

Crash Scheme for Rural Employment

51. With a view to alleviating the prevailing condition of unemployment and under-employment in rural areas, it was decided that a scheme for the execution of essentially labour intensive projects in all the districts of the country should be implemented with utmost urgency in the non-Plan sector. The scheme came into operation during 1971-72 with a provision of Rs. 50 crores made outside Plan. The scheme has a two-fold purpose. First, each project should provide employment for 1,000 persons on an average continuously over a working season of 10 months in a year in every district. Secondly, each project should produce works of assets of a durable nature in consonance with local development plans. The scheme has already covered 345 districts and an expenditure of Rs. 46·50 crores has been incurred so far. It has now been decided to include the scheme in the Plan with a provision of Rs. 100 crores for remaining two years (i.e. 1972-73 and 1973-74) of the Plan.

Development of Selected Command Areas

52. The Plan envisages an outlay of Rs. 15 crores for providing assistance to the States for creation of market complexes and certain ancillary facilities such as link roads and storages in ten command areas, namely, Tungabhadra, Nagarjunasagar, Kosi, Kangsabati, Rajasthan Canal, Mahi-Kadana, Tawa, Jayakwadi Stage I, Cauvery Delta and Pochampad. This is an important programme which is designed to help in fructifying the large investments already made in major river valley projects. As a result of Mid-term Appraisal, it is intended to provide additional outlays for the scheme so that the programme could be extended to a few other command areas, particularly those for which credit facilities are likely to be available for engineering works from the International Development Association.

IV. Progress of Plan Expenditure

State Plan Schemes

53. In the Fourth Plan, Rs. 2713·77 crores are provided as the total public sector outlay for schemes of Agriculture and Allied Programmes. Out of this amount, Rs. 1482·68 crores are the provision for the Plan schemes of various States and Union Territories. Against this, the progress of expenditure so far has been as follows :

TABLE 13: *Outlay and Expenditure on State Plan Schemes*

(Rs. crores)

year	approved plan outlay	actual/anticipated expenditure
(1)	(2)	(3)
1969-70 . .	226·34	232·90
1970-71 . .	258·39	283·34
1971-72 . .	295·00	—

It will be observed that against the Annual Plan outlays, the expenditure for all States taken together has been satisfactory. The position, however, is rather uneven between different States—vide Annexure XXI. Agriculture being an earmarked sector in the State Plans for the purpose of central assistance, some of the States tended, during the first two years of the Plan, to keep the outlay on agriculture deliberately low so that shortfall in expenditure and consequent risk of losing a part of central assistance is avoided. In view of this tendency, special efforts had to be made in the Annual Plan (1971-72) to raise the level of outlay on Agriculture. Similar action may also be necessary for the remaining Annual Plans.

Central and Centrally-sponsored Schemes

54. A provision of Rs. 1231·09 crores has been included in the Fourth Plan for central and centrally-sponsored schemes relating to agriculture and allied programme. During the first two years of the Plan, the expenditure on all these schemes taken together was Rs. 276 crores, i.e., only about 22 per cent of the Fourth Plan outlay on these schemes. If these figures are disaggregated, the picture revealed is even more unsatisfactory. Out of a total 306 schemes included in the Central Plan, as may as 79 schemes were not taken up for implementation in the first year of the Plan. Even in the second year, no expenditure was incurred on 27 schemes. It will be necessary to step up the momentum of various schemes in the remaining period of the Plan.

ANNEXURE I

Targets and Achievements of Foodgrains Production

(lakh tonnes)

sl. no	state	assumed base level	Fourth Plan 1973-74 target	1969-70 actual	1970-71 actual	compound annual growth rate (per cent) to achieve Fourth Plan targets	compound annual growth rate (per cent) actually achieved during first two years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Andhra Pradesh	76·00	108·00	74·00	68·87	7·3	(—)4·8
2	Assam	20·70	26·00	20·00	20·70	4·7	—
3	Bihar	86·00	114·00	75·46	81·46	5·8	(—)2·7
4	Gujarat	29·00	44·00	32·21	44·06	8·7	23·3
5	Haryana	33·00	44·00	45·67	47·52	5·0	19·7
6	Himachal Pradesh	9·50	13·50	9·82	9·67	7·3	0·9
7	Jammu and Kashmir . . .	9·00	11·00	11·51	10·81	4·1	9·6
8	Kerala	13·00	17·50	12·42	12·94	6·1	(—)0·2
9	Madhya Pradesh	101·00	129·00	97·69	107·96	5·0	3·4
10	Maharashtra	75·00	104·00	69·14	55·90	6·8	(—)13·7
11	Meghalaya	1·30	2·00	1·17	1·24	9·0	(—)2·3
12	Mysore.	50·00	62·00	58·91	59·62	4·4	3·4
13	Nagaland	0·69	0·77	0·50	0·74	2·2	3·6
14	Orissa	53·00	79·00	50·53	51·51	5·7	(—)1·4
15	Punjab	55·00	75·00	69·37	70·24	6·4	13·0
16	Rajasthan	63·00	81·00	47·49	88·13	5·2	18·3
17	Tamil Nadu	59·00	79·00	62·39	70·24	6·0	0·1
18	Uttar Pradesh	168·00	214·00	175·47	194·83	5·0	7·7
19	West Bengal	69·00	90·00	73·64	74·18	5·5	3·7
20	Union Territories	9·07	11·52	7·80	7·69	4·9	(—)7·4
21	*total*	980·26	1290·00[1]	995·19	1078.31[2]	5·6	4·9

[1]The State targets aggregate to 1,296 lakh tonnes but the All India target is kept at 1,290 lakh tonnes.
[2]Against a target of 1,060 lakh tonnes.

ANNEXURE II

Targets and Production of Cotton

(lakh bales)

sl. no.	state	Fourth Five Year Plan assumed base level	Fourth Five Year Plan target	1968-69 actual	1969-70 actual	1970-71 actual	compound annual growth rate (per cent) to achieve Fourth Plan targets	compound annual growth rate (per cent) achieved during first two years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhra Pradesh	1·76	2·45	0·96	0·98	1·40	6·8	(—)10·8
2	Assam (including Meghalaya) . .	0.05	0.08	0.06	0·07	0·06	..	..
3	Bihar	..	..	0.03	0·02	0.02	..	..
4	Gujarat	16·00	19·00	14·25	15·52	15·71	3·5	(—)0·9
5	Haryana.	3·36	4·25	3·37	3·40	3·50	4·9	2·2
6	Kerala	0·06	0·12	0·06	0·05	0·07	14·9	8·0
7	Madhya Pradesh	4·92	5·90	3·40	3·27	2·14	3·7	(—)34·0
8	Maharashtra	13·75	19·00	13·57	12·14	4·82	6·7	(—)40·8
9	Mysore	4·50	7·00	3·56	3·98	3·43	9·3	(—)12·7
10	Orissa	..	..	0.01	..	0.01	..	..
11	Punjab	8·00	10·00	7·41	8·02	8·19	4·6	1·2
12	Rajasthan	8·00	5·50	1·72	1·18	2·29	22·4	7·0
13	Tamil Nadu	4·35	5·35	2·56	3·97	3·45	4·2	(—)10·9
14	Uttar Pradesh	0·55	0·95	0·42	0·49	0·41	11·6	(—)13·7
15	West Bengal	..	..	..	..	..	..	..
16	Union Territories and other States .	0·02	0·03	0·06	0·05	0·06	..	..
17	*total*	60·00	80·00	51·44	52·55	45·56	5·9	(—)12·9

ANNEXURE III

Targets and Production of Jute

(lakh bales)

sl. no.	state/union territory	assumed base level	Fourth Plan target	1968-69 actual	1969-70 actual	1970-71 actual	compound annual growth rate (per cent): to achieve Fourth Plan targets	compound annual growth rate (per cent): achieved during first two years of the Plan
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhra Pradesh	9·80	10·82	7·79	10·82	9·37	2·0	(—)2·2
2	Assam	..	..	..	..	..	..	..
3	Bihar	10·65	11·00	4·00	6·68	7·73	0·6	(—)14·8
4	Gujarat	..	..	..	..	..	..	..
5	Jammu and Kashmir	..	..	..	..	..	..	..
6	Haryana	..	..	..	..	..	..	..
7	Kerala	..	..	..	..	..	..	..
8	Madhya Pradesh	..	..	..	..	..	..	..
9	Maharashtra	..	..	..	..	..	..	..
10	Mysore	..	..	..	..	..	..	..
11	Meghalaya	0·40	0·55	..	0·49	0·50	6·6	11·4
12	Nagaland	..	..	..	..	..	..	..
13	Orissa	3·60	5·60	2·90	3·15	2·97	9·3	(—)9·2
14	Punjab	..	..	..	..	..	..	..
15	Rajasthan	..	..	..	..	..	..	..
16	Tamil Nadu	..	..	..	..	..	..	..
17	Uttar Pradesh	1·90	2·20	0·88	0·86	1·00	3·0	(—)27·5
18	West Bengal	35·00	43·00	13·29	33·98	26·84	4·2	(—)12·4
19	Tripura	0·45	0·90	0·45	0·57	0·64	14·9	9·3
20	*total*	**62·00**	**74·00**	**29·31**	**56·55**	**49·05**	**3·6**	(—)11·1

ANNEXURE IV

Targets and Production of Oilseeds

(lakh tonnes)

sl. no.	state	Fourth Five Year Plan		1968-69 actual	1969-70 actual	1970-71 actual	compound annual growth rate (per cent)	
		assumed base level	target				to achieve Fourth Plan targets	achieved during first two years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhra Pradesh	10·50	14·00	9·84	11·86	12·51	5·9	9·2
2	Assam (including Meghalaya)	0·64	0·67	0·54	0·57	0·64	0·9	(—)1·6
3	Bihar	1·00	1·70	0·74	1·08	1·08	11·2	4·0
4	Gujarat	15·20	17·78	8·62	11·63	19·43	3·2	13·1
5	Jammu and Kashmir	0·30	0·50	0·29	0·29	0·29	10·8	(—)1·7
6	Haryana	0·85	1·30	0·43	0·89	0·97	8·9	6·8
7	Kerala	0·28	0·30	0·28	0·23	0·20	1·4	(—)15·5
8	Madhya Pradesh	5·73	6·50	4·60	5·44	5·32	2·6	(—)3·6
9	Maharashtra	8·50	10·50	7·19	6·90	6·93	4·3	(—)9·7
10	Mysore	6·00	8·50	6·01	5·60	6·65	7·2	5·3
11	Orissa	1·70	2·70	1·70	1·91	1·92	9·7	6·3
12	Punjab	3·00	4·00	2·65	2·20	2·13	5·9	(—)15·7
13	Rajasthan	2·00	4·50	1·52	2·17	5·31	17·6	62·9
14	Tamil Nadu	10·00	13·00	8·75	9·52	9·59	5·4	(—)2·1
15	Uttar Pradesh	17·00	19·00	14·69	16·45	18·27	2·3	3·7
16	West Bengal	0·58	1·25	0·49	0·49	0·50	15·5	(—)7·1
17	Union Territories	0·11	0·18	0·11	0·11	0.13	..	..
18	*total*	**85·00**	**105·00**[1]	**68·45**	77·34	**91·87**	**4·3**	4·0

[1]The State targets aggregate to 106 lakh tonnes but the All India target is maintained at 105 lakh tonnes.

ANNEXURE V

Targets and Production of Sugarcane (gur)

(lakh tonnes)

sl. no.	state	Fourth Five Year Plan: assumed base level	Fourth Five Year Plan: target	1968-69 actual	1969-70 actual	1970-71 actual	compound annual growth rate (percent): to achieve Fourth Plan targets	compound annual growth rate (percent): achieved during first two years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhra Pradesh .	10·90	11·75	12·74	11·21	10·61	1·5	1·3
2	Assam (including Meghalaya) . .	1·24	1·54	1·21	1·63	1·29	4·4	1·6
3	Bihar	6·90	7·50	5·92	6·56	6·40	1·7	(—)3·0
4	Gujarat . . .	1·85	4·25	1·66	1·87	1·94	18·1	2·4
5	Jammu and Kashmir .	..	..	0·02	0.02	0.02	..	..
6	Haryana . . .	7·00	8·00	6·69	7·92	6·98	2·7	(—)0·1
7	Kerala . . .	0·50	0·80	0·50	0·50	0·38	9·9	(—)12·8
8	Madhya Pradesh .	1·80	2·00	1·42	1·69	1·63	2·1	(—)4·8
9	Maharashtra . .	13·00	20·00	14·28	16·25	16·79	9·0	13·7
10	Mysore . . .	7·50	8·80	9·09	7·71	8·48	3·3	6·3
11	Orissa . . .	2·00	3·00	21·11	2·02	1·92	4·8	1·3
12	Punjab . . .	5·20	6·50	5·15	6·18	5·27	4·6	0·7
13	Rajasthan . . .	0·85	1·10	0·52	0·68	1·21	5·3	19·8
14	Tamil Nadu. . .	8·80	11·00	14·84	11·08	11·44	4·6	14·0
15	Uttar Pradesh . .	51·50	65·75	50·54	60·68	55·66	5·0	4·0
16	West Bengal . .	1·40	1·70	1·18	1·50	1·50	4·0	3·5
17	Nagaland . . .	0·38	0·48	..	..	..	4·8	1·3
18	Union Territories .	0·20	0·32	0·39	0·33	0·33	..	..
19	*total*	**121·02**	**154·49**	**128·26**	**137·83**	**131·94**	**5·0**	**4·4**

ANNEXURE VI

Progress of Consumption of Chemical Fertilisers

(nutrients in million tonnes)

sl. no.	programme	1968-69 achievement	1969-70 target	1969-70 achievement	1970-71 target	1970-71 anticipated achievement	1971-72 target	1971-72 anticipated achievement	Fourth Plan 1973-74 target
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	nitrogenous (N) . .	1·15	1·70	1·36	1·73	1·49	2·00	1·78	3·20
2	phosphatic (P_2O_5) . .	0·39	0·60	0·42	0·56	0·46	0·80	0·64	1·40
3	potassic (K_2O) . .	0·16	0·30	0·21	0·25	0·23	0·40	0·34	0·90

ANNEXURE VII

Targets and Consumption of Chemical Fertilisers—Nitrogenous

(nutrients in thousand tonnes)

sl. no.	state	1968-69 achievement	Fourth Plan target 1973-74	1969-70 achievement	1970-71 anticipated achievement	1971-72 target	1971-72 anticipated achievement	compound annual growth rate (per cent) to achieve Fourth Plan targets	compound annual growth rate (per cent) achievement during the first three years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Andhra Pradesh	218·00	320·00	237·00	207·00	265·00	222·75	8·0	0·7
2	Assam	3·50	17·00	3·50	5·00	7·50	4·50	37·0	8·7
3	Bihar	49·00	200·00	70·40	74·51	125·00	100·20	26·2	29·0
4	Gujarat	67·00	204·00	65·14	105·70	131·00	121·50	24·9	22·0
5	Haryana	40·00	170·00	45·00	60·97	80·00	80·55	33·5	26·2
6	Himachal Pradesh	..	30·00	7·00	3·13	15·00	6·50	..	..
7	Jammu and Kashmir	5·00	15·00	2·75	3·65	8·00	6·64	24·6	9·9
8	Kerala	28·00	60·00	30·00	26·34	45·00	28·50	16·5	0·6
9	Meghalaya	0·50	3·00	0·52	0·83	1·50	n.a.	45·0	n.a.
10	Madhya Pradesh	21·00	120·00	34·20	51·32	72·00	73·00	42·0	50·4
11	Maharashtra	85·00	350·00	92·23	111·24	150·00	128·00	32·6	14·6
12	Mysore	39·00	164·00	87·00	92·50	110·00	108·16	22·7	22·6
13	Nagaland	..	0·40	0·07	0·13	0·18	n.a.	n.a.	n.a.
14	Orissa	20·00	130·00	17·80	20·32	50·00	31·81	45·2	16·9
15	Punjab	135·00	250·00	146·86	174·80	210·00	221·45	13·1	17·9
16	Rajasthan	23·00	110·00	31·40	40·61	60·00	50·00	36·3	29·7
17	Tamil Nadu	113·00	274·00	147·80	165·00	230·00	192·00	19·4	19·4
18	Uttar Pradesh	220·00	550·00	306·00	291·43	410·00	334·84	20·1	15·0
19	West Bengal	32·00	130·00	33·84	46·67	63·00	60·65	32·4	23·8
20	Union Territories	..	13·12	7·46	8·90	10·83	n.a.	..	..
21	*total*	**1145·05**	**3200·00**[1]	**1365·97**	**1490·03**	**2000·00**	**1777·29**	**22·8**	**15·8**

[1] All India target is maintained at 3,200 thousand tonnes although the State targets aggregate to 3,110 thousand tonnes.

ANNEXURE VIII

Targets and Consumption of Chemical Fertilisers—Phosphatic

(nutrients in thousand tonnes)

sl. no.	state	1968-69 achievement	Fourth Plan target 1973-74	1969-70 achievement	1970-71 anticipated achievement	1971-72 target	1971-72 anticipated achievement	compound annual growth rate (per cent) to achieve Fourth Plan target	compound annual growth rate (per cent) achievement during the first three years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Andhra Pradesh	71·00	170·00	63·00	59·00	120·00	77·52	19·1	3·0
2	Assam	2·50	7·00	1·90	2·10	3·00	2·50	22·9	..
3	Bihar	14·00	85·00	26·69	17·68	50·00	33·91	43·3	34·3
4	Gujarat	25·00	76·00	39·00	53·02	49·00	53·84	24·9	29·4
5	Haryana	6·00	35·00	4·77	6·86	15·20	8·97	42·3	14·4
6	Himachal Pradesh	....	12·00	0·50	1·78	0·08	3·65	..	..
7	Jammu and Kashmir	3·00	7·00	0·64	1·30	3·00	1·95	18·5	(—)13·4
8	Kerala	20·00	40·00	20·30	14·18	35·00	14·17	14·9	(—)10·8
9	Meghalaya	0·50	3·00	0·53	0·87	1·70	n.a.	43·1	..
10	Maharashtra	36·00	214·00	30·37	51·97	75·00	74·50	42·9	27·5
11	Madhya Pradesh	9·00	50·00	14·50	25·15	35·00	33·30	40·9	50·9
12	Mysore	25·00	128·00	31·00	37·20	84·00	62·96	38·6	36·1
13	Nagaland	..	0·50	0·01	0·07	0·10	n.a.	..	..
14	Orissa	5·00	50·00	4·77	5·50	20·00	8·41	66·0	18·9
15	Punjab	32·00	100·00	21·03	31·36	50·00	51·42	25·6	17·1
16	Tamil Nadu	35·00	103·00	41·50	54·00	75·00	67·00	24·1	24·2
17	Rajasthan	6·00	30·00	8·20	11·26	16·00	13·60	38·0	31·4
18	Uttar Pradesh	77·00	220·00	98·58	74·51	140·00	115·34	23·4	14·4
19	West Bengal	14·00	60·00	10·89	12·39	25·00	16·70	33·8	6·1
20	Union Territories	..	6·68	2·84	3·82	4·36	n.a.	..	..
21	*total*	**391·00**	**1,397·18**	**421·02**	**464·02**	**800·00**	**639·74**	**29·2**	**17·9**

ANNEXURE I

Targets and Consumption of Chemical Fertilisers—Potassic

(nutrients in thousand tonnes)

sl. no.	state	1968-69 achievement	Fourth Plan target 1973-74	1969-70 achievement	1970-71 anticipated achievement	1971-72 target	1971-72 anticipated achievement	annual compound growth rate (per cent) to achieve Fourth Plan target	annual compound growth rate (per cent) achievement during the first three years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Andhra Pradesh	7·00	115·00	13·00	17·16	20·00	17·93	75·00	36·8
2	Assam	2·97	10·00	1·20	1·55	2·50	1·40	21·1	(—)22·2
3	Bihar	4·00	40·00	12·83	7·04	20·00	12·87	58·5	47·5
4	Gujarat	4·00	20·00	4·20	5·87	7·00	9·14	38·0	31·7
5	Haryana	1·00	15·00	1·66	2·23	6·00	4·11	71·9	60·1
6	Himachal Pradesh	..	6·00	0·20	0·80	3·00	1·43	..	..
7	Jammu and Kashmir	2·00	4·00	0·28	0·34	1·50	0·82	14·9	(—)25·7
8	Kerala	20·00	40·00	21·50	16·14	35·00	17·55	14·9	(—)4·3
9	Meghalaya	0·03	2·25	0·04	0·07	0·15	n.a.	137·1	..
10	Madhya Pradesh	2·00	20·00	2·90	4·10	8·50	6·90	58·5	50·3
11	Maharashtra	6·00	74·00	27·12	36·05	50·00	43·08	65·2	90·7
12	Mysore	12·00	72·00	14·05	26·10	49·00	35·56	43·1	43·3
13	Nagaland	..	0·05	[1]	0·03	0·03	n.a.	..	..
14	Orissa	3·00	30·00	2·96	2·09	10·00	2·68	58·5	(—)3·7
15	Punjab	12·00	50·00	6·17	7·02	26·00	22·52	33·0	23·3
16	Rajasthan	1·00	9·00	1·50	1·85	3·00	5·00	55·2	70·3
17	Tamil Nadu	31·00	67·00	32·80	40·00	60·00	63·00	16·7	26·8
18	Uttar Pradesh	42·00	160·00	54·78	44·61	100·00	79·42	30·0	23·7
19	West Bengal	8·00	50·00	10·73	13·76	20·00	17·66	44·2	30·2
20	Union Territories	..	5·32	1·47	2·83	3·02	n.a.	..	..
21	*total*	**160·00**	**789·62**	**209·39**	**229·64**	**400·00**	**341·79**	**41·3**	**28·8**

[1]below 50 tonnes.

ANNEXURE X

Area covered under Plant Protection Measures[1]

(gross area in lakh hectares)

sl. no.	state/union territory	Fourth Plan 1969-74 target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	114·00	65·67	72·84	85·79
2	Assam	1·70	0·98	1·11	1·50
3	Bihar	40·00	19·63	23·47	81·00
4	Gujarat	8·80	3·86	4·90	5·88
5	Haryana	34·00	17·64	21·70	24·00
6	Jammu and Kashmir	8·00	0·49	0·91	1·65
7	Kerala	14·00	8·40	9·60	10·50
8	Madhya Pradesh	52·80	15·31	16·00	24·00
9	Maharashtra	100·00	82·20	63·00	70·00
10	Meghalaya	0·30	0·06	0·10	0·18
11	Mysore	28·00	21·58	26·77	27·13
12	Nagaland	1·80	0·03	0·06	0·08
13	Orissa	14·00	3·68	6·00	8·50
14	Punjab	36·00	29·00	30·00	32·00
15	Rajasthan	50·00	26·94	29·54	35·00
16	Tamil Nadu	60·00	29·41	45·00	50·00
17	Uttar Pradesh	96·00	55·03	60·75	72·50
18	West Bengal	40·80	11·80	13·39	20·00
19	Andaman and Nicobar Islands	0·07	0·01	0·01	0·01
20	Chandigarh	—	—	—	—
21	Dadra and Nagar Haveli	0·05	[2]	0·02	0·03
22	Delhi	1·21	1·17	0·95	1·10
23	Goa, Daman and Diu	0·37	0·11	0·19	0·23
24	Himachal Pradesh	4·40	1·90	3·88	4·14
25	Laccadive, Minicoy and Amindivi Islands	0·01	[2]	[2]	[2]
26	Manipur	0·60	0·38	0·40	0·48
27	NEFA	0·07	0·03	0·01	0·02
28	Pondicherry	0·46	0·37	0·38	0·40
29	Tripura	3·20	0·50	1·00	1·50
30	*total*	**800·00**[3]	**346·08**	**431·98**	**507·62**

[1]Includes the area under following measures (i) Seed Treatment, (ii) Weed control, (iii) Prophylectic sprayers, (iv) rate control and (v) control of epidemics.

[2]Below 500 hectares.

[3]The State targets aggregate to 705·57 lakh hectares but the all-India target is maintained at 800 lakh hectares.

ANNEXURE XI

Area under High-yielding Varieties of Paddy

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	1580 ·00	522 ·36	598 ·93	900 ·00
2	Assam	328 ·00	101 ·03	148 ·00	196 ·00
3	Bihar	560 ·00	324 ·00	405 ·00	486 ·00
4	Gujarat	122 ·00	28 ·00	81 ·00	89 ·00
5	Haryana	90 ·00	20 ·00	30 ·00	50 ·00
6	Himachal Pradesh	40 ·00	18 ·00	32 ·00	36 ·00
7	Jammu and Kashmir	301 ·00	121 ·00	132 ·00	142 ·00
8	Kerala	530 ·00	239 ·00	283 ·00	400 ·00
9	Madhya Pradesh	645 ·00	209 ·00	220 ·00	300 ·00
10	Maharashtra	400 ·00	185 ·00	214 ·00	285 ·00
11	Meghalaya	15 ·00	1 ·27	1 ·92	6 ·00
12	Mysore	283 ·00	121 ·00	162 ·00	225 ·00
13	Nagaland	3 ·10	0 ·13	0 ·36	1 ·00
14	Orissa	1000 ·00	171 ·00	245 ·00	400 ·00
15	Punjab	243 ·00	61 ·00	101 ·00	250 ·00
16	Rajasthan	60 ·00	10 ·00	16 ·00	30 ·00
17	Tamil Nadu	1639 ·00	1142 ·00	1518 ·00	1575 ·00
18	Uttar Pradesh	1015 ·00	561 ·00	689 ·00	797 ·00
19	West Bengal	1500 ·00	459 ·00	567 ·00	800 ·00
20	Union Territories	81 ·87	47 ·94	57 ·42	68 ·68
21	*total*	**10100 ·00**[1]	**4341 ·73**	**5501 ·63**	**7000 ·00**[2]

[1]The State targets aggregate to about 10 ·5 million hectares but the all-India target is maintained at 10 ·1 million hectares.
[2]The State targets aggregate to 70 ·36 thousand hectares but the all-India target is kept at 7000 thousand hectares.

ANNEXURE XII

Area under High-yielding Varieties of Wheat

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	81 ·00	9 ·86	40 ·47	60 ·00
2	Assam	36 ·00	7 ·16	16 ·00	38 ·00
3	Bihar	840 ·00	437 ·00	567 ·00	728 ·00
4	Gujarat	149 ·00	17 ·00	41 ·00	68 ·00
5	Haryana	820 ·00	440 ·00	600 ·00	640 ·00
6	Himachal Pradesh	80 ·00	60 ·00	68 ·00	72 ·00
7	Jammu and Kashmir	—	41 ·00	61 ·00	81 ·00
8	Kerala	—	—	—	—
9	Madhya Pradesh	526 ·00	149 ·00	220 ·00	280 ·00
10	Maharashtra	400 ·00	152 ·00	202 ·00	263 ·00
11	Meghalaya	2 ·00	0 ·26	0 ·53	0 ·80
12	Mysore	61 ·00	36 ·00	47 ·00	52 ·00
13	Nagaland	—	—	—	—
14	Orissa	24 ·00	7 ·00	10 ·00	12 ·00
15	Punjab	1537 ·00	1418 ·00	1499 ·00	1538 ·00
16	Rajasthan	800 ·00	288 ·00	340 ·00	520 ·00
17	Tamil Nadu	—	—	—	—
18	Uttar Pradesh	2385 ·00	1640 ·00	1863 ·00	2200 ·00
19	West Bengal	600 ·00	174 ·00	283 ·00	400 ·00
20	Union Territories	41 ·16	32 ·23	34 ·39	35 ·83
21	*total*	**7700 ·00**[1]	**4008 ·51**	**5892 ·39**	**6900 ·00**[2]

[1]The State targets aggregate to 8 ·4 million hectares but the all-India target is maintained at 7 ·7 million hectares.
[2]The State targets aggregate to 6974 thousand hectares but the all-India target is kept at 6900 thousand hectares.

ANNEXURE XIII

Area under High-yielding Varieties of Maize

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	60·00	28·10	45·16	45·00
2	Assam	6·00	2·86	3·25	4·00
3	Bihar	120·00	64·00	81·00	101·00
4	Gujarat	48·00	8·00	12·00	19·00
5	Haryana	10·00	12·00	10·00	10·00
6	Himachal Pradesh	60·00	12·00	60·00	60·00
7	Jammu and Kashmir	—	3·07	12·00	14·00
8	Kerala	—	—	—	—
9	Madhya Pradesh	89·00	21·00	21·00	400·00
10	Maharashtra	120·00	8·00	9·00	16·00
11	Meghalaya	5·00	0·31	0·47	3·20
12	Mysore	121·00	81·00	103·00	105·00
13	Nagaland	0·40	0·06	0·04	0·10
14	Orissa	40·00	5·00	10·00	20·00
15	Punjab	81·00	81·00	81·00	40·00
16	Rajasthan	80·00	30·00	24·00	30·00
17	Tamil Nadu	9·00	12·00	9·00	9·00
18	Uttar Pradesh	40·00	81·00	25·00	30·00
19	West Bengal	—	—	—	—
20	Union Territories	4·23	1·67	1·44	1·97
21	*total*	**1200·00[1]**	**451·00**	**507·36**	**500·00[2]**

[1]The State targets aggregate to 0·89 million hectares but the all-India is maintained at 1·20 million hectares.
[2]The State targets aggregate to 548 thousand hectares but the all-India target is kept at 500 thousand hectares.

ANNEXURE XIV

Area under High-yielding Varieties of Jowar

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	280·00	20·48	80·93	120·00
2	Assam	—	—	—	—
3	Bihar	20·00	—	—	—
4	Gujarat	182·00	4·00	6·00	41·00
5	Haryana	—	—	—	—
6	Himachal Pradesh	—	—	—	—
7	Jammu and Kashmir	—	—	—	—
8	Kerala	—	—	—	—
9	Madhya Pradesh	140·00	33·00	48·00	120·00
10	Maharashtra	2000·00	323·00	588·00	728·00
11	Meghalaya	—	—	—	—
12	Mysore	323·00	147·00	182·00	225·00
13	Nagaland	—	—	—	—
14	Orissa	6·00	1·00	2·00	4·00
15	Punjab	—	—	—	—
16	Rajasthan	30·00	9·00	10·00	20·00
17	Tamil Nadu	12·00	10·00	12·00	12·00
18	Uttar Pradesh	8·00	7·00	7·00	7·00
19	West Bengal	—	—	—	—
20	Union Territories	0·48	0·16	0·19	0·28
21	*total*	**3200·00[1]**	**554·64**	936·12	**1200·00[2]**

[1]The State targets aggregate 3·0 million hectares but the all-India target is maintained at 3·2 million hectares.
[2]The State targets aggregate to 1277 thousand hectares but the all-India target is kept at 1200 thousand hectares.

ANNEXURE XV

Area under High-yielding Varieties of Bajra

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	108·00	22·92	72·84	100·00
2	Assam	—	—	—	—
3	Bihar	20·00	—	—	—
4	Gujarat	1174·00	275·00	405·00	559·00
5	Haryana	496·00	130·00	240·00	340·00
6	Himachal Pradesh	—	—	—	—
7	Jammu and Kashmir	—	0·77	1·00	3·60
8	Kerala	—	—	—	—
9	Madhya Pradesh	40·00	9·00	7·00	20·00
10	Maharashtra	641·00	302·00	481·00	728·00
11	Meghalaya	—	—	—	—
12	Mysore	101·00	22·00	55·00	70·00
13	Nagaland	—	—	—	—
14	Orissa	—	—	—	—
15	Punjab	101·00	101·00	101·00	101·00
16	Rajasthan	600·00	191·00	290·00	400·00
17	Tamil Nadu	92·00	69·00	80·00	85·00
18	Uttar Pradesh	24·00	22·00	22·00	26·00
19	West Bengal	—	—	—	—
20	Union Territories	19·98	10·46	13·58	16·02
21	*total*	**2800·00**[1]	**1155·15**	**1768·42**	**2400·00**[2]

[1]The State targets aggregate to 3·49 million hectares but the all-India target is maintained at 2·80 million hectares.

[2]The State targets aggregate to 2448 thousand hectares but the all-India target is kept at 2400 thousand hectares.

ANNEXURE XVI

Total area under High-yielding Varieties of Paddy, Wheat, Maize, Jowar and Bajra

(thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) base year 1968-69	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Andhra Pradesh	267	2181	603·72	838·33	1225·00
2	Assam	68	370	111·05	167·25	230·00
3	Bihar	604	1650	825·00	1053·00	1315·00
4	Gujarat	239	1675	332·00	545·00	776·00
5	Haryana	245	1416	602·00	880·00	1040·00
6	Himachal Pradesh	[3]	180	90·00	160·00	168·00
7	Jammu and Kashmir	158	301	165·77	206·00	240·00
8	Kerala	165	550	239·00	283·00	400·00
9	Madhya Pradesh	263	1440	421·00	516·00	760·00
10	Maharashtra	1007	3561	970·00	1494·00	2020·00
11	Meghalaya	[4]	22	1·84	2·92	10·00
12	Mysore	298	889	407·00	349·00	677·00
13	Nagaland	—	4	0·19	0·40	1·10
14	Orissa	154	1070	184·00	267·00	436·00
15	Punjab	1370	1962	1661·00	1782·00	1929·00
16	Rajasthan	289	1570	528·00	680·00	1000·00
17	Tamil Nadu	693	1752	1233·00	1619·00	1681·00
18	Uttar Pradesh	2949	3472	2311·00	2606·00	3060·00
19	West Bengal	356	2100	633·00	850·00	1200·00
20	Union Territories	75	40	91·94	107·02	122·78
21	*total*	**9200**	**25000**[1]	**11410·31**	**14605·02**	**18000·00**[2]

[1]Targets proposed by the State Government aggregate to 26·00 million hectares but the all-India target has been maintained at 25·00 million hectares.

[2]The State targets aggregate to 18292 thousand hectares but the all-India target is kept at 18000 thousand hectares.

[3]Included under Union Territories.

[4]Included under Assam.

ANNEXURE XVII

Area Under Soil Conservation on Agricultural Lands

(additional area in thousand hectares)

sl. no.	state/union territory	Fourth Plan (1969-74) target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	192·00	46·80	50·00	50·00
2	Assam	30·00	5·00	6·35	6·35
3	Bihar	72·00	16·00	11·53	14·57
4	Gujarat	431·00	103·00	81·00	76·00
5	Haryana	125·00	6·66	27·16	29·30
6	Jammu and Kashmir	4·00	0·04	0·49	1·00
7	Kerala	36·00	3·10	5·40	7·00
8	Madhya Pradesh	900·00	222·00	200·00	200·00
9	Maharashtra	2125·00	403·00	425·00	425·00
10	Meghalaya	8·00	1·12	1·60	2·80
11	Mysore	443·00	110·00	85·00	87·00
12	Nagaland	5·00	—	0·40	1·20
13	Orissa	28·00	13·10	13·90	16·90
14	Punjab	52·00	8·00	8·00	11·00
15	Rajasthan	380·00	25·00	44·00	44·09
16	Tamil Nadu	221·00	47·00	38·40	43·20
17	Uttar Pradesh	1080·00	238·00	240·00	226.00
18	West Bengal	30·00	5·00	5·00	6·C0
19	Andaman and Nicobar Islands	0·04	neg.	neg.	neg.
20	Chandigarh	—	—	—	—
21	Dadra and Nagar Haveli	1·20	0·01	0·07	0·13
22	Delhi	—	—	—	—
23	Goa, Daman and Diu	6·00	0·20	1·40	1·50
24	Himachal Pradesh	9·60	0·96	1·56	1·82
25	Laccadive, Minicoy and Amindivi Islands	—	—	—	—
26	Manipur	2·00	—	0·20	0.40
27	NEFA	1·25	0·04	0·24	0·24
28	Pondicherry	1·42	0·36	0·30	0·30
29	Tripura	1·00	0·07	0·19	0·20
30	*total*	**5650·00[1]**	**1254·46**	**1247·49**	**1251·91**

[1]The State targets aggregate to 6184 thousand hectares but the all-India target is maintained at 5650 thousand hectares.

ANNEXURE XVIII

State-wise Distribution of Direct Advances to Agriculture by the Public Sector Banks as at the end of June 1971

sl. no.	state	no. of accounts	amount outstanding (Rs. crores)	percentage to total amount outstanding
(0)	(1)	(2)	(3)	(4)
1	Andhra Pradesh	107576	21·63	10·47
2	Assam	1589	0·65	0·31
3	Bihar	20521	4·88	2·36
4	Gujarat	69293	27·41	13·27
5	Haryana	7556	3·14	1·52
6	Himachal Pradesh	126	0·07	0·03
7	Jammu and Kashmir	94	0·11	0·05
8	Kerala	46591	9·21	4·46
9	Madhya Pradesh	38262	7·39	3·58
10	Maharashtra	90131	40·63	19·67
11	Mysore	92831	21·13	10·23
12	Nagaland	7	neg.	neg.
13	Orissa	5054	0·73	0·35
14	Punjab	14389	7·37	3·57
15	Rajasthan	23085	8·69	4·21
16	Tamil Nadu	189648	23·43	11·35
17	Uttar Pradesh	65030	17·79	8·62
18	West Bengal	23081	8·08	3·92
19	Union Territories	11286	4·18	2·02
20	*total*	**806150**	**206·52**	**100·00**

ANNEXURE XIX

State-wise Distribution of Schemes sanctioned by the Agricultural Refinance Corporation upto 30 *June* 1971

(Rs. crores)

sl. no.	state/union territory	no. of schemes	total assistance	A.R.C.'s commitment	loans drawn from/ debentures subscribed to by ARC
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	74	40·05	34·16	17·58
2	Assam	9	1·14	1·02	0·73
3	Bihar	8	16·18	13·60	1·93
4	Gujarat	39	22·71	19·54	5·29
5	Haryana	17	18·12	16·20	9·28
6	Jammu and Kashmir	3	1·80	1·35	0·64
7	Kerala	23	6·43	5·24	1·34
8	Madhya Pradesh	19	19·14	17·09	1·70
9	Maharashtra	38	20·26	17·68	7·71
10	Mysore	85	35·95	29·85	7·01
11	Orissa	8	2·00	1·55	0·27
12	Punjab	29	33·23	29·54	18·63
13	Rajasthan	11	7·94	6·97	1·61
14	Tamil Nadu	56	32·13	27·49	9·09
15	Uttar Pradesh	32	33·71	25·66	6·71
16	West Bengal	6	2·09	1·60	0·13
17	Delhi	1	0·12	0·12	0·06
18	*total*	**458**	**293·00**	**248·66**	**89·71**

ANNEXURE XX

Fourth Five Year Plan—Progress of Storage-owned Capacity

(lakh tonnes)

sl. no.	agency	at the end of 1968-69	Fourth Plan target	achievement 1969-70	anticipated achievement 1970-71
(0)	(1)	(2)	(3)	(4)	(5)
1	Food Corporation of India	26·20	34·00	3·62	7·28
2	State Governments	14·00	—	—	
3	Central Warehousing Corporation	6·50	10·00	1·09	0·60
4	State Warehousing Corporation	2·30			
5	Cooperatives	26·00	20·00	1·80	2·00
6	Department of Agriculture	—	1·00	—	—
7	*total*	**75·00**	**65.00**	**6·51**	**9·88**

ANNEXURE XXI

Outlays and Expenditure—States and Union Territories

(Rs. lakhs)

sl. no.	state/union territory	1969-74 Fourth Plan outlay	1969-70 approved outlay	1969-70 actual expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	1969-71 col. (4+6)	1969-71 percentage of Fourth Plan outlay	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*States*	**141110**	**21469**	**22361**	**24589**	**27110**	**49471**	**35·1**	**28106**
2	Andhra Pradesh	7165	1105	1115	1294	1328	2445	34·1	1502
3	Assam	4945	831	635	1152	965	1600	32·4	958
4	Bihar	11290	1710	1290	1731	1768	3058	27·1	1957
5	Gujarat	8023	1300	1520	1415	1497	3017	37·5	1491
6	Haryana	3910	394	465	577	764	1229	31·4	772
7	Jammu and Kashmir	3475	514	421	567	557	978	28·1	591
8	Kerala	5804	880	811	972	1156	1967	33·9	1360
9	Madhya Pradesh	10225	1565	1734	2018	2305	4039	39·5	2499
10	Maharashtra	20635	2748	3669	3686	4205	7874	38·2	4069
11	Mysore	9390	1775	1773	1901	2043	3816	40·6	1857
12	Nagaland	849	122	91	149	148	239	28·8	167
13	Orissa	5050	691	649	772	791	1440	28·5	1037
14	Punjab	5720	675	593	859	1157	1750	30·6	1224
15	Rajasthan	3240	483	501	602	657	1158	35·7	707
16	Tamil Nadu	11350	1685	1844	1572	1875	3719	32·8	1832
17	Uttar Pradesh	22135	3824	4039	4022	4313	8343	37·7	4783
18	West Bengal	6866	1167	1076	1300	1431	2507	36·5	1129
19	Meghalaya	1038		142		150	292	28·1	171
20	***Union Territories***	**7158**	**1165**	**929**	**1250**	**1224**	**2153**	**30·1**	**1394**
21	Andaman and Nicobar Islands	158	33	22	32	29	51	32·3	31
22	Chandigarh	31	5	2	10	10	12	38·7	13
23	Dadra and Nagar Haveli	92	16	10	16	20	30	32·6	18
24	Delhi	354	79	66	86	77	143	40·1	65
25	Goa, Daman and Diu	1033	193	168	200	200	376	36·4	221
26	Himachal Pradesh	3375	496	422	500	399	921	27·3	572
27	Laccadive, Minicoy Islands	116	25	18	25	25	43	37·1	29
28	Manipur	407	63	30	77	70	108	26·5	73
29	NEFA	497	75	65	92	92	157	31·6	109
30	Pondicherry	338	71	68	81	62	130	38·5	74
31	Tripura	757	109	59	131	132	182	24·0	189
32	*total*	**148268**	**22634**	**23290**	**25839**	**28334**	**51624**	**34·8**	**29500**

ANNEXURE XXII

Progress of Crop Production and Selected Programmes

sl. no.	item	unit	1968-69 actual	1969-70 actual	1970-71 anticipated	1971-72 target	1973-74 target
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	foodgrains	million tonnes	94·00	99·50	107·82	112·00	129·00
2	cotton[1]	lakh bales	51·4	52·6	45·56	65·00	80·00
3	jute[1]	lakh bales	29·3	56·6	49·05	64·00	74·00
4	oil seeds	lakh tonnes	68·5	77·34	91·87	95·00	105·00
5	sugarcane (gur)	lakh tonnes	128·3	137·83	131·94	132·00	150·00
	high yielding varieties programmes						
6	paddy	million hectares	2·63	4·34	5·50	7·00	10·10
7	wheat	million hectares	4·79	4·91	5·09	6·90	7·70
8	maize	million hectares	0·79	0·45	0·51	0·50	1·20
9	jowar	million hectares	0·69	0·55	0·94	1·20	3·20
10	bajra	million hectares	0·75	1·16	1·77	2·40	2·80
11	total—HYVP	million hectares	9·25	11·41	11·61	18·00	25·00
12	multiple cropping[1]	million hectares	—	1·52	1·59	1·90	9·00
	consumption of chemical fertilisers						
13	nitrogenous (N)	million tonnes	1·14	1·36	1·49	2·00	3·20
14	phosphatic (P_2O_5)	million tonnes	0·39	0·42	0·46	0·80	1·40
15	potassic (K_2O_2)	million tonnes	0·16	0·21	0·23	0·40	0·90
16	plant protection	million hectares	27·80	34·61	43·20	50·00	80·0
17	minor irrigation	million hectares	1·37	1·21	1·47	1·60	7·2
18	soil conservation on agricultural lands	million hectares	1·44	1·25	1·25	1·25	5·65

[1] Bale of 180 kgs. each.

CHAPTER 11

ANIMAL HUSBANDRY, DAIRYING, FISHERIES AND FORESTS

I. ANIMAL HUSBANDRY

THE Fourth Plan aims at increasing the supply of protective foods like milk, milk products, meat and eggs and at improving the output of certain animal products of commercial importance, such as wool, hides, skins etc. It is also one of the principal endeavours of the Plan to help ensure that animal husbandry programmes strengthen the economy of sub-marginal farmers and agricultural labour. The Plan aims at increasing milk production from 21·2 million in 1968-69 to 25·86 million tonnes, wool from 37·60 to 41·50 million kgs and eggs from 5,300 to 8,000 million numbers by 1973-74. These targets are planned to be achieved through the programmes for cattle development, sheep development and the development of poultry and piggery.

Cattle Development

2. Among the programmes for cattle development, the most important one relates to Intensive Cattle Development Projects which are tied up with major dairy plants The Fourth Plan envisaged the establishment of 37 new projects against which 16 were initiated during the first two years. It is proposed to set up 10 additional ICD projects uring 1971-72. The number of breedable population of cows and buffaloes being covered under the programmes is indicated below:

TABLE 1: *Targets and Actuals covered Population of Breedable Cows and Buffaloes*

year	no. of I.C.D. projects (cumulative)	breedable population (lakhs)	targeted coverage (lakhs)	actually covered (lakhs)
(1)	(2)	(3)	(4)	(5)
1968-69	30	37·31	14·92	7·07 (49%)
1969-70	40	42·38	16·94	11·12 (65·8%)
1970-71	46	48·38		
1971-72	56[1]	54·38		

[1] target.

It will be seen that coverage has increased from 49% in 1968-69 to 65.8% in 1969-70 on the basis of the fact that normally about 40% of the breedable population should be covered. Even so, there is still a long way to achieve the targetted coverage. The position is the same with regard to most of the technical inputs. It will be seen from Annexure I that in many States unless the provision of technical inputs is stepped up, there is going to be considerable dilution of inputs in ICD programme.

3. During the Plan, it is proposed to set up 91 key village blocks within the hinterland of certain medium sized milk supply schemes. During the first two years, 35 such blocks are likely to be established and it is proposed to take up another 18 blocks during 1971-72. At Annexure II is a statement indicating the State-wise progress. A shortfall in achievement of Fourth Plan targets is likely to occur in Andhra Pradesh, Kerala and Tamil Nadu unless in the later period, the tempo is substantially increased.

4. One of the programmes which has been lagging behind so far relates to the progeny testing of bulls which is considered one of the most important programmes under animal husbandry. The Fourth Plan envisages the establishment of 10 units for the purpose. During the first two years of the Plan, the programme was not implemented. It is, however, contemplated that, in 1971-72, progeny testing programme will be initiated in six units. It will be necessary to accelerate the pace of implementation of these programmes in the remaining period of the Plan.

5. For scientific breeding, the Plan envisages the expansion of the existing Jersey cattle breeding farm at Hessarghatta and the establishment of six additional cattle farms. Of these, three, namely Chiplima (Orissa) for Red Sindhi, Suratgarh (Rajasthan) for Tharparkar and Ankleswar (Gujarat) for Surti buffaloes, were sanctioned prior to the Fourth Plan. During 1970-71, two additional farms, one at Koraput (Orissa) for Jersey aud the other at Alamadhi (Tamil Nadu) for Murrah buffaloes, were sanctioned. The site for locating the sixth farm for Holstein-friesian is yet to be finalised. The progress under this scheme has been rather slow due to several reasons such as delay in construction and dearth of animals of the desired standard of the specified breeds. Unless the rate of progress is considerably improved during the second half of the Plan, the establishment of the farms will spill-over to Fifth Plan.

Feed and Fodder Development

6. The programme of fodder seed production has been lagging behind. So far, work has been initiated in respect of only four farms

during the first two years against the Plan target of 23. It is expected that work during 1971-72 will be accelerated as 11 farms are to be taken up. In the Central Sector, the Plan envisages seven regional forage demonstration stations, the main objective being to evolve a fodder calendar suitable to the various regions and to demonstrate the economics of fodder crop cultivation. In addition, the aim is to produce high quality foundation seeds of important forage crops for further multiplication and distribution. Three centres were set up at Kalyani (West Bengal), Hissar (Haryana) and Ankleswar (Gujarat) during the first two years. With a view to accelerating the progress, the establishment of the remaining four stations at Alamadhi (Tamil Nadu), Mamidipally (Andhra Pradesh), Suratgarh (Rajasthan) and Daksum (Jammu & Kashmir) has been taken up during 1971-72. A statement indicating the progress under fodder seed production farms is at Annexure III.

Sheep Development

7. The progress in regard to the establishment of new sheep breeding farms under the State Plan Sector, is according to schedule as work has already been initiated in respect of all the 11 farms proposed in the Fourth Plan as will be observed from Annexure IV. Progress in regard to the sheep breeding farms in the Central sector has, however, not been satisfactory. Reorganisation work of the State sheep breeding farms has been progressing well.

8. Progress on the setting up of new sheep and wool extension centres has been poor and a large shortfall is likely to occur by the end of the Plan period (Annexure VI). In the case of the expansion of the existing sheep and wool extension centres there has been an encouraging tempo in 1971-72. If the tempo of progress as proposed in 1971-72, is maintained during the subsequent years, the Plan target may be achieved.

9. Sheep shearing, wool grading and marketing centres constitute one of the most important programmes under sheep development as it aims at making available large quantities of quality wool to the industry and assuring better price to the sheep breeders. The programme was first taken up in Rajasthan and on the basis of experience gained, it was proposed to extend to 9 other states in the Fourth Plan. During the first two years, three centres have come up in Jammu and Kashmir, Punjab and Haryana although the work was initiated at eight centres. During 1971-72, only one centre in Gujarat has been proposed. From the trend of progress it appears that the Plan target may be achieved in all the States except Maharashtra. Progress in respect of this scheme is indicated in Annexure VIII.

10. Against the Plan target of 33 intensive egg and poultry production-cum-marketing centres, 14 centres were taken up in the first two years of the Plan and four more are proposed during the year 1971-72, one each in the States of Andhra Pradesh, Assam, Mysore and West Bengal (Annexure IX gives the progress of intensive egg and poultry production-cum-marketing centres). At this rate, the Plan target will not be fully accomplished as some of these may spill over to the next Plan. It may be pertinent to point out that this programme is of considerable importance in increasing the production of eggs and poultry. Hence in the remaining Plan period, it will be necessary to give special emphasis to this programme. It will also be necessary to develop a cooperative system for making orderly marketing arrangements in various terminal markets of Delhi, Bombay, Calcutta and Madras.

11. In the Central sector, there are two programmes namely, coordinated poultry breeding programme and the in-service training institute, Hessarghatta. Progress in the first case is good while the second is lagging behind schedule.

Piggery Development

12. Of the seven bacon factories envisaged three have been commissioned. Three more are in advance stage of completion and one is lagging behind a little. However, they will not be able to attain their targetted capacity within the Plan period due to the non-availability of sufficient number of pigs. During the remaining Plan period, considerable attention will have to be paid towards piggery development work in the hinterland of the bacon factories. Two pork processing plants are also envisaged in the Plan. The construction pork in respect of the work processing plant in Punjab is getting completed but the one at Kalimpong (West Bengal) is lagging behind.

Animal Health

13. While the progress has been very poor in setting up the five animal quarantine and certification stations, the programme for rinderpest eradication has made real headway. Pace of setting up veterinary hospitals and dispensaries as well as the upgrading of dispensaries calls for special attention. So also the programme of strengthening the biological laboratories need acceleration. A new scheme for the establishment of the central foot and mouth virus vaccine laboratory at Bangalore has recently been sanctioned.

Research

14. In all, there are 25 research schemes under animal husbandry including two central institutes, namely, Indian Veterinary Research Institute, Izatnagar (UP) and the Central Sheep and Wool Research Institute, Malpura (Rajasthan). A Plan provision of Rs. 14·19 crores has been provided for all the research schemes.

During the first two years Rs. 1·24 crores are likely to be spent which works out to 8·7%. Thus the over all progress has been poor. It may be pointed out that out of 18 new research projects proposed in the Fourth Plan, as many as 17 could not take off the ground in the first year and four could not be taken up during the second year as well. There is thus a pressing need for concentrated attention being given to research schemes of animal husbandry in the second half of the Plan.

Progress of Plan Expenditure

15. In the Plan Rs. 93.57 crores have been provided for the development of Animal Husbandry. Of this, Rs. 75·82 crores are for the Plan schemes of the various States and Union Territories. The progress of expenditure under State Plans so far is as under:

TABLE 2: *Outlay and Expenditure on Animal Husbandry under State Plan Schemes*

(Rs. crores)

year	approved plan outlay	actual/ anticipated expenditure
(1)	(2)	(3)
1969-70 . .	10·19	7·77
1970-71 . .	11·97	12·04
1971-72 . .	14·49	

It will be seen that the expenditure in the first year was not satisfactory but, in the second year, the expenditure exceeded the Annual Plan Outlay. The total expenditure incurred during the two years taken together was, however, only 26·12% of the Fourth Plan outlay. This indicates that the pace of plan implementation has been rather low. Annexure XI indicates the position in different states. The progress of plan expenditure in Maharashtra and Tamil Nadu was particularly poor.

16. An outlay of Rs. 17·75 crores was provided in the Plan for the Central and Centrally sponsored schemes. During the first two years of the Plan, the expenditure on all these schemes taken together was Rs. 2.78 crores i.e. only 15·6% of the Plan outlay, an obviously poor performance. Out of total of 23 schemes, as many as seven schemes were not taken up for implementation in the first year of the Plan. Even in the second year, no expenditure was incurred in regard to five schemes. The rate of utilisation in connection with the implementation of most of the remaining schemes has also been slow. In view of this, it is expected that there will be a large shortfall under most of the schemes.

II. DAIRYING AND MILK SUPPLY

17. One of the principal tasks in the Fourth Plan is to review the working of the milk supply projects and to take corrective measures, including changes in the milk pricing policy and introduction of modern management practices The Plan also aims at the extension of the organised sector of dairy industry to smaller town with emphasis of milk production in the rural areas. It has been specifically stated that the first priority will be to complete the dairy schemes numbering 35 which spilled-over from the earlier period and that organised dairy industry will be extended by taking up 41 new schemes in towns with a population of about 50,000. Eleven milk-product factories including creameries are proposed to be established. In addition, 43 rural dairy centres are also to be organised in areas with a population of less than 50,000 for providing chilling and marketing facilities in isolated pockets of milk production.

New Milk Plants

18. Five States, namely, Bihar, Gujarat, Haryana, Madhya Pradesh and Punjab did not take any action in regard to setting up of new milk plants during the first two years of the Plan period. Even in the third year, excepting Madhya Pradesh, none of the States mentioned above have proposed any action in this regard. Out of Plan target of 41 new milk supply schemes, only 16 have been initated during the first two years. So far, only two milk plants in Pondicherry and Goa (Ponda) have been commissioned. At this rate, it is apparent that the Plan target will not be achieved. Hence acceleration of programme in remaining Plan period is called for. At Annexure XII is a statement showing the progress pertaining to new milk supply schemes proposed in the Plan.

19. Out of 35 milk plants which spilled over to the Plan, work was taken up in 23 milk plants during the first two years of the Plan and 7 more have been proposed during 1971-72. However, only 15 schemes namely those at Rajamundry, Chittoor, Kottayam, Indore, Jabalpur, Gwalior, Nagpur, Sholapur, Kanpur, Mathura, Gorakhpur, Jammu, Belgaum, Mangalore and Gulbarga have been commissioned so far. Four more namely Mandi, Durgapur, Davangere and Imphal are likely to be commissioned during 1971-72. Thus only 19 milk plants out of 35 would be completed, in the first three years of the Plan period. This indicates that the States did not give this programme sufficient priority. It is necessary that in the remaining Plan period, the foremost attention is given towards commissioning of the spill-over milk plants. At Annexure XIII is a statement indicating the progress of spill-over milk supply schemes.

Expansion of Existing Milk Plants

20. At Annexure XIV is a statement indicating the progress relating to expansion of existing milk schemes. It will be observed that action has already been taken for the expansion of 14 milk supply schemes, 7 more are proposed to be taken up in 1971-72 against the Plan target

of 23. It is expected that the Plan target in respect of this item of work will be fully achieved.

21. The Fourth Plan envisages 17 milk plants being taken up for consolidation since their throughput was far below their installed capacity. During the first two years, six milk plants, were taken up in four States for consolidation and stabilisation. During 1971-72, 10 plants have been proposed. In view of this, it is expected that the Plan target will be accomplished.

Milk Product Factories/Creameries

22. In the Plan, it is proposed to set up 11 milk product factories and creameries. During the first two years, only two plants were taken up and five more have been proposed in the year 1971-72. However, so far, only the Creamery at Garampani (Assam) has been commissioned. From the trend of progress it appears that two new milk product factories one each at Bhiwani (Haryana) and Bhatinda (Punjab) would be commissioned within the Plan period. As regards spill over milk product factories, it was proposed to commission seven plants during the Plan period. Of these, four have already been taken up during the first two years and the remaining three are proposed during 1971-72. Of these four at Vijayawada (Andhra Pradesh), Jind (Haryana), Moradabad (Uttar Pradesh) and Miraj (Maharashtra) have been commissioned.

Rural Dairy Centres

23. The Plan contemplates the establishment of 43 rural dairy centres. This programme has not been progressing satisfactorily. Up to the end of 1970-71, only 10 centres were taken up for implementation. During 1971-72, it is contemplated that this programme will be accelerated so as to set up nine more centres. The Plan target may not be accomplished unless special efforts are made in the subsequent years. At Annexure XV is a statement indicating the progress under rural dairy centres.

Delhi Milk Scheme

24. The first phase of the expansion of the central dairy plant from 2·55 lakh litres to 3 lakh litres capacity of milk has been completed, the second phase of increasing to 4·35 lakh litres of milk would be taken up during 1971-72. It is estimated that an additional sum of Rs. 80 lakhs would be required over and above the Plan outlay of Rs. 2·25 crores for the expansion programme.

Indian Dairy Corporation

25. The most important central sector scheme relating to dairy development is the outcome of an agreement signed in March 1970 between the Government of India and the World Food Programme for the supply of skimmed milk powder and butter oil. The Indian Dairy Corporation which has been set up in pursuance of this agreement is expected to sell the donated commodities to public sector milk plants and generate funds of the order of about Rs. 95 crores over a period of five years. These funds are intended to be utilised for expanding the existing capacity of the dairies at Delhi, Madras, Calcutta and Bombay and for undertaking programmes for increasing milk production in the hinterland which comprises areas in 10 States and one Union Territory. The scheme actually went into operation in July 1970. While in the first year of the project it was expected that funds of the order of Rs. 7·81 crores would be generated, the funds actually generated by Indian Dairy Corporation were only Rs. 3·87 crores. It is expected that, in the subsequent years this programme would pick up momentum. For 1971-72, the estimate of funds to be generated is placed at Rs. 20·70 crores. Since this programme is still in the initial stages, it is too early to assess the progress of the scheme. However, it is crucial that, during the remaining Plan period, this project is implemented according to schedule as it is capable of having a decisive impact on dairy development activities in a substantial part of the country.

Research

26. In the Plan an outlay of Rs. 2·74 crores has been provided for undertaking research in dairy science. During the first two years a sum of Rs. 0·60 crores is estimated to have been spent. The research programme consists of the expansion of central institute, namely, National Dairy Research Institute at Karnal and the implementation of four all-India Coordinated Research Projects on Dairying. The progress under the Central Institute is satisfactory but the all-India coordinated research projects are lagging behind. None of these research projects were initiated in the first year. During the second year a sum of Rs. 3·86 lakhs is likely to be spent against the Plan allocation of Rs. 99 lakhs. A sum of Rs. 11·43 lakhs is proposed for the year 1971-72. It is necessary that in the second half of the Plan, increased stress is laid on accelerating the pace of implementation of these schemes.

Progress of Plan Expenditure

27. Rs. 141·49 crores have been provided for the dairy development programmes. Of this Rs. 43·84 crores is the provision for the Plan schemes of various States and Union Territories. The progress of expenditure so far is as follows:

TABLE 3: *Outlay and Expenditure on Dairy Development*

(Rs. crores)

year	approved plan outlay	actual/ anticipated expenditure
(1)	(2)	(3)
1969-70 . .	7·68	5·90
1970-71 . .	7·53	7·50
1971-72 . .	9·93	

It will be observed that the expenditure in the first year for all the States taken together, was not satisfactory, but, in the second year, the expenditure was more or less of the same order as the approved outlay. Annexure XVI indicates the position in different States. The rate of Plan expenditure in Rajsthan and Meghalaya will be found to be particularly poor.

28. An outlay of Rs. 97·65 crores has been provided for two central schemes, namely, Delhi Milk Scheme and Milk Marketing and Dairy Development (Operation Flood). During the first two years of the Plan, the expenditure on both the schemes taken together was Rs. 3·59 crores. In the case of Delhi Milk Scheme, the progress has been quite satisfactory and it is expected that they may need more funds to the tune of Rs. 80 lakhs over and above the approved Fourth Plan outlay. As regards the second scheme, namely, Milk Marketing and Dairy Development, the progress has been very limited as the scheme has recently been started.

III. Fisheries

29. Originally, the base-level of fish production was estimated at 15 lakh tonnes against which the Fourth Plan target was fixed at 19·00 lakh tonnes. In May 1970, these figures were, however, revised to 17·69 lakh tonnes and 24·10 lakh tonnes respectively as a result of a review by the State Govts. and the Deptt. of Agriculture. These figures imply a compound growth rate of 6·4% per annum. The net increase in fish production during the first two years of the Plan is, however, estimated at 2·05 lakh tonnes only i.e., a compound growth rate of 5·6% per annum.

30. A statement showing the base-level and the Fourth Plan target along with the actual production of 1969-70, and anticipated production of 1970-71 is given at Annexure XVII. The uneveness in performance among different States is quite glaring. While the States, like Jammu and Kashmir, Mysore and Maharashtra have more than accomplished the Fourth Plan target by the end of the second year of the Plan, several other States are lagging behind and will need to put in greater efforts in this direction in the subsequent Plan period.

Inland Fisheries

31. For the development of inland fisheries, there are a number of inter-connected programmes in the State Plan Sector. These programmes relate to the production of spawn, distribution of fry and fingerlings and expansion of nursery area for seed production. The table 4 indicates Plan target, the achievement in first two years of the Plan and the target for the year 1971-72.

Table 4: *Targets and Achievements of Inland Fisheries Programmes*

sl. no		unit	Fourth Plan targets	achievements in the first two years of the plan	target 1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	production and distribution of fry and fingerlings	million	629	235	192
2	collection/production of spawn	million	3165	850	841
3	nursery area	hectares	1153	431	408

It will be seen that the progress during the first two years is not quite satisfactory, especially in regard to the programme of fish seed production. Efforts will have to be made to boost the various programmes in the coming years of the Plan. The State-wise break-up of the programmes indicated above is given at Annexures XVIII, XIX and XX.

32. In some of the States (e.g. Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Tamil Nadu and Gujarat), production oriented schemes in selected reservoirs have been taken up. There are nearly 800 reservoirs in the country with a water-spread area of 16 lakh hectares. The schemes, under implementation, aim at survey, timely stocking operation and judicious exploitation. In most of the States, organisation for the collection of accurate data of exploited population from reservoirs has not yet been built up.

33. In Kerala and West Bengal, a programme for brackish water fish farming in reclaimed swamps is also envisaged in the Plan. Except for covering an area of 10·82 hectares in Kerala during 1969-70, so far no significant progress has been made during this period. Evidently, much remains to be done in this direction.

Marine Fisheries

34. The programmes of mechanisation of boats is the sheetanchor of marine fisheries development. Under the Fourth Plan, the overall target is introduction of 5100 mechanised boats. The progress during the first two years of the Plan is inadequate as only 1529 boats have been mechanised. During 1971-72, it is proposed to introduce 1020 boats. Of these maximum number would be in Kerala followed by Tamil Nadu, Mysore, Gujarat and Maharashtra. The State-wise break-up of the target and achievement for mechanisation of boats is given at Annexure XXI. It will be observed that except for Mysore, all other maritime States are quite behind the schedule and, at this rate, these

States may not be able to achieve the target earmarked for the Fourth Plan. It is disturbing to note that some of the States are still relying largely on subsidising this programme and have not taken effective measures to avail of institutional credit.

Deep Sea Fishing

35. In the marine sector, off-shore and deep sea fishing has so far failed to receive adequate attention in view of the non-availability of requisite number of fishing trawlers, insufficient facilities of storage and distribution and lacken of information on fishing grounds. One of the programmes envisaged in the Fourth Plan related to introduction of 300 fishing trawlers with financial subsidy towards the cost of such trawlers. This programme, however, has not been making much progress. So far, the two consortia of Indian Ship builders have been given an order for manufacturing 40 fishing vessels. It is expected that 26 vessels will be delivered during 1971-72. Deep sea fishing station has acquired six indigenously constructed 57 ft. vessels and one 105 ft. vessel imported from German Democratic Republic during 1970-71. In addition to the existing sub-stations for deep sea and off-shore exploration located at Bombay, Cochin, Tuticorin, Visakhapatnam three new stations, namely, Kandla, Calcutta and Port Blair will have also become functional in 1971-72.

A scheme for investigation of pelagic fisheries on the South-West Coast started functioning from October 1970, at Cochin. Under this scheme, resources of Sardines and Mackeral will be surveyed.

Fishing Harbours

36. The Plan visualises the provision of landing and berthing facilities for fishing vessels both at major and minor harbours. The former is a central sector project while the latter is in the centrally sponsored sector. For the development of major ports, against an allocation of Rs. 1350 lakhs, only a sum of Rs. 29·00 lakhs is reported to have been utilised by the end of 1970-71. This presents a rather disquieting picture. The major port of Madras, which was sanctioned in 1968, has yet to make adequate progress. Although the development of Bombay port was sanctioned in 1969, the work has been taken up in this port hardly few months ago. In addition, sanction has recently been issued for a fishing harbour at Roychowk, while in the case of Cochin, the sanction is still to issue. In case of Paradeep and Visakhapatnam, even the project reports have not been prepared. If the major fisheries harbours are to make their contribution to the development of marine fisheries, their pace of construction will have to be considerably accelerated in the remaining Plan period.

37. The Plan provides for an outlay of Rs. 600 lakhs for the development of minor ports under the centrally sponsored sector. Against this, during the first two years, a sum of Rs. 230 lakhs, amounting to 38.3 per cent of the Plan outlay, will be utilised. The scheme appears to have gathered momentum and the indications are that the pace of expenditure will be stepped up. Besides, the UNDP Fishing Harbour Preinvestment Survey Project is preparing plans and estimates for fishing harbours in various States. So far, seven harbours have been surveyed.

Marketing, Processing and Storage

38. One of the serious handicaps in the development of fisheries is the absence of a proper marketing system, inadequacy of cold storages, ice plants and refrigerated rail vans. During the Plan, it is proposed to set up 10 composite plants, 73 ice factories and cold storages, and introduce 20 refrigerated rail vans. The progress made is generally satisfactory. By the end of 1970-71, 15 cold storages, 13 ice plants and 5 frozen storages were set up. In addition, work was in progress for the erection of 26 ice plants, 24 cold storages, 7 freezing plants and 8 frozen storages.

39. The programme of introducing refrigerated rail vans has made very slow progress. Against the Plan outlay of Rs. 100 lakhs, only a sum of Rs. 12.16 lakhs could be utilised by the end of the second year. Against a target of 20 refrigerated rail vans, no van was constructed by the end of 1970-71. The refrigerated rail vans service introduced in 1960 continued to operate between Palasa-Howrah, Calicut-Madras and Veraval-Delhi routes. It is expected that six rail vans will be available for a new service between Delhi and Calcutta by the end of 1971-72.

40. Under fisheries research, the Fourth Plan envisages the expansion and strengthening of three Fisheries Research Institutes, namely Central Inland Fisheries Research Institute, Barrackpore, Central Marine Fisheries Research Institute, Mandapam and Central Fisheries Technological Research Institute, Ernakulam and implementation of seven all-India coordinated research projects. For the central research institutes, the Fourth Plan provided an outlay of Rs. 320 lakhs against which a sum of only Rs. 29.45 lakhs was utilised during the first two years of the Plan. This is indicative of the very poor rate of utilisation of Plan funds earmarked for these institutes.

41. There are seven all-India coordinated research projects included in the Fourth Plan based on multi-disciplinary approach for effective utilisation of available resources to tackle the various important problems facing the fishing industry. Unfortunately, these objectives are not likely to be achieved as the progress under these schemes is more or less nil. None of them has taken off the ground in the first two years of the Plan. At Annexure XXII is a statement indicating the financial progress of the research schemes in the Fisheries Sector.

42. The Plan provides an allocation of Rs. 83 crores for the development of fisheries. Out of this a sum of Rs. 48.71 crores has been ear-marked for the States and Union Territories. Against this provision the progress of expenditure so far has been as follows :

TABLE 5 : *Outlay and Expenditure on Fisheries under State Plan Schemes*

(Rs. crores)

year	approved plan outlay	actual/ anticipated expenditure
(1)	(2)	(3)
1969-70 . .	7.12	5·53
1970-71 . .	8·57	8·89
1971-72 . .	9·92	

In the first two years taken together, the utilisation works out to 29.6% of the Plan outlay. The position, however, is rather uneven between different states, vide Annexure 23, in some States like Jammu and Kashmir, Himachal Pradesh, Haryana, Maharashtra and Orissa, the progress is poor.

43. A provision of Rs. 34·00 crores has been earmarked in the Plan for Central and Centrally sponsored schemes of Fisheries Development. During the first two years of the Plan, the likely expenditure works out to Rs. 5.07 crores, i.e. only 14.9% of the Plan outlay. This presents a very unsatisfactory picture. A number of schemes have not yet been taken up for implementation. Another disturbing factor is that some of the high priority schemes (*e.g.* development of major harbours, introduction of fishing trawlers, refrigerated rail vans, pilot scheme for development of fisheries in Sunderbans, etc.) have not so far made any significant progress. It will be necessary to pay more attention to these schemes in the remaining Plan period.

IV. FORESTS

The main objectives of the Plan are to increase the protectivity of forests, to link up forest development with various forest-based industries and to develop forests as a support to rural economy.

Plantation Schemes

44. By far the most important schemes relate to raising of plantations of quick growing species, and economic plantations for industrial and commercial uses. These two schemes account for about 40 per cent of the outlay under State Plan Sector. The physical targets for the Fourth-Five Year Plan, the achievements for 1969-70 and 1970-71 and also targets for 1971-72 of these schemes are as follows :

TABLE 6 : *Targets and Achievements for Plantation Schemes*

(thousand hectares)

sl. no.	scheme	targets for the Fourth Plan	achievements for 1969-70	anticipated achievements for 1970-71	targets for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	Plantations of quick growing species	284·00	46·34	45·27	49·66
2	Economic plantations for Industrial and commercial uses	339·00	45·24	47·50	59·70

It would be seen that the pace of these programmes would have to be accelerated if the Fourth Plan targets are to be achieved. In certain States specific problems have risen. For example, in Kerala, the plantations of quick growing species (Eucalyptus) already raised showing signs of damage by fungus attack and as such the pace has been slowed. Such problems need to be expeditiously tackled. Further, it is necessary that there is a critical review of the actual achievement not only in terms of area coverage but the actual volume growth per hectare as against the minimum norm of 10 cubic metres per hectare per annum for quick growing species. The physical targets and achievements for these schemes in different States and Union Territories are indicated in Annexure XXIV and XXV.

Farm Forestry

45. The Plan laid considerable emphasis on Farm Forestry programmes. It was envisaged that concerted action for management of land resources lying between forests and areable lands will be planned and implemented by the Forest Revenue, Agriculture and Animal Husbandry Departments in co-operation with Village Panchayats and Zila Parishads. The physical targets and achievements during the years 1969-70, 1970-71 together with targets for 1971-72 are as follows :

TABLE 7 : *Targets and Achievements for Farm Forestry*

(thousand hectares)

targets for the Fourth Plan	achievements for 1969-70	anticipated achievements for 1970-71	targets for 1971-72
(1)	(2)	(3)	(4)
75·00	10·52	10·75	12·47

The physical achievements under this programme have been poor and will have to be consi-considerably accelerated in order that the Plan targets are fully achieved. The programme has a special importance in the plains districts of U.P. and Bihar, and in the coastal areas of Orissa were special efforts for this are needed. The State-wise break-up of physical targets and achievements is given in Annexure XVI.

Forest Communications

46. The physical achievements during the year 1969-70, 1970-71 and targets for 1971-72 are given below :

TABLE 8 : *Targets and Achievements for Forest Communication*

(thousand kms.)

targets for the Fourth Plan 1969-74	physical achievements for 1969-70	physical targets for 1970-71	anticipated achievements for 1970-71	targets for 1971-72
(1)	(2)	(3)	(4)	(5)
11·06	0·69	0·83	1·15	1·4

It would be seen that the progress under this scheme has not been satisfactory and special steps will have to be taken in the final two years of the Plan to fulfil the rather modest Fourth Plan targets. The State-wise break-up is at Annexure XXVII.

47. The Plan laid great stress on the management of wild life in our National Parks and Sanctuaries and in preserving our flora and fauna. The progress of expenditure under this programme has been as follows :

TABLE 9 : *Outlay and Expenditure for Wild Life Management*

(Rs. lakhs)

Fourth Plan outlay 1969-74	actual expenditure 1969-70	anticipated expenditure 1970-71	proposed outlay 1971-72	total of cols 2 to 4 (1969-74)
(1)	(2)	(3)	(4)	(5)
352·18	58·37	70·60	96·89	225·86

The pace of expenditure has been satisfactory. The Plan envisaged taking various legislative, administrative and technical steps for the effective conservation of wild life. Tiger has been declared a protected animal for some time throughout the country. However, the position of wild life legislation is not altogether clear in different States. An expert Committee also reported in 1970 the precarious state of wild life in various parts of the country and concerted steps in this direction will have to be continued.

Forest Research

48. The progress of expenditure under the Central Programme of forest research has been particularly unsatisfactory. Against an allocation of Rs. 1.75 crores under the Fourth Plan, an amount of Rs. 7 lakhs was spent during 1969-70 while the anticipated expenditure during the year 1970-71 is Rs. 10 lakhs and the proposed outlay for 1971-72 is Rs. 18 lakhs. It may be noted that the outlays on forest Research during the first three Plans had also been progressively decreasing. The capability under the programmes of forest research will have to be specially strengthened in the final two years of the Plan as this is of special importance for an adequate break through in the forestry sector.

Forest Surveys

49. In the Central Sector of the Plan, provision of Rs. 160 lakhs has been made for continuation of a programme of pre-investment survey of forest resources. This programme was originally taken up with UNDP assistance. During 1969-70, 15,000 sq. kms. of forest area was surveyed in the States of Jammu & Kashmir, Andhra Pradesh and Maharashtra. Another 20,000 sq. kms. were covered during 1970-71 ,thus involving a total expenditure of Rs. 54·09 lakhs during the first two years of the Plan period. Further area proposed to be surveyed during 1971-72 is 22,000 sq. kms. While the Plan envisaged two units which have so far been deployed for undertaking survey work in the northern and the central zones, it is expected that in the remaining period of the Plan, a third unit would also start operating in the north-east zone.

50. An allied scheme relating to forest resources survey is in the Centrally Sponsored Sector. So far, an expenditure of Rs. 34 lakhs has been incurred under the scheme against the Fourth Plan provision of Rs. 139 lakhs. In the remaining period of the Plan it will be necessary to consider in what manner this scheme could be co-ordinated with the Central Sector scheme of pre-investment survey of forest resources.

Progress of Plan Expenditure

51. An outlay of Rs. 90.96 crores was included in the Plan for programmes of Forest Development. Rs. 85.84 crores was provided in the State Sector for the States and Union Territories, Rs. 3.73 crores in the Centra lSector and Rs. 1.39 crores as Centrally Sponsored Schemes. The actual progress of expenditure against this during the first two years of the Plan and the proposed outlay for 1971-72, under these programmes, are as follows ;

TABLE 10 : *Outlay and Expenditure for Forests Developments*

(Rs. crores)

sl. no.	item	Fourth Plan outlay	actual expenditure for 1969-70	anticipated expenditure for 1970-71	outlay for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	states	81·33	12·33	14·95	17·25
2	union territories	4·51	0·59	0·86	0·95
3	centrally sponsored	1·39	0·14	0·20	0·20
4	central	3·73	0·47	0·61	0·79
5	*total*	**90·96**	**13·53**	**16·62**	**19·80**

52. In all, about 21 schemes were included in the State Sector. Annexure XXVIII gives the progress of expenditure under the various scheme during the years 1969-70, 1970-71 as also the proposed outlay for 1971-72. The outlays by States and Union Territories together with the progress of expenditure during the year 1969-70, 1970-71 and the proposed outlay for 1971-72 are given in Annexure XXIX.

53. In the Central Sector of the Plan, four schemes have been included at an outlay of Rs. 373 lakhs. Three of these schemes, namely, Delhi Zoological Park, Pre-investment survey of Forest Resources and Logging Training Project have been making satisfactory progress. The fourth scheme which concerns Forest Research Institute and the research projects and which carries an outlay of Rs. 175 lakhs is not pregressins gatisfactorily. In the first year, the expenditure was only about Rs. 15 lakhs and in the second year about Rs. 17 lakhs. In the Centrally Sponsored Sector, there is only one scheme relating to forestry resources survey carrying an outlay of Rs. 139 lakhs. The expenditure on this scheme so far has been only about Rs. 34 lakhs. At Annexure XXX is the scheme-wise break-up of the outlay and expenditure of various Central and Centrally Sponsered Schemes. It will be observed that two of the schemes relating to forest research and the scheme relating to forestry resources survey require considerable acceleration in the remaining Fourth Plan period.

54. Special mention needs to be made of the Maharashtra Forest Development Board and the Mysore State Forest Corporation. The basic concept of the former is that additional revenues being created by special development activity are ploughed back for additional development programmes. Sizeable work in raising additional plantations has already been under taken by the Maharashtra Forest Development Board. Efforts to extend such activities to other States can help to step up the progress of forest development programmes.

Progress of Intensive Cattle Development Project—Selected Items

Sl. no.	state	no of ICD projects			breedable population (lakhs)			animal bred (lakhs)			no. of inoculations (lakhs)			no. of fodder demonstrations		quantity of fodder seeds distributed (quintals)	
		1968-69 actual	1969-70 actual	1973-74 target	1968-69	1969-70	1973-74	1968-69 actual	1969-70 actual	1973-74 target	1968-69 actual	1969-70 actual	1973-74 target	1968-69 actual	1969-70 actual	1968-69 actual	1969-70 actual
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Andhra Pradesh	2	2	4	2·72	2·96	4·50	0·58	0·65	2·25	12·91	15·82	26·50	4736	7275	34·75	100·80
2	Assam .	1	2	2	0·58	0·70	1·20	0·08	0·13	0·66	0·74	1·10	7·00	195	205	0·50	1·00
3	Bihar . .	2	2	3	2·33	2·33	2·85	0·57	0·83	1·40	1·97	1·72	17·00	26961	12362	489·26	408·10
4	Gujarat .	3	4	6	2·45	2·78	4·80	1·84	2·08	2·40	2·52	3·66	28·00	304	338	1281·86	2652·36
5	Haryana .	—	2	5	—	0·72	2·20	—	0·01	1·10	—	0·08	13·00	—	—	—	—
6	Jammu and Kashmir	1	2	3	0·56	1·07	1·60	0·01	0·12	0·75	0·16	2·82	9·00	155	371	12·10	10·27
7	Kerala . .	1	1	2	1·06	1·40	1·90	n.a.	0·85	1·00	n.a.	0·06	11·00	—	—	—	—
	Madhya Pradesh	2	3	5	1·90	2·90	3·90	0·19	0·26	1·90	4·71	5·71	23·00	1489	2086	186·11	94·08
9	Maharashtra	4	4	6	3·20	3·94	5·90	0·45	0·51	2·90	4·67	6·09	35·00	437	530	66·20	50·85
10	Meghalaya .	—	—	1	—	—	0·50	—	—	0·25	—	—	3·00	—	—	—	—
11	Mysore. .	1	2	3	5·13	1·98	2·50	0·33	0·41	1·20	—	4·23	15·00	189	169	33·06	9·81
12	Orissa . .	1	1	3	1·19	1·20	2·20	0·24	0·29	1·10	2·29	3·54	13·00	185	356	63·79	81·04
13	Punjab .	1	2	5	0·79	1·79	4·80	—	0·70	2·40	—	2·20	28·00	—	—	—	16·00
14	Rajasthan .	—	—	1	—	—	0·50	—	—	0·25	—	—	3·00	—	—	—	—
15	Tamil Nadu .	3	3	5	4·31	4·62	6·10	0·75	1·51	3·00	0·68	3·93	36·00	—	611	61·60	12·99
16	Uttar Pradesh	2	4	5	2·70	4·89	5·90	0·54	1·15	2·90	6·68	8·81	35·00	813	2194	1101·00	1380·48
17	West Bengal .	2	2	4	1·35	2·07	3·10	0·22	0·62	1·50	—	—	18·00	—	250	56·00	371·9
	Central Sector :																
18	Haryana .	2	2	2	2·32	2·40	2·40	0·24	0·21	1·15	1·22	1·79	14·00	41	199	6·22	25·79
19	Rajasthan .	1	1	1	1·21	1·12	1·12	0·14	0·04	0·55	—	0·23	6·00	—	—	8·80	—
20	Uttar Pradesh	1	1	1	3·51	3·51	3·51	1·02	0·75	1·75	4·96	5·29	21·00	800	2400	2259·00	1099·65
21	*total* . .	**30**	**40**	**67**	**37·31**	**42·38**	**61·48**	**7·74**	**11·12**	**30·35**	**43·51**	**67·08**	**331·50**	**36305**	**29346**	**5660·25**	**6315·20**

ANNEXURE II

Establishment of Key Village Blocks

(number)

sl. no.	state/union territory	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	32	8	2	2
2	Assam	9	2	3	4
3	Bihar	—	—	—	—
4	Gujarat	—	—	—	—
5	Haryana	—	—	—	—
6	Jammu and Kashmir	—	—	—	—
7	Himachal Pradesh	1	—	1	—
8	Kerala	4	—	—	—
9	Madhya Pradesh	3	—	—	3
10	Maharashtra	—	—	—	—
11	Mysore	1	—	1	—
12	Meghalaya	1	—	1	—
13	Nagaland	—	—	—	—
14	Orissa	7	2	—	2
15	Punjab	4	—	1	1
16	Rajasthan	6	—	4	1
17	Tamil Nadu	10	2	—	2
18	Uttar Pradesh	—	—	—	—
19	West Bengal	3	1	1	—
20	Delhi	3	—	2	1
21	Goa	2	2	—	—
22	Tripura	3	1	1	1
23	Manipur	1	—	—	—
24	Pondicherry	1	—	—	1
25	*total*	91	18	17	18

ANNEXURE III

Progress of Fodder Seed Production Farms

(number)

si. no.	state/union territory	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	2	—	—	1
2	Assam	1	1	—	—
3	Bihar	1	—	—	[1]
4	Gujarat	2	—	—	1
5	Haryana	1	—	—	1
6	Himachal Pradesh	—	—	—	[2]
7	Jammu and Kashmir	1	—	—	1
8	Kerala	1	—	—	1
9	Madhya Pradesh	2	—	—	[3]
10	Maharashtra	2	—	—	2
11	Mysore	2	—	1	—
12	Meghalaya	1	—	—	1
13	Nagaland	—	—	—	[4]
14	Orissa	1	—	—	1
15	Punjab	1	—	—	—
16	Tamil Nadu	1	—	—	1
17	Uttar Pradesh	—	—	—	[5]
18	West Bengal	1	1	—	—
19	Goa	1	—	—	—
20	Manipur	1	—	—	1
21	Tripura	1	—	1	—
22	*total*	23	2	2	11

1 This activity has also been taken up in four existing farms since 1969-70.
2 The State has already one fodder seed production farm at Kataula in Mandi District.
3 The State would take up this activity in the existing six C.B. farms.
4 It was suggested that efforts should be made for the production of fodder seeds in the existing cattle breeding farms.
5 The State would take up this activity in 14 existing livestock farms.

ANNEXURE IV

Establishment of Sheep Breeding Farms

(number)

sl. no.	state /union territory	Fourth Plan target	1969-70 achievement	1970-71 anticipated	1971-72 target • achievement
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	—	—	—	—
2	Assam	1 (hill areas)	1	—	—
3	Bihar	—	—	—	—
4	Gujarat	2	1	—	
5	Haryana	1	—	—	1
6	Himachal Pradesh	1	1	—	—
7	Jammu and Kashmir	—	—	—	—
8	Kerala	—	—	—	—
9	Madhya Pradesh	—	—	—	—
10	Maharashtra	—	—	—	—
11	Mysore	1	1	—	—
12	Meghalaya	1	—	—	1
13	Nagaland	—	—	—	—
14	Orissa	1	—	1	—
15	Punjab	1	—	1	—
16	Rajasthan	1	—	1	—
17	Tamil Nadu	—	—	—	—
18	Uttar Pradesh	—	—	—	—
19	West Bengal	—	—	—	—
20	N.E.F.A.	1	—	1	—
21	*total*	11	4	4	3

[1]Joint venture with Indian Woollen Mills Federation.

ANNEXURE V

Sheep Breeding Farms to be Re-organised

(number)

sl. no.	state	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	3	—	—	1
2	Assam	1	—	1	—
3	Bihar	1	1	[1]	[1]
4	Gujarat	—	—	—	—
5	Haryana	—	—	—	—
6	Himachal Pradesh	4	—	—	4
7	Jammu and Kashmir	5	5	[1]	1
8	Kerala	—	—	—	1
9	Madhya Pradesh	3	—	—	3
10	Maharashtra	7	2	—	1
11	Mysore	1	—	—	1
12	Meghalaya	—	—	—	—
13	Nagaland	1	1	—	—
14	Orissa	1	1		—
15	Punjab	1	1	—	—
16	Rajasthan	7	7	[1]	[1]
17	Tamil Nadu	—	—	—	—
18	Uttar Pradesh	3			—
19	West Bengal	—	—	—	—
20	*All India*	38	20	1	10

[1]Expansion would be continued.

ANNEXURE VI

Sheep and Wool Extension Centres

(number)

sl. no.	state	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	—	—	2	—
2	Assam	2	—	—	—
3	Bihar	—	—	—	—
4	Gujarat	5	—	—	1
5	Haryana	4	1	1	—
6	Jammu and Kashmir	—	—	—	—
7	Kerala	—	—	—	—
8	Madhya Pradesh	4	—	—	—
9	Maharashtra	—	—	—	—
10	Mysore	1	—	—	1
11	Meghalaya	1	—	1	—
12	Nagaland	—	—	—	—
13	Orissa	—	—	—	—
14	Punjab	26	—	5	5
15	Rajasthan	10	—	—	5
16	Tamil Nadu	—	—	—	—
17	Uttar Pradesh	11	2	3	2
18	West Bengal	—	—	—	—
19	*total*	**64**	**3**	**12**	**14**

ANNEXURE VII

Sheep and Wool Extension Centres to be Expanded

(number)

sl. no.	state	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	25	—	n.a.	12
2	Assam	2	—	—	—
3	Bihar	—	—	—	—
4	Gujarat	—	—	—	—
5	Haryana	4	1	1	—
6	Jammu and Kashmir	—	—	—	—
7	Kerala	—	—	—	—
8	Madhya Pradesh	12	—	12	—
9	Maharashtra	12	—	—	—
10	Mysore	—	—	—	—
11	Meghalaya	—	—	—	—
12	Nagaland	—	—	—	—
13	Orissa	—	—	—	—
14	Punjab	12	—	2	4
15	Rajasthan	5	—	—	5
16	Tamil Nadu	—	—	—	—
17	Uttar Pradesh	8	—	—	2
18	West Bengal	—	—	—	—
19	*total*	**80**	**1**	**15**	**23**

ANNEXURE VIII

Sheep Shearing, Wool Grading and Marketing Centres

(number)

sl. no.	state	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	—	—	—	—
2	Assam	—	—	—	—
3	Bihar	..	—	—	—
4	Gujarat	2	—	—	1
5	Haryana	1	1	—	—
6	Himachal Pradesh	2	—	2	—
7	Jammu and Kashmir	1	—	1	—
8	Kerala	—	—	—	—
9	Madhya Pradesh	1	—	1	—
10	Maharashtra	4	—	—	—
11	Mysore	1	—	1	—
12	Meghalaya	—	—	—	—
13	Nagaland	—	—	—	—
14	Orissa	—	—	—	—
15	Punjab	1	1	—	—
16	Rajasthan	—	—	—	—
17	Tamil Nadu	—	—	—	—
18	Uttar Pradesh	1	—	1	—
19	West Bengal	—	—	—	—
20	*total*	**14**	**2**	**6**	**1**

ANNEXURE IX

Progress of Intensive Egg and Poultry Production-cum-Marketing Centres

(number)

sl. no.	state/union territory	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	6	1	—	1
2	Assam	4	1	—	1
3	Bihar	1	1	—	—
4	Gujarat	3	1	1	—
5	Haryana	—	—	—	—
6	Jammu and Kashmir	2	1	1	—
7	Kerala	1	1	—	—
8	Madhya Pradesh	—	—	—	—
9	Maharashtra	3	—	—	—
10	Meghalaya	—	—	—	—
11	Mysore	2	1	—	1
12	Nagaland	—	—	—	—
13	Orissa	—	—	—	—
14	Punjab	1	—	1	—
15	Rajasthan	2	1	—	—
16	Tamil Nadu	—	—	—	—
17	Uttar Pradesh	—	—	—	—
18	West Bengal	6	—	1	1
19	Goa	1	—	1	—
20	Tripura	1	—	1	—
21	*total*	**33**	**8**	**6**	**4**

†To be met from non-Plan sources.

ANNEXURE X

Progress of Establishment of Veterinary Hospital/Dispensaries

(number)

sl. no.	state/union territory	Fourth Plan target	1969-70 achievement	1970-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	n.a.	21	—	25
2	Assam	27	44	4	5
3	Bihar	20	1	12	3
4	Gujarat	—	—	—	—
5	Haryana	35	10	10	10
6	Himachal Pradesh	50	10	10	10
7	Jammu and Kashmir	21	—	5	6
8	Kerala	35	—	6	10
9	Madhya Pradesh	100	20	20	40
10	Maharashtra	n.a.	—	12[1]	1
11	Meghalaya	6	2	1	1
12	Mysore	200	45	40	40
13	Nagaland	6	—	2	2
14	Orissa	25	12	—	8
15	Punjab	100	26	29	22
16	Rajasthan	24	4	6	7
17	Tamil Nadu	68	38	—	—
18	Uttar Pradesh	92	24	27	34
19	West Bengal	26	1	4	4
20	Andaman	2	—	1	—
21	Goa	5	—	3	1
22	Manipur	20	3	5	5
23	N.E.F.A.	5	—	—	5
24	Tripura	5	1	1	1
25	*total*	**872**	**222**	**198**	**240**

[1]Includes achievement for 1969-70 also.

ANNEXURE XI

State-wise Outlay and Expenditure on Animal Husbandry

(Rs. lakhs).

sl. no.	state/union territory	1969-74 Fourth Plan outlay	1969-70 approved outlay	1969-70 actual expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	1969-71 col. (4+6)	1969-71 percentage over Fourth Plan outlay	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**7036 00′**	**936 00**	**716 ·00**	**1097 ·00**	**1097 ·00**	**1813 ·00**	25 ·77	**1341 ·00**
2	Andhra Pradesh	225 ·00	35 ·00	14 ·00	19 ·00	38 ·00	52 ·00	23 ·11	41 ·00
3	Assam	423 ·00	75 ·00	61 ·00	99 ·00	82 ·00	143 ·00	93 ·80	85 ·00
4	Bihar	300 ·00	50 ·00	40 ·00	50 ·00	50 ·00	90 ·00	30 ·00	61 ·00
5	Gujarat	675 ·00	75 ·00	58 ·00	116 ·00	100 ·00	158 ·00	23 ·40	112 ·00
6	Haryana	390 ·00	25 ·00	34 ·00	50 ·00	59 ·00	93 ·00	23 ·85	68 00
7	Jammu and Kashmir	495 ·00	70 ·00	44 ·00	82 ·00	76 ·00	120 ·00	24·24	70 ·00
8	Kerala	353 ·00	40 ·00	38 ·00	60 ·00	54 ·00	92 ·00	26 ·06	130 ·00
9	Madhya Pradesh	500 ·00	80 ·00	53 ·00	95 ·00	90 ·00	143 ·00	28 ·60	76 ·00
10	Maharashtra	650 ·00	60 ·00	26 ·00	70 ·00	43 ·00	69 ·00	10 ·62	19 ·00
11	Meghalaya	112 ·00	[1]	20 ·00	[1]	17 ·00	37 ·00	33 ·04	68 ·00
12	Mysore	275 ·00	33 ·00	33 ·00	56 ·00	61 ·00	94 ·00	34 ·18	21 ·00
13	Nagaland	130 ·00[2]	17 ·00	14 ·00	21 ·00	21 ·00	35 ·00	26 ·92	72.00
14	Orissa	380 ·00	33 ·00	28 ·00	52 ·00	52 ·00	80 ·00	21 ·05	100 ·00
15	Punjab	450 ·00	45 ·00	38 ·00	63 ·00	63 ·00	101 ·00	22 ·44	58 ·00
16	Rajasthan	270 ·00	35 ·00	27 ·00	43 ·00	48 ·00	75 ·00	27 ·78	40.00
17	Tamil Nadu	400 ·00	75 ·00	22 ·00	32 ·00	33 ·00	55 ·00	13 ·75	123 ·00
18	Uttar Pradesh	550 ·00	100 ·00	88 ·00	100 ·00	116 ·00	204 ·00	37 ·09	97 ·00
19	West Bengal	458 ·00	88 ·00	78 ·00	89 ·00	94 ·00	172 ·00	37 ·55	107 ·51
20	*union territories*	**545 ·58**	**83 ·11**	**61 ·02**	**99 ·93**	**106 ·65**	**167 ·67**	**30 ·73**	**107 ·51**
21	Andaman and Nicobar Islands	15 ·49	1 ·97	1 ·34	2 ·70	2 ·12	3 ·46	22 ·34	2 ·64
22	Chandigarh	23 ·00	3 ·00	0 ·52	8 ·30	8 ·30	8 ·82	38 ·35	5 ·00
23	Dadra and Nagar Haveli	2 ·25	0 ·25	0 ·42	0 ·68	0 ·63	1 ·05	46 ·67	0 ·65
24	Delhi	70 ·00	10 ·00	15 ·04	8 ·00	18 ·03	33 ·07	47 ·24	11 ·30
25	Goa, Daman and Diu	80 ·50	18 ·13	14 ·32	21 ·18	20 ·25	34 ·57	42 ·94	18 ·75
26	Himachal Pradesh	175 ·00	26 ·00	16 ·17	28 ·00	28 ·29	44 ·46	25 ·41	29 ·05
27	Laccadive, Minicoy and Amindivi Islands	5 ·00	1 ·16	0 ·17	0 ·96	1 ·38	1 ·55	31 ·00	1 ·60
28	Manipur	38 ·84	5 ·00	2 ·75	6 ·67	6 ·67	9 ·42	24 ·25	6 ·57
29	NEFA	40 ·50	0 ·10	5 ·52	7 ·79	8 ·56	14 ·08	34 ·77	14 ·00
30	Pondicherry	29 ·00	5 ·50	3 ·43	6 ·95	4 ·06	7 ·49	25 ·83	3 ·95
31	Tripura	66 ·00	6 ·00	1 ·34	8 ·70	8 ·36	9 ·70	14 ·70	14 ·00
32	*total*	**7581 ·58**	**1019 ·11**	**777 ·02**	**1196 ·93**	**1203 ·65**	**1980 ·67**	**26 ·12**	**1448.51**

[1]Included under Assam

[2]Includes dairying and milk supply.

ANNEXURE XII

Progress of New Milk Supply Schemes

sl. no.	state/union territory	Fourth Plan target	1969-70	1970-71	1971-72
0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	2	1	1	—
2	Assam	3	2	—	—
3	Bihar	1	—	—	—
4	Gujarat	2	—	—	—
5	Haryana	2	—	—	—
6	Himachal Pradesh	1	1	—	—
7	Kerala	4	1	—	2
8	Madhya Pradesh	2	—	—	2
9	Maharashtra	12	2	1	4
10	Meghalaya	1	1	—	—
11	Punjab	2	—	—	—
12	Rajasthan	2	1	1	—
13	Tamil Nadu	2	—	1	1
14	Uttar Pradesh	3	1	—	1
15	Goa	1		—	—
16	Pondicherry	1	—	1	—
17	*total*	**41**	**11**	**5**	**10**

ANNEXURE XIII

Progress of Spill-over Milk Supply Schemes

(number)

sl. no.	state/union territory	Fourth Plan target	1969-70	1970-71	1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	2	2	—	—
2	Assam	1	1	—	—
3	Bihar	2	2	—	—
4	Haryana	1	—	—	1
5	Himachal Pradesh	2	2	—	—
6	Jammu and Kashmir	1	1	—	—
7	Kerala	1	1	—	—
8	Madhya Pradesh	3	2	1	
9	Maharashtra	11	—	2	4
10	Mysore	6	—	4	2
11	Uttar Pradesh	3	1	2	—
12	West Bengal	1	—	1	—
13	Manipur	1	1	—	—
14	*total*	**35**	**13**	**10**	**7**

ANNEXURE XIV

Progress of Expansion of Existing Milk Schemes

(number)

sl. no.	state/union territory	Fourth Plan target	1969-70	1970-71	1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	5	4	1	—
2	Bihar	2	—	1	1
3	Haryana	1	—	—	1
4	Kerala	1	—	—	1
5	Madhya Pradesh	1	—	—	1
6	Maharashtra	3	—	3	—
7	Mysore	3	1	—	1
8	Orissa	1	1	—	—
9	Tamil Nadu	1	—	—	—
10	Uttar Pradesh	1	—	1	—
11	West Bengal	1	1	—	—
12	Chandigarh	1	—	—	1
13	Delhi	1	1	—	—
14	Tripura	1	—	—	1
15	*total*	23	8	6	7

ANNEXURE XV

Progress of Rural Dairy Centres

sl. no.	state/union territory	Fourth Plan target	1969-70	1970-71	1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	Assam	1	—	—	1
2	Bihar	4	—	—	—
3	Madhya Pradesh	7	—	7	—
4	Meghalaya	1	1	—	—
5	Mysore	4	—	—	1
6	Nagaland	2	1	—	—
7	Orissa	8	1	—	1
8	Punjab	6	—	—	2
9	Uttar Pradesh	3	—	—	1
10	Goa	1	—	—	1
11	Manipur	1	—	—	1
12	Tripura	5	—	—	1
13	*total*	43	3	7	9

ANNEXURE XVI

State-wise Outlay and Expenditure on Dairying and Milk Supply

(Rs. lakhs)

sl. no.	state/union territory	1969-74 Fourth Plan outlay	1969-70 approved outlay	1969-70 actual expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	1969-71 col.(4+6)	1969-71 Ist % age over Fourth Plan outlay	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states* . . .	4180·00	701·00	543·00	699·00	707·00	1250·00	29·90	844·00
2	Andhra Pradesh . .	225·00	45·00	55·00	55·00	59·00	114·00	50·67	60·00
3	Assam . . .	100·00	21·00	13·00	24·00	13·00	26·00	26·00	18·00
4	Bihar . . .	350·00	40·00	38·00	60·00	60·00	98·00	28·00	64·00
5	Gujarat . . .	175·00	70·00	13·00	33·00	26·00	39·00	22·29	24·00
6	Jammu and Kashmir .	75·00	17·00	13·00	17·00	6·00	19·00	25·33	13·00
7	Haryana . . .	200·00	20·00	52·00	61·00	61·00	113·00	56·50	61·00
8	Kerala . . .	132·00	15·00	14·00	15·00	16·00	30·00	22·73	26·00
9	Madhya Pradesh .	150·00	20·00	12·00	30·00	36·00	48·00	32·00	50·00
10	Maharashtra . .	900·00	175·00	120·00	130·00	119·00	239·00	26·56	140·00
11	Meghalaya . . .	38·00	[1]	2·00	[1]	3·00	5·00	13·16	3·00
12	Mysore . . .	200·00	43·00	43·00	61·00	61·00	104·00	52·00	55·00
13	Nagaland . . .	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
14	Orissa . . .	60·00	7·00	10·00	11·00	11·00	21·00	35·00	11·00
15	Punjab . . .	275·00	34·00	9·00	36·00	59·00	68·00	24·73	120·00
16	Rajasthan . . .	60·00	3·00	1·00	7·00	11·00	12·00	20·00	25·00
17	Tamil Nadu . .	450·00	70·00	49·00	45·00	50·00	99·00	22·00	48·00
18	Uttar Pradesh . .	400·00	70·00	48·00	55·00	63·00	111·00	27·75	66·00
19	West Bengal . .	390·00	51·00	51·00	59·00	53·00	104·00	26·67	60·00
20	*union territories*	**204·00**	**67·45**	**46·55**	**53·89**	**42·84**	**89·39**	**43·82**	**49·41**
21	Andaman and Nicobar Islands . . .	3·00	1·00	0·05	0·77	0·36	0·41	13·67	0·71
22	Chandigarh . .	—	—	—	—	—	—	—	6·00
23	Dadra and Nagar Haveli	3·00	0·40	1·27	1·09	0·60	1·87	62·33	0·60
24	Delhi . . .	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
25	Goa, Daman and Diu .	45·00	13·35	17·24	14·06	14·31	31·55	69·34	11·45
26	Himachal Pradesh .	63·00	31·60	9·76	22·00	16·71	26·47	42·02	18·50
27	Laccadives . . .	—	—	—	—	—	—	—	—
28	Manipur . . .	16·50	3·00	1·59	2·04	2·10	3·69	22·36	2·15
29	N.E.F.A. . . .	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
30	Pondicherry. . .	29·00	15·00	16·30	8·29	6·44	22·74	78·41	3·00
31	Tripura . . .	44·00	3·10	0·34	5·64	2·32	2·66	6·05	7·00
32	*total*	**4384·00**	**768·45**	**589·55**	**752·89**	**749·84**	**1339·39**	**30·55**	**993·00**

[1]Included under Assam.

[2]Included under Animal Husbandry.

ANNEXURE XVII

Targets and Achievement of Fish Production

(thousand tonnes)

sl. no.	state	1968-69 achievement (base level)	Fourth Plan target	1969-70 achievement	1969-71 anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	*states*	**1735·52**	**2346·81**	**1780·77**	**1938·47**	**2064·33**
2	Andhra Pradesh	180·60	182·92	180·60	188·60[1]	195·60[1]
3	Assam	24·50	29·66	24·62	27·00	28·00
4	Bihar	48·00	68·00	52·00	56·00	60·00
5	Gujarat	131·00	179·00	139·00	149·00	159·00
6	Haryana	0·65	2·65	0·81	0·97	1·05
7	Jammu and Kashmir	5·24	5·44	5·24	6·72	6.80
8	Kerala	353·15	600·00	385·00	397·00	420·00
9	Madhya Pradesh	7·60	10·00	8·00	8·50	9·00
10	Maharashtra	240·00	243·00	242·00	258·00	283·70
11	Meghalaya	—	—	—	—	—
12	Mysore	130·00	182·00	135·00	200·00	210·00
13	Nagaland	0·05	0·11	0·06	0·07	0·70
14	Orissa	25·00	57·50	25·76	27·81	28·7[1]
15	Punjab	1·80	2·10	1·80	1·82	1·82[1]
16	Rajasthan	5·00	12·50	5·20	6·50	8·00
17	Tamil Nadu	321·00	500·00	294·00	348·00	390·00
18	Uttar Pradesh	20·00	24·25	21·25	21·48	21·58
19	West Bengal	241·93	247·68	260·00	241·00[2]	241·00[2]
20	*Union territories*	**33·34**	**63·64**	**35·00**	**36·00[1]**	**36·50[1]**
21	*total*	**1768·86**	**2410·45**	**1815·77**	**1974·47**	**2100·83**

[1]Provisional.

[2]These figures were reported by the State authorities at the time of Annual Plan discussions.

ANNEXURE XVIII

Distribution of Fry and Fingerlings

(million)

sl. no.	state	Fourth Plan target	1969-70 and 1970-71 (anticipated achievement	target 1971-72
(0)	(1)	(2)	(3)	(4)
1	Andhra Pradesh	25	15·22	10·00
2	Assam . .	69	14·00	20·00
3	Bihar . .	50	—	—
4	Gujarat . .	17	4·10	5·50
5	Haryana . .	10	2·12	2·00
6	Jammu and Kashmir	3	—	—
7	Kerala . .	8	5·00	5·00
8	Madhya Pradesh	35	25·00	20·00
9	Maharashtra .	50	46·17	25·00
10	Mysore . .	17	15·00	12·50
11	Nagaland . .	2	—	—
12	Orissa . .	40	—	—
13	Punjab . .	8	—	—
14	Rajasthan .	16	2·67	10·00
15	Tamil Nadu .	120	105·00	60·00
16	Uttar Pradesh .	50	—	—
17	West Bengal .	109	1·20	21·00
18	*total* . .	**629**	**235·48**	**192·00**

ANNEXURE XIX

Collection/Production of Spawn

(million)

sl no.	state	Fourth Plan target	1969-70 and 1970-71 actuals anticipated achievement	target 1971-72
(0)	(1)	(2)	(3)	(4)
1	Andhra Pradesh	150	16.00	12·50
2	Assam	400	227·20	250·00
3	Bihar	300	—	—
4	Gujarat	100	13·00	10·00
5	Haryana	50	—	8·00
6	Jammu and Kashmir	15	—	—
7	Kerala	50	7·50	10·00
8	Madhya Pradesh	300	269·00	200·00
9	Maharashtra	90	67·80	45·00
10	Mysore	100	60.00	50·00
11	Nagaland	10	—	—
12	Orissa	500	180·00	101·00
13	Punjab	50	N.A.	N.A.
14	Rajasthan	100	9·50	25·00
15	Uttar Pradesh	300	—	—
16	West Bangal	650	N.A.	130·00
17	*total*	**3165**	**850·00**	**841·50**

ANNEXURE XX

Targets and Achievement of Nursery Area

(hectares)

sl. no.	state	Fourth Plan target	1969-70 and 1970-71 actuals anticipated achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)
1	Andhra Pradesh	16·10	N.A.	N.A.
2	Assam	120·00	41·00	70·00
3	Bihar	80·00	—	—
4	Gujarat	30·00	1·00	2·50
5	Haryana	20·00	16·00	14·00
6	Jammu and Kashmir	4·50	—	—
7	Kerala	50·00	2·00	20·00
8	Madhya Pradesh	140·00	90·00	70·00
9	Maharashtra	50·00	14·10	11·00
10	Mysore	30·C0	11·00	6·00
11	Nagaland	3·00	—	—
12	Orissa	90·00	137·20	70·00
13	Punjab	25·00	—	—
14	Rajasthan	100·00	65·00	60·00
15	Tamil Nadu	100·00	—	20·00
16	Uttar Pradesh	100·00	—	—
17	West Bengal	195·00	54·00	65·00
18	*total*	**1153·60**	**431·30**	**408·50**

ANNEXURE XXI

Targets and Achievement for Mechanisation of Boats

(number)

sl. no.	state	Fourth Plan target	1969-70 achievement	1970-71 achievement	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	208	32	28	45
2	Gujarat	600	86	132	120
3	Kerala	1600	331	164	300
4	Maharashtra	800	162	96	105
5	Mysore	385	204	238	200
6	Orissa	100	—	13	—
7	Tamil Nadu	1000	157	262	250
8	West Bengal	1	—	1	2
9	union territories	434	52	87	49
10	*total*	**5127**	**1024**	**1021**	**1069**

[1]Target not fixed
[2]No new boat to be mechanised

ANNEXURE XXII

Outlay and Expenditure for Schemes on Research—Fisheries

(Rs. lakhs)

sl. no.	scheme	approved Fourth Plan outlay	1969-70		1970-71		1969-71		1971-72 approved outlay
			approved outlay	actual expenditure	approved outlay	anticipated outlay	total cols. (4+6)	col (7) as percentage of col. (2)	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*Central Fisheries Research Institutes*	**320·00**	**26·13**	**9·35**	**32·00**	**20·10**	**29·45**	**9·2**	**47·00**
2	Central Inland Fisheries Research Instt. Barackpore	70·00	6·68	5·00	6·00	2·00	7·10	10·1	7·00
3	Central Marine Fisheries Research Instt. Mandapam	130·00	13·50	2·44	16·00	8·00	10·44	8·00	20·00
4	Central Institute of Fisheries Technology, Ernakulam	120·00	5·95	1·91	10·00	10·00	11·91	9·99	20·00
5	*All India Coordinated Research Projects*	38·00	—	—	—	0·69	0·69	—	8·11
6	investigation on riverine carp and spawn prospecting and collection techniques	—	—	—	—	—	—	—	0·74
7	studies on the ecology and fisheries of fresh water reservoirs	—	—	—	—	—	—	—	0·16
8	studies on marine prawn biology and resources	38·00	—	—	—	—	—	—	0·82
9	propagation and stocking of fish seeds of air breathing fishes for culture in swamps	—	—	—	—	—	—	—	0·60
10	composite culture of Indian and exotic species for maximum fish production	—	—	—	—	—	—	—	1·50
11	studies on utilisation of Trash fish	—	—	—	—	0·69	0·69	—	1·56
12	study of technological problems of handling and transportation of fresh fish	—	—	—	—	—	—	—	2·73

ANNEXURE XXIII

State-wise Outlay and Expenditure on Fisheries

(Rs. lakhs

sl. no.	state/union territory	1969-74 Fourth Plan outlay	1969-70		1970-71		1969-71		1971-72 approve outlay
			approved outlay	actual expenditure	approved outlay	anticipated expenditure	cols. (4+6)	percentages of Fourth Plan outlay	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**4428**	**626**	**504**	**768**	**806**	**1310**	**29·58**	**892**
2	Andhra Pradesh . . .	150	30	19	30	43	62	41·33	45
3	Assam	125	12	11	33	29	40	32·00	25
4	Bihar	200	20	25	30	30	55	27·50	35
5	Gujarat	350	70	53	73	73	126	36·00	72
6	Haryana	40	2	3	5	6	9	22·50	7
7	Jammu and Kashmir . .	25	5	1	5	2	3	12·00	6
8	Kerala	1100	160	121	147	152	273	24·82	192
9	Madhya Pradesh . .	150	20	14	30	23	37	24·67	40
10	Maharashtra . . .	500	70	46	80	67	113	22·60	90
11	Mysore	300	47	47	80	84	131	43·67	73
12	Nagaland	30	4	3	5	5	8	26·67	6
13	Orissa	225	21	18	30	30	48	21·33	45
14	Punjab	43	4	1	7	7	8	18.60	8
15	Rajasthan	55	7	5	8	8	13	42·24	12
16	Tamil Nadu . .	750	100	92	137	174	266	35·47	150
17	Uttar Pradesh . . .	90	20	12	15	17	29	32·22	21
18	West Bengal . . .	295	34	33	53	53	86	29.15	61
19	Meghalaya . . .	[1]	[1]	[1]	[1]	3	3	—	4
20	*union territories* . .	**442·60**	**85·90**	**48·52**	**88·84**	**82·60**	**131·12**	**29·62**	100.41
21	Andaman and Nicobar Islands	6·25	3·29	0·44	1·07	0·61	1·05	16·80	0·56
22	Chandigarh . . .	—	0·10	0·02	0·11	0·10	0·12	48·00	—
23	Dadra and Nagar Haveli .	0.25	0·05	—	—	—	—	—	—
24	Delhi	13·00	4·00	0·29	4·00	0·56	0·85	6·54	5·61
25	Goa, Daman and Diu . .	135·00	30·00	16·78	25·95	25·80	42·58	31·54	28·70
26	Himachal Pradesh . .	50·00	7·60	1·41	8·00	8·00	9·41	18·82	8·00
27	Laccadive, Minicoy and Amindivi Islands . .	72·10	16·00	10·36	16·07	15·38	25·74	35·70	17·87
28	Manipur	29·00	3·36	2·44	7·98	7·98	10·42	35·93	8·00
29	N.E.F.A.	12·00	1·50	[2]	2·32	2·31	2·31	19·25	3·00
30	Pondicherry . . .	85·00	14·00	13·41	17·19	15·32	28·73	33·80	18·67
31	Tripura	40·00	6·00	3·37	6·15	6·54	9·91	24·77	10·00
32	*total*	**4870·60**	**711·90**	**552·52**	**856·84**	**888·60**	**1441·12**	**29·58**	**992·41**

[1]Included under Assam. [2]Included under agriculture production.

ANNEXURE XXIV

Plantation of Quick Growing Species

(thousand hectares)

sl. no.	state/union territory	physical targets achieved at the end of 1968-69	targets for the Fourth Plan 1969-74	physical achievements for 1969-70	physical targets for 1970-71	anticipated achievement 1970-71	targets for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**252·46**	**282·00**	**45·92**	**44·72**	**44·97**	**49·16**
2	Andhra Pradesh	12·80	6·00	1·69	1·81	2·01	1·20
3	Assam (general)	5·80	10·00	0·70	na	0·65	1·40
4	(hill areas)	1	1	1	1	1	1
5	(*total*)	5·80	10·00	0·70	0·65	0·65	1·40
6	Bihar	11·50	12·00	2·40	2·40	2·80	2·80
7	Gujarat	11·80	13·80	2·69	2·64	2·52	2·61
8	Haryana	4·05	1·80	0·50	0·43	0·40	0·20
9	Himachal Pradesh	3·74	22·00	0·87	0·93	1·27	2·20
10	Jammu and Kashmir	0·50	20·00	—	—	—	—
11	Kerala	17·50	12·60	2·18	2·14	2·35	0·70
12	Madhya Pradesh	26·50	16·00	4·28	4·00	4·00	3·00
13	Meghalaya	2	2	2	2	2	2
14	Maharashtra	25·60	9·30	0·63	2·42	2·17	1·06
15	Mysore	40·40	51·06	8·38	8·00	8·00	10·00
16	Nagaland	0·07	0·64	0·01	0·09	na	na
17	Orissa	20·30	15·20	2·02	2·06	1·85	3·64
18	Punjab	2·70	4·50	0·54	0·25	0·25	0·90
19	Rajasthan	0·50	—	—	—	—	—
20	Tamil Nadu	8·80	12·00	2·48	2·40	2·40	2·25
21	Uttar Pradesh	51·30	70·00	13·55	14·00	14·00	14·00
22	West Bengal	8·80	5·10	3·00	0·50	0·30	3·20
23	*union territories*	**6·00**	**2·00**	**0·42**	**0·30**	**0·30**	**0·50**
24	Goa, Daman and Diu	4·40	2·00	0·42	0·30	0·30	0·50
25	Tripura	1·60	—	—	—	—	—
26	*total*	**258·46**	**284·00**	**46·34**	**45·02**	**45·27**	49·66

1 Included under Economic Plantation.
2 Included under Assam.

NOTE : Andaman and Nicobar Islands, Manipur, NEFA, Chandigarh, Delhi and Dadra and Nagar Haveli—Nil.
na—Not Available.

ANNEXURE XXV

Economic Plantation for Industrial and Commercial Uses

(thousand hectares)

sl. no.	state/union territory	physical targets achieved at the end of 1968-69	targets for the Fourth Plan 1969-74	physical achievements 1969-70	physical targets for 1970-71	anticipated achievement for 1970-71	targets for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**559·66**	**317·46**	**42·55[1]**	**44·80**	**43·31**	**56·41**
2	Andhra Pradesh	30·00	12·20	2·53	2·76	2·76	2·50
3	Assam (general)	na	10·86	1·25	na	2·03	2·36
4	(hill areas)	na	2·23	0·29	na	0·40	0·29
5	(total)	17·50	13·09	1·54[1]	2·31	2·43	2·65
6	Bihar	29·20	12·20	1·40	2·01	1·29	1·75
7	Gujarat	20·70	12·60	2·22	2·23	2·28	2·72
8	Haryana	6·66	6·12	0·84[1]	1·33	1·22[1]	1·34[1]
9	Himachal Pradesh	12·00	45·00	2·29	2·70	2·51	4·00
10	Jammu and Kashmir	4·90	6·00	0·05	0·35	0·34	1·00
11	Kerala	46·70	12·60	2·45	2·49	2·49	3·08
12	Madhya Pradesh	28·90	20·00	3·43	3·60	3·60	6·00
13	Meghalaya	[2]	[2]	[2]	[2]	[2]	[2]
14	Maharashtra	44·00	35·00	3·44	3·78	4·75	4·75
15	Mysore	66·30	41·30	4·19	4·00	4·00	7·80
16	Nagaland	1·20	0·55	0·13	0·11	na	na
17	Orissa	33·50	14·80	1·69	2·63	2·63	3·64
18	Punjab	18·00	16·00	3·77	1·93	1·28	3·00
19	Rajasthan	14·40	6·80	0·41	0·80	0·20	0·20
20	Tamil Nadu	79·10	16·30	2·78	2·49	2·49	3·00
21	Uttar Pradesh	82·80	44·40	8·29	8·88	8·88	8·88
22	West Bengal	23·80	2·50	1·10	0·40	0·20	0·10
23	*union territories*	**25·03**	**23·65**	**2·69**	**2·70**	**3·03**	**3·29**
24	Andaman and Nicobar Islands	5·98	6·00	0·51	0·50	1·22	1·34
25	Dadra and Nagar Haveli	na	na	0·05	na	na	na
26	Goa, Daman and Diu	2·56	2·00	0·48	0·40	0·40	0·30
27	Manipur	1·34[3]	1·30	0·05	0·24	na	na
28	N.E.F.A.	5·05	10·10	0·99	0·80	0·65	0·90
29	*total*	**584·69**	**341·11**	**45·24**	**47·50[1]**	**46·36**	**59·70**

1 Includes figures of row kms. converted into hectares in the ratio 1 R. Km. —0·6 hectare.

2 Included under Assam.

3 Provisional and subject to revision. Chandigarh ; Delhi—Nil.

na—Not available.

ANNEXURE XXVI

Farm Forestry cum Fuel Wood Plantation

(thousand hectares)

sl. no.	state/union territory	physical targets achieved at the end of 1968-69	targets for the Fourth Plan 1969-74	physical achievements for 1969-70	1970-71		targets for 1971-72
					target	achievement	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**140·10**	**71·17**	**10·36**	**7·48**	**10·69**	**12·24**
2	Andhra Pradesh	6·20	5·00	0·99	1·13	0·72	0·72
3	Assam	—	0·20	—	—	—	—
4	Bihar	1·10	2·50	0·05	0·03[1]	0·50	0·50
5	Gujarat	0·80	3·30	0·79	na	0·79	0·80
6	Haryana	0·38	1·00	0·11	0·27	0·27	0·54
7	Himachal Pradesh	0·61	1·50	0·11	0·10	0·10	0·15
8	Jammu and Kashmir . . .	—	2·20	0·37	0·45	0·44	0·68
9	Kerala	2·30	0·50	0·17	0·10	0·10	0·10
10	Madhya Pradesh	1·00	1·00	—	—	—	0·25
11	Meghalaya	[2]	[2]	[2]	[2]	[2]	[2]
12	Maharashtra	0·45	4·00	0·84	0·51	0·51	0·56
13	Mysore	85·30	6·07	0·17	0·80	0·80	1·20
14	Nagaland	0·30	0·10	0·06	0·26	na	na
15	Orissa	0·60	1·40	0·16	0·14	0·14	0·20
16	Punjab	2·40	12·50	1·74	na	2·50	2·50
17	Rajasthan	0·96	0·80	na	0·20	0·20	0·20
18	Tamil Nadu	35·10	22·00	3·36	2·14	2·32	2·50
19	Uttar Pradesh	2·60	6·50	1·30	1·30	1·30	1·30
20	West Bengal	—	0·60	0·14	0·05	na	0·04
21	*union territories*	**1·84**	**3·70**	**0·19**	**0·33**	**0·06**	**0·23**
22	Delhi	0·03	0·40	0·03	0·07	—	—
23	Goa, Daman and Diu . . .	—	0·20	—	0·03	—	0·03
24	Manipur	0·10[3]	0·15	—	—	—	—
25	NEFA	1·03	1·95	0·08	0·13	—	—
26	Tripura	0·68	1·00	0·08	0·10	0·06	0·20
27	*total*	**141·94**	**74·87**	**10·55**	**7·81**	**10·75**	**12·47**

[1] Include figures of row kilometres converted into hectares in the ratio of 1 km—0·6 hectare.

[2] Included under Assam.

[3] Provisional and subject to revision Andaman and Nicobar Islands and Chandigarh—Nil.

N.A. Not available.

ANNEXURE XXVII

Targets and Achievements of Forest Communications

(thousand kms.)

Sl. no.	state/union territory	physical targets achieved at the end of 1968-69	targets for the Fourth Plan 1969-74	physical achievements for 1969-70	1970-71 target	1970-71 achievement	targets for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**37·92**	**10·13**	**0·62**	**0·74**	**1·11**	**1·37**
2	Andhra Pradesh	1·50	0·64	na	na	na	na
3	Assam (general)	—	0·20	0·02	—	0·02	0·02
4	(hill areas)	—	—	—	—	—	—
5	(total)	4·80	0·20	0·02	0·02	0·02	0·02
6	Bihar	5·04	1·00	0·15	—	0·25	0·25
7	Gujarat	0·18	0·07	0·03	0·01	na	na
8	Haryana	0·12	0·03	0·01	0·02	0·02	0·01
9	Himachal Pradesh	1·48	0·55	0·07	0·08	0·06	0·10
10	Jammu and Kashmir	0·85	0·24	0·03	0·09	na	0·06
11	Kerala	0·31	0·22	na	na	na	0·04
12	Madhya Pradesh	8·94	0·95	0·04	0·19	0·19	0·20[1]
13	Meghalaya	[2]	[2]	[2]	[2]	[2]	[2]
14	Maharashtra	1·51	0·66	0·11	0·11	0·30	0·20
15	Mysore	0·19	0·24	0·01	0·01	0·01	0·03
16	Nagaland	0·26	0·10	0·01	0·01	na	na
17	Orissa	3·10	0·47	0·04	0·02	0·09	0·11
18	Punjab	—	neg.	—	—	—	—
19	Rajasthan	1·52	0·18	na	0·05	0·05	0·05
20	Tamil Nadu	0·17	0·10	0·01	0·01	na	0·02
21	Uttar Pradesh	7·56	4·44	0·09	0·11	0·11	0·27
22	West Bengal	0·39	0·04	na	0·01	0·01	0·01
23	*union territories*	**1·62**	**0·93**	**0·07**	**0·09**	**0·04**	**0·07**
24	Manipur	0·32[3]	0·50	—	0·01	—	—
25	Goa, Daman and Diu	—	0·06	—	0·01	—	0·01
26	NEFA	1·00	0·20	0·07	0·04	0·04	0·06
27	Tripura	0·30	0·17	—	0·03	—	—
28	*total*	**39·54**	**11·06**	**0·69**	**0·83**	**1·15**	**1·44**

[1] It excludes : (a) Improvement of roads in hilly areas—400 kms.
(b) Improvement of roads in plain areas—250 kms.

[2] Included under Assam.

[3] Provisional and subject to revision.

NOTE: Andaman and Nicobar Islands, Chandigarh, Delhi and Dadra and Nagar Haveli.

ANNEXURE XXVIII

Outlay and Expenditure for Forest Schemes

(Rs. lakhs)

sl. no.	name of the scheme	Fourth Plan outlay 1969-74	actual expenditure 1969-70	anticipated expenditure 1970-71	proposed outlay 1971-72	total of cols. (3 to 5) 1969-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	plantation of quick growing species	1729·54	287·63	307·79	272·40	867·82
2	economic plantations for industrial and commercial uses	2145·10	313·14	365·37	429·69	1108·20
3	rehabilitation of degraded forests	299·59	37·04	52·46	66·20	155·70
4	farm forestry-cum fuelwood plantations	451·82	50·12	60·09	78·42	188·63
5	development of minor forest products	151·53	15·96	18·91	25·18	60·05
6	communications	851·40	69·21	99·69	166·37	335·27[1]
7	consolidation of forests including survey and demarcation.	297·31	58·23	78·97	81·64	218·84
8	development of pastures and grazing	72·85	4·55	16·26	13·21	34·02
9	nature conservation	352·18	58·37	70·60	96·89	225·86
10	training of staff	151·78	25·57	27·98	27·05	80·60
11	timber operations	639·87	79·14	105·58	163·38	348·10
12	forest protection	156·63	10·29	14·64	28·51	53·44
13	working plan organisation	153·06	35·73	22·10	26·11	83·94
14	forest research	179·53	12·65	21·49	44·07	78·21
15	publicity	58·62	4·76	9·26	12·25	26·27
16	establishment of statistical and planning cell	53·14	4·40	6·15	10·27	20·82
17	construction of buildings	366·14	47·01	56·14	84·37	187·52
18	amenities to staff and labour	51·49	6·31	5·39	6·73	18·43
19	Intensification of management	137·31	4·87	12·97	28·24	46·08
20	cultural operations	137·94	8·45	20·94	18·02	47·41
21	miscellaneous schemes	406·47	114·21	133·91	180·35	428·47
22	*sub-total*	**8843·30**	**1247·64**	**1506·69**	**1859·35**	**4613·68**
23	hill areas of Assam	50·00	8·67	9·15	9·50	27·32
24	hill districts of Uttar Pradesh	—	—	—	80·74	80·74
25	*total*	**8893·30**	**1256·31**	**1515·84**	**1949·59**	**4721·74**

[1] Scheme-wise details not available.

ANNEXURE XXIX

Outlay and Expenditure on Forests—State Sector

(Rs. lakhs)

sl. no.	state/union territory	Fourth Plan approved outlay	annual plan 1969-70 approved outlay	annual plan 1969-70 actual expenditure	annual plan 1970-71 approved outlay	annual plan 1970-71 anticipated expenditure	annual plan 1971-72 approved by Planning Commission
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**8133**	**1142**	**1233**	**1413**	**1495**	**1724**
2	Andhra Pradesh	225	35	46	42	45	50
3	Assam	342	50	45	80	64	64
4	Bihar	450	46	76	66	80	80
5	Gujarat	350	60	52	55	54	55
6	Haryana	150	17	16	25	31	35
7	Himachal Pradesh	980	100	103	110	110	131
8	Jammu and Kashmir	325	30	22	40	37	51
9	Kerala	446	50	51	75	81	84
10	Madhya Pradesh	725	120	106	150	150	220
11	Maharashtra	750	100	152	196	182	233
12	Mysore	400	119	119	100	116	100
13	Nagaland	113	15	11	18	18	30
14	Orissa	325	40	39	50	50	74
15	Punjab	300	40	58	46	45	67
16	Rajasthan	233	27	16	44	44	50
17	Tamil Nadu	440	70	50	78	74	81
18	Uttar Pradesh	1300	198	242	200	256	256
19	West Bengal	191	25	21	38	40	43
20	Meghalaya	88		8	1	18	20
21	*union territories*	**451·2**	**64·5**	**59·2**	**84·1**	**85·9**	**95.0**
22	Andaman and Nicobar Islands	67·4	10·9	8·4	14·5	14·4	16·0
23	Chandigarh	2·0	0·4	0·4	0·4	0·4	0.4
24	Dadra and Nagar Haveli	5·0	0·8	1·1	0·9	1·72	1.0
25	Goa, Daman, and Diu	70·6	16·8	21·8	14·4	15·7	14·9
26	Manipur	37·2	5·6	1·3	6·5	7·3	8·0
27	NEFA	160·0	15·0	17·1	30·0	30·0	32·2
28	Tripura	109·0	15·0	9·1	17·4	16·4	22·5
29	*total*	**8584·2**	**1206·5**	**1292·2**	**1497·1**	**1580·9**	**1819·0**

[1] Included under Assam.

NOTE : Nil for Delhi, Laccadive, Amindivi and Minicoy Islands and Pondicherry.

ANNEXURE XXX

Outlay and Expenditure on Forests—Central and Centrally Sponsored Schemes

(Rs. lakhs)

sl. no.	scheme	Fourth Plan outlay 1969-74	1969-70		1970-71		1971-72 approved outlay
			approved outlay	actual expenditure	approved outlay	actual expenditure	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*central sector schemes*	**373·00**	**45·54**	**39·39**	**53·47**	**55·97**	**65·56**
2	Forest Research Instt. and Coordinated Research Schemes . . .	175·00	12·00	7·18	15·00	10·36	21·00
3	Pre-Investment Survey of Forest Resources	160·00	28·00	25·81	33·00	28·28	37·61
4	Logging and Training Centres . .	13·00	4·43	4·43	4·24	15·28	4·70
5	Delhi Zoo.	25·00[1]	1·11	1·97	1·23	2·05	2·25
	centrally sponsored scheme						
6	Forest Resources Survey . .	20·00	20·00	13·82	20·00	20·00	20·00

[1] Including Rs. 19 lakhs on account of capital expenditure to be provided in the Budget of the Ministry of Works, Housing and Urban Development.

CHAPTER 12

COOPERATION AND COMMUNITY DEVELOPMENT

I. COOPERATION

THE Plan aimed at agricultural cooperatives on the one hand and consumer cooperatives on the other occupying a central position in the strategy of cooperative development. This called for a programme of rationalisation of the cooperative credit structure at the primary level and a high priority was accorded for the re-organisation of the societies into viable units. It was also decided to undertake suitable programmes directed towards the rehabilitation and reorganisation of the large number of district Central Cooperative Banks in rural areas to stimulate the flow of adequate cooperative credit. Along with credit, the Plan visualised that cooperatives will help to institutionalise various other services and supply of inputs to the greatest extent possible. It is in this context that a number of programmes were included in the Plan. The progress of these programmes is reviewed below.

Cooperative Credit

2. With the implementation of the programmes outlined in the Plan, the expectation was that the Co-operatives could aim at disbursing short and meduim term credit of the order of Rs. 750 crores in 1973-74. In other words, there should be an annual expansion of credit by Rs. 50 crores as by 1968-69, a figure of Rs. 502 crores had already been reached. As against this, the performance in 1969-70 has been only Rs. 542 crores representing a shortfall of nearly Rs. 10 crores as compared to the Plan target. Firm figures for 1970-71 are not yet available, but indications are that the growth of credit has been a little better than in 1969-70. Much better efforts are, therefore, called for in the remaining period of the Plan to achieve the target of Rs. 750 crores. The total figure, however, does not give a true picture of the situation. The increases have been mainly in a few States like Gujarat, Haryana, Kerala, Himachal Pradesh, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal. In the other States, there was either a stagnation or a decline (see Annexure III).

3. The Plan aimed at reorganising and rationalising the primary societies by bringing down the number from 1,68,000 to 1,20,000 by 1973-74. In 1969-70, a reduction of 3,000 non-viable societies was achieved. In 1970-71, also, the reduction was estimated to be of the same order. Rajasthan, Orissa, Madhya Pradesh and Kerala are reported to have nearly completed the process of reorganisation. Punjab and Haryana expect to convert most of the existing societies into viable units by the end of the Plan. There has not been any noticeable progress in the other States. The need to accelerate the pace of reorganisation in the remaining years of the Plan period does not need to be re-emphasised.

4. Overdues continue to stay at a high level. From a level of 35 per cent on 30th June, 1969, it has risen to 37·7 per cent on 30th June, 1970 at the primary agricultural credit societies' level on all-India basis. In some States, the position is very alarming indeed. In Assam, it is as high as 82 per cent, Orissa 63 per cent, Jammu and Kashmir 60 per cent and Bihar 50 per cent. Only Gujarat, Kerala and West Bengal have registered a marginal improvement. In other States, particularly Andhra Pradesh, Assam, Bihar, Haryana, Jammu and Kashmir, Mysore, Orissa, and Tamil Nadu, overdues have increased substantialy. On the eve of the Fourth Plan i.e., 30th June, 1969 proportion of overdues to outstandings at the level of central cooperative banks was 27 per cent for the country as a whole. It rose to 29 per cent on 30th June, 1970. An even more disturbing picture is obtained if these figures are disaggregated in terms of individual central co-operative banks. At Annexure 4 is a statement showing the number of central co-operative banks having overdues from 25 to 50 per cent and above 50 per cent in different States. It will be observed that there has been a steady deterioration over the last several years and the same trend was maintained during 1969-70. In this context, in the remaining period, highest priority will have to be given to measures for reduction of overdues to tolerable levels. Along side these measures, it is also contemplated that during the last two years of the Plan, a specific programme for rehabilitation of selected district central co-operative banks would be taken in hand with financial assistance from Government.

5. In areas where district central co-operative banks are weak, a scheme of financing the primary agricultural credit societies by commercial banks was introduced in 1969-70. Under this scheme, 20 commercial banks have been involved in financing directly the primary agricultural credit societies in 52 selected districts of five States, namely, Andhra Pradesh, Haryana, Madhya Pradesh, Mysore and Uttar Pradesh. This scheme has gradually gained momentum. In the light of the experience gained it will be necessary to extend

the scheme particularly to Eastern States and Rajasthan where the central cooperative banking structure is particularly weak.

6. The medium term loans advanced by co-operatives increased from Rs. 47·48 crores in 1968-69 to Rs. 52·34 crores in 1969-70. The total drawals by the cooperative banks against the Reserve Bank's medium term credit limits were Rs. 11·48 crores during 1969-70 as compared to Rs. 9·02 crores during the previous year. Even so, the extent of utilisation of medium term credit limits granted by the Reserve Bank of India (Rs. 18·30 crores) remained unsatisfactory.

7. The ordinary long-term loaning programme of the land development banks of the order of Rs. 123·67 crores in 1969-70 is estimated to have increased to Rs. 134·43 crores in 1970-71. A target of Rs. 160 crores is envisaged for 1971-72. The State-wise position is indicated in Annexure V. While the land development banks are thus showing the requisite organisational capacity to channel a larger volume of long term credit than the targeted amount of Rs. 700 crores for the entire Plan period, one of the constraints on their operation has been the limitation of loanable resources. The other inhibiting factor is the existence of high level overdues in case of certain banks. In Assam, Bihar, Kerala, Madhya Pradesh, Mysore, Himachal Pradesh and West Bengal, the percentage of overdues to demand at primary level exceeded 30 per cent as on 30th June, 1970. This tendency had been partly due to rapid expansion in the loaning programme without commensurate measures to liquidate the past overdues and partly due to administrative and managerial weaknesses. Steps will have to be taken by the concerned banks to strenghthen their administrative machinery to accelerate the recovery of loans and thus to check mounting overdues.

Cooperative Marketing

8. The Fourth Plan had envisaged an increase in the volume of internal trade in agricultural produce of the order of Rs. 317 crores, i.e., over Rs. 60 crores per annum on the average. The increase recorded by the cooperative marketing societies in the value of produce marketed by them in the first year of the Plan had not been satisfactory. Against the actual achievement of Rs. 588 crores in 1968-69, the value of produce marketed by cooperatives in 1969-70 is reported to have increased to Rs. 620 crores. The State-wise position is indicated in Annexure VI. The agricultural produce marketed during 1969-70 comprised of foodgrains (Rs. 223 crores), sugarcane (Rs. 260 crores) and other cash crops (Rs. 137 crores). The volume of agricultural produce marketed during 1970-71 is provisionally estimated to have increased to Rs. 655 crores.

9. Working arrangements have been made to secure larger participation of cooperatives in the procurement operations of the Food Corporation of India. The Food Corporation would operate its procurement mainly through cooperatives and would appoint private agents/traders only in areas where competent cooperatives are not available. The Food Corporation of India would also help in the development of cooperatives by entering into long term arrangements which would help the latter to evolve adequate administrative financial, processing, storage and other facilities. In the remaining Plan period it will be necessary to evolve similar arrangements between marketing cooperatives and the newly established Cotton Corporation of India and Jute Corporation of India.

10. In the export of agricultural produce, significant progress was registered on account of the measures undertaken by the National Agricultural Cooperative Marketing Federation. The value of agricultural produce exported by cooperatives exceeded Rs. 6 crores in 1969-70 as against Rs. 4.6 crores in the preceding year. It is likely that at this rate of progress the Fourth Plan target of agricultural export worth Rs. 10 crores in 1973-74 will be accomplished, if not exceeded.

Cooperative Processing

11. The Plan envisaged establishment of 550 additional cooperative units for processing of various agricultural commodities like sugarcane, cotton, paddy, oilseeds, fruits and vegetables. At the beginning of the Plan period, there were 1273 cooperative processing units functioning and the number increased to 1371 only by the end of June 1971, thus showing an increase of 98 units only during the two years' period. It is obvious that if the Plan target is to be substantially achieved, the rate of establishment of cooperative processing units will have to be considerably stepped up in the remaining period of the Plan. This will call for concerted measures in the direction of planning, financing and creation of processing units.

12. Among the processing programmes the Plan had envisaged 30 new cooperative sugar factories. As against this, the number of licensed cooperative sugar factories has already increased from 80 on the eve of the Plan to 118 by the end of June 1971. The number of cooperative sugar factories in production increased from 62 to 74 during the same period.

Cooperative Manufacture of Fertilisers

13. The biggest single project included in the cooperative sector of the Plan relates to the Indian Farmers' Fertiliser Cooperative Limited. This Cooperative is licensed to set up a long size fertiliser plant for the manufacture of 3,00,000 tonnes of ammonia and 3,96,000 tonnes of urea at Kalol and 4,75,000 tonnes of NPK complex fertilisers at Kandla. In 1971-72 the project has entered the construction phase with agreements for foreign exchange and rupee loans having been signed as also the contracts for the three plants. It is expected that the plants would be completed within a period of 33 months beginning from July 1971.

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14. During the year 1968-69, cooperatives distributed fertilisers of the order of about Rs. 200 crores. It is targeted that cooperatives will be distributing fertilisers of the value of Rs. 650 crores by the end of the Fourth Plan period. This envisages an average annual increase of Rs. 90 crores. However, the progress of cooperatives keeping in view the target, has not been satisfactory. During the year 1969-70, cooperatives distributed fertilisers of the order of Rs. 232·49 crores and the anticipated figure for the year 1970-71 is Rs. 250 crores. The target 1971-72 has been fixed at Rs. 300 crores. With this pace of progress, it is unlikely that the target of Rs. 650 crores fixed for the last year of the Fourth Plan period will be achieved. The State-wise details are given in Annexure VII.

Cooperative Storage

15. At the beginning of the Plan there was 2·6 million tonnes of storage capacity in the cooperative sector. The programme for the Fourth Plan period envisaged creation of an additional storage capacity of 2 million tonnes, implying an annual increase of 0·4 million tonnes on an average. The storage capacity increased to 2·7 million tonnes only by the end of 1969-70 and it is anticipated that this may further rise to 2·8 million tonnes by the end of 1970-71. Thus, there is a considerable shortfall in the implementation of this programme and it is feared that there will be a large gap in the requirements of storage capacity and the capacity actually available in the cooperative sector by the end of the Plan. Vigorous measures are therefore necessary to step up the programme.

16. Up to the beginning of the Plan, the programme of storage was being financed entirely out of Plan funds. However, the Plan visualised that cooperatives will, for this purpose, have increasing recourse to institutional finance mainly from the Agricultural Refinance Corporation and that the provision made in the Plan will be utilised essentially as margin money. However the performance on this account has not been very encouraging. The cooperatives have so far been able to avail of finance for creation of about three lakh tonnes storage capacity with ARC finance. It is felt that the additional storage capacity in the cooperative sector created during the Plan with budgetary as well as institutional finance will not exceed one million tonnes. In view of this approval has been given to a new scheme which should enable the National Cooperative Development Corporation to finance additional storage capacity in the cooperative sector to the extent of one million tonnes.

Consumer Cooperatives

17. The turn-over of urban consumers cooperatives during the year 1968-69 was of the value of Rs. 270 crores. It is targeted that the sales turnover of urban consumers cooperatives by the last year of the Plan should be of the order of Rs. 400 crores. The urban consumers cooperative are reported to have sold consumer goods of the value of Rs. 280 crores during 1969-70 recording an increase of Rs. 10 crores only over the base year. The performance during 1970-71 is not likely to be better. In fact, it is anticipated that sales might have declined. The trend of progress therefore appears to be quite tardy and it is unlikely that with this rate of progress, cooperatives will reach the targeted figure of Rs. 400 crores by the end of the Plan. The slow rate of progress could be *inter alia* attributed to the relaxation of controls and the comfortable food situation in the country thus reducing the scope for distribution of controlled commodities which cooperatives were mainly distributing The other main reason has been that most of the States have not been giving adequate priority to this programme in their Annual Plan allocations.

18. One of the redeeming features has been that in recent years consumer cooperatives have been able to diversify the range of business handled by them with the result that the sales of non-controlled commodities has risen from about 39 per cent in 1968-69 to about 49 per cent in 1969, 70. Another redeeming feature is that there has been a significant improvement in the performance of State and national level consumers federations. All the 14 State consumers federations except one, worked with profit during 1969-70 while in the preceding year, two of these had sustained losses. The sales turn-over of the national comsumers federations increased from Rs. 2·87 crores during 1968-69 to Rs. 4·27 crores during 1969-70 and to Rs. 4·79 crores in 1970-71.

19. Based on the points that have emerged during the mid-term appraisal, approval has been given to a new scheme under which, on a selectives basis, assistance could be provided from the Centre for the development of about 40 existing cooperative consumer retail outlets which have a potential for growth. Assistance would also be forthcoming for establishing retail outlets including departmental stores under the same scheme.

20. The Plan visualised an increase from estimated base year performance of Rs. 275 crores to Rs. 500 crores by the end of the Fourth Plan period in respect of the distribution of consumer goods in rural areas through primary agricultural cooperatives and marketing cooperatives. However, it is reported that cooperatives distributed consumer goods in rural areas of the value of about Rs. 243 crores during 1968-69 which declined to Rs. 226 crores during 1969-70. The decline in the sales turn-over of consmer goods through cooperatives in rural areas may be also mainly attributed to the relaxation of controls on food-grains and sugar, which were the main articles being distributed by the cooperatives in rural areas. There is, an urgent need for steps to accelerate this programme with a diversification of goods sold.

21. A notable feature of the cooperative development during the Plan was the organisation of five pilot rural electric cooperatives. These cooperatives were established one each in the States of Andhra Pradesh, Gujarat, Maharashtra, Mysore and Uttar Pradesh. A loan assistance amounting to Rs. 12·81 crores was provided by the Rural Electric Corporation on concessaional terms for implementing the projects formulated by these cooperatives. Out of the five pilot cooperatives assisted, three cooperatives have already started distribution of electricity and extension of new electric lines and connections.

Cooperative Training and Education

22. The Plan programme laid particular stress on the training of office bearers and members of cooperative societies. In this connection, it was also visualised that the programme of training will be revised in the light of an evaluation study conducted by the Programme Evaluation Organisation of the Planning Commission. This particularly envisaged that peripatetic instructors would be linked with cooperative training centres and the member education programme would be supported and supervised by central cooperative banks, marketing societies and other functional federations. The National Cooperative Union of India, which is the implementing agency for member education programme, organised four Regional Workshops to consider the recommendations contained in the report of the Programme Evaluation Organisation and have initiated action towards implementation of these recommendations. In pursuance of these recommendations, the institutional involvement in the member education programme is being gradually increased. However, it would appear that many States are not attaching the required importance to this programme and, in fact, some of the States like Jammu and Kashmir, Rajasthan, Tamil Nadu, Andhra Pradesh and Delhi have discontinued the member education programme and the Uttar Pradesh Government have also reduced this programme to half. There is a need for measures to evolve an agreed policy in this regard if the progress of cooperative education is to go forward smoothly.

Progress of Plan Expenditure

23. In the Plan, an outlay of Rs. 265·77 crores was provided for cooperative development programmes. Out of this, the provision for State Plan schemes amounted to Rs. 121 crores. Against this provision, the progress of expenditure so far has been as follows :

TABLE 1 : *Outlay and Expenditure on Cooperative Development Programmes—State Plan Schemes*

(Rs. crores)

year	approved plan outlay	actual/ anticipated expenditure
(1)	(2)	(3)
1969-70	12·16	18·31
1970-71	18·32	23.93
1971-72	28·11	

24. It would be observed that the actual expenditure during 1969-70 and the anticipated expenditure during 1970-71 had exceeded the outlays. The excess expenditure was due to the fact that some of the States were able to invest larger funds in share capital of cooperative credit institutions by borrowing from Long Term Operations' Fund of the Reserve Bank of India. It may also be added that in several States such as Andhra Pradesh, Jammu and Kashmir, Bihar, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal, a low percentage of the Fourth Plan outlays for cooperative programmes had been initially provided in the Annual Plans. State-wise break-up of the Fourth Plan outlays and expenditure incurred on cooperative programmes is indicated in Annexure I.

25. A provision of Rs. 144·75 crores had been made in the Plan for central and centrally sponsored schemes relating to Cooperation. Out of this, the actual expenditure incurred during 1969-70 amounted to Rs. 19·47 crores and the anticipated expenditure for 1970-71 is Rs. 30.42 crores.The progress of expenditure had been satisfactory for most of the schemes. A statement showing the outlays and progress of expenditure for centrally sponsored schemes and central sector schemes is given as Annexure II.

II. COMMUNITY DEVELOPMENT AND PANCHAYATS

26. In the Fourth Five Year Plan, an outlay of Rs. 115·46 crores is provided for the schemes of Community Development and Panchayats. Out of this amount, Rs. 98·11 crores are for the Plan schemes of various States and Union Territories. Against this provision, the progress of expenditure so far has been as follows:

TABLE 2 : *Outlay and Expenditure on Community Development and Panchayats—States and Union Territories Schemes*

(Rs. crores)

year	approved plan outlay			actual expenditure		
	C.D.	panchayats	total	C.D.	panchayats	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1969-70	17·12	1·33	18·45	18·25	0·57	19·82
1970-71 (anti)	20·35	1·29	21·64	24·12	1.33	25·45
1971-72	20·12	1·69	21·81			

it will be observed that against the Annual Plan outlays, the expenditure for the States and Union Territories taken together has exceeded the approved outlays. The position, however, is rather uneven between different States and Union Territories (vide Annexures VIII and IX).

27. For the Central and Centrally Sponsored schemes of the Department of Community Development, an outlay of Rs. 17·35 crores was provided in the Fourth Plan. Against this provision, the progress of expenditure so far has been as follows:

TABLE 3 : *Outlay and Expenditure on Community Development and Panchayats—Central and Centrally Sponsored Schemes*

(Rs. crores)

year	approved plan outlay			actual expenditure		
	central	centrally sponsored	total	central	centrally sponsored	total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1969-70	100·20	180·14	280·34	27·77	187·17	214·94
1970-71	71·59	204·00	275·59	53·78	225·60	279·38
1971-72	110·50	245·00	355·50			

In the Central sector, the progress of expenditure has been very slow under the following schemes : (i) composite programme for women and pre-school children (ii) orientation of school teachers in Community Development, (iii) prize competition schemes, (iv) photographic competition and (v) production of films on Community Development and Panchayati Raj. A new scheme for strengthening the National Institute of Community Development at an outlay of Rs. 22 lakhs has also been approved. In the centrally sponsored sector, the scheme relating to the Applied Nutrition Programme is making satisfactory progress. The scheme of Pilot Research Projects in Growth Centres has made very little progress so far. During the first year of the Plan, only preparatory work was completed. During 1970-71 all the 20 base areas have been identified for setting up of research and investigation cells. It is, however, expected that the scheme would gather momentum in the remaining years of the Plan. Annexure X gives the scheme-wise outlay and expenditure for central and centrally sponsored schemes.

ANNEXURE I

State-wise Outlay and Expenditure—Cooperation

(Rs. lakhs)

sl. no.	state/union territory	Fourth Plan outlay (1969-74)	1969-70 approved	1969-70 actual	1970-71 approved	1970-71 anticipated	1969-71 col. (4) + col. (6)	col. (7) as % of col. (2)	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**11641·00**	**1148·00**	**1751·01**	**1741·00**	**2305·12**	**4056·13**	**34·84**	**2712·15**
2	Andhra Pradesh	700·00	100·00	53·81	61·00	61·00	114·84	16·40	200·00
3	Assam	344·00	60·00	30·29	101·00	76·00	106·29	30·89	75·00
4	Bihar	720·00	60·00	38·32	97·00	97·00	135·32	18·79	125·00
5	Gujarat	500·00	100·00	136·58	90·00	120·00	256·58	51·31	111·00
6	Haryana	440·00	14·00	74·30	78·00	78·00	152·30	34·61	87.70
7	Jammu and Kashmir	290·00	25·00	38·00	33·00	31·46	69·48	23·95	40·00
8	Kerala	250·00	40·00	40·38	52·00	124·15	164·53	65·81	132·00
9	Madhya Pradesh	1400·00	140·00	267·00	280·00	300·00	567·00	40·50	315·00
10	Maharashtra	1600·00	85·00	287·45	308·00	483·00	771·25	48·20	435·00
11	Meghalaya	120·00	n.a.	10·58	n.a.	15·00	25·58	21·31	18·00
12	Mysore	1000·00	80·00	258·97	125·00	320·50	579·47	47·94	279·00
13	Nagaland	57·00	10·00	7·31	11·00	9·50	16·81	29·49	12.00
14	Orissa	400·00	40·00	58·00	70·00	88·00	146·00	36.50	80.00
15	Punjab	600·00	47·00	177·05	100·00	134·00	311·05	51·84	122.45
16	Rajasthan	320·00	37·00	71·07	61·00	71·00	142·07	44·39	67.00
17	Tamil Nadu	1280·00	200·00	93·85	124·00	134·71	228·56	17·85	209.00
18	Uttar Pradesh	1100·00	57·00	49·00	85·00	101·00	150·00	13·63	234.00
19	West Bengal	520·00	50·00	59·00	65·00	60·00	119·00	22·88	70.00
20	*union territories*	**460·63**	**68·00**	**79·75**	**91·01**	**88·06**	**167·81**	**36·43**	**98·68**
21	*total*	**12101·63**	**1216·00**	**1830·76**	**1832·01**	**2393·18**	**4223·94**	**34·90**	**2810·83**

ANNEXURE II

Outlay and Expenditure for Central and Centrally Sponsored Schemes—Cooperation

(Rs. lakhs)

sl. no.	scheme	approved Fourth Plan outlay	1969-70 approved outlay	1969-70 actual expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	1969-71 total of the actual/ exp.	1969-71 percentage to the Fourth Plan outlay	1971-72 approved outlay	1971-72 budget provision	1971-72 estimated shortfall
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	*total central schemes*	**12025·00**	**1966·84**	**1546·52**	**3558·46**	**2541·94**	**4088·46**	**34·00**	**3207·00**	**3205·17**	**40·00**
2	cooperative training and education . . .	275·00	49·04	44·93	50·31	54·24	99·17	36·06	60·00	58·92	—
3	assistance to NCDC for re-financing of block capital cost of processing units.	900·00	100·00	—	125·00	50·00	50·00	5·56	200·00	200·00	—
4	rehabilitation of Super Bazar	76·00	—	—	—	65·00	65·00	85·53	11·00	11·00	
5	development of NCCF Indian Farmers Fertiliser Coop.	50·00	17·80[2]	1·59	8·15[2]	0·85	2·44	4·88	11·00	10·25	15·00
6	share capital . . .	1800·00	100·00	100·00	1675·00	600·00	700·00	38·85	1075·00	1075.00	25·00
7	loans	2218·00[1]	—	—	—	—	—	—	—	—	—
8	assistance to coop. societies for share capital of IFFCO . . .	71·85	—	—	—	71·85	71·85	100·00	—	—	—
9	investment in the debentures of land mortgage banks	8852·15	1700·00	1400·00	1700·00	1700·00	3100·00	35·00	1850·00	1850·00	
10	*total centrally sponsored schemes* . . .	**2450·00**	**300·00**	**400·00**	**500·00**	**500·00**	**900·00**	**36·73**	**600·00**	**500·00**	
11	agricultural credit stablisation fund . . .	1000·00	200·00	200·00	200·00	200·00	400·00	40·00	200·00	200·00	—
12	margin money for fertiliser distribution . .	1450·00	100·00	200·00	300·00	300·00	500.00	34·48	400·00	300·00	—
13	*total* (1+10)	**14475·00**	**2266·84**	**1946·52**	**4058·46**	**3041·94**	**4988·46**	**34·46**	**3807·00**	**3705·17**	**40·00**

[1]Includes outlay of Rs. 15·80 lakhs and Rs. 6·35 lakhs for other miscellaneous schemes relating to consumer cooperatives in 1969-70 and 1970-71 respectively.

[2]The outlay represents the direct loan to IFFCO to provide counter-part rupee funds for the UK credit. As the amount under the Fund is to be deposited with the Government at the time of sterling credit allocating there would be no net budgetary outgo from the Government. Hence the amount has not been included in calculating total of Fourth Plan outlay for Central sector schemes.

ANNEXURE III

Short and Medium Term Loans by Primary Agricultural Credit Societies

(Rs. crores)

sl. no.	state	1968-69	1969-70	1970-71 antici-pated	1971-72 target	Fourth Plan target 1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Andhra Pradesh	25·89	26·61	27·50	32·00	40.00
2	Assam	2·86	1·77	3·00	4·00	3.00
3	Bihar	12·50	11·65	13·00	22·00	45.00
4	Gujarat	65·26	78·45	80·00	72·00	75.00
5	Haryana	12·18	15·01	17·00	17·00	20.00
6	Himachal Pradesh	—	3·99	4·00	4·50	—
7	Jammu and Kashmir	0·69	3·46	3·50	6·00	7·00
8	Kerala	20·41	25·93	30·00	27·50	35·00
9	Madhya Pradesh	40·36	46·48	50·00	61·00	70·00
10	Maharashtra	92·57	103·74	122·00	130·00	165·00
11	Meghalaya	—	—	0·03	0·03	—
12	Mysore	32·43	30·98	35·00	40·00	45·00
13	Nagaland	—	0·01	0·03	0·03	—
14	Orissa	11·30	9·48	12·00	18·00	22·00
15	Punjab	61·94	52·76	63·00	70·00	85·00
16	Rajasthan	14·55	13·85	17·00	23·00	30·00
17	Tamil Nadu	43·77	44·83	50·00	61·00	75·00
18	Uttar Pradesh	54·50	62·05	63·00	71·00	85·00
19	West Bengal	5·76	9·40	10·00	14·00	18·00
20	union territories	4·65	1·55	2·00	4·80	5·00
21	*total*	**501·62**	**542·00**	**601·06**	**650·00**[2]	**750·00**[1]

[1]The Fourth Plan targets proposed by the States/Union Territories aggregated to Rs. 825 crores.
[1]The target of States and Territories for 1971-72 aggregate to Rs. 677·66 crores.

ANNEXURE IV

Frequency Distribution of Central Cooperative Banks by Percentage of Overdues

sl. no.	state	25 to 50 per cent							above 50 per cent						
		June							June						
		64	65	66	67	68	69	70	64	65	66	67	68	69	70
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Andhra Pradesh	7	7	4	6	5	7	13	3	2	4	9	7	8	4
2	Assam	—	—	1	2	2	—	—	9	9	8	7	6	8	7
3	Bihar	20	13	13	17	9	9	7	9	9	9	6	17	19	21
4	Gujarat	3	1	—	2	4	6	4	—	1	1	2	1	—	—
5	Haryana	—	—	—	1	2	2	6	—	—	—	—	1	—	—
6	Himachal Pradesh	—	—	—	—	1	1	—	—	—	—	—	—	—	—
7	Jammu and Kashmir	2	2	2	1	2	1	—	1	1	1	2	—	2	—
8	Kerala	2	2	1	—	2	1	—	—	—	—	—	—	—	—
9	Madhya Pradesh	16	12	15	22	15	16	16	1	2	3	2	8	8	11
10	Maharashtra	2	2	10	13	13	11	13	2	2	1	3	4	5	4
11	Mysore	6	3	7	6	11	8	10	5	4	3	5	1	1	2
12	Orissa	6	5	4	5	5	7	11	1	1	2	4	3	3	6
13	Punjab	7	5	2	—	2	6	13	2	3	3	1	1	1	1
14	Rajasthan	12	8	11	9	10	17	12	8	10	7	13	10	2	8
15	Tamil Nadu	—	1	4	3	4	3	—	—	—	1	—	—	—	1
16	Uttar Pradesh	4	5	19	20	17	22	23	1	2	3	7	2	10	9
17	West Bengal	8	3	9	11	10	2	10	2	2	5	2	6	16	8
18	*total*	**95**	**69**	**102**	**118**	**114**	**119**	**138**	**44**	**48**	**51**	**63**	**67**	**83**	**82**

ANNEXURE V

Ordinary Long Term Loans Advanced by Land Development Banks

(Rs. crores)

sl. no.	state	1968-69	1969-70 anticipated	1970-71 anticipated	1971-72 target	Fourth Plan target 1969-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Andhra Pradesh	13·11	14·81	15·93	17·00	80·00
2	Assam	0·02	0·10	0·13	0·50	4·00
3	Bihar	1·97	2·67	5·68	8·00	40·00
4	Gujarat	20·27	19·51	19·47	18·00	90·00
5	Haryana	3·51	3·50	4·00	4·50	15·00
6	Himachal Pradesh	0·23	0·31	0·39	0·50	—
7	Jammu and Kashmir	0·22	0·21	0·32	0·60	3·00
8	Kerala	1·02	1·03	1·20	2·50	10·00
9	Madhya Pradesh	3·32	4·84	5·69	9·00	45·00
10	Maharashtra	25·62	25·05	14·03	30·00	160·00
11	Meghalaya	—	—	—	—	—
12	Mysore	5·06	5·28	6·55	12·00	60·90
13	Nagaland	—	—	—	—	—
14	Orissa	2·03	3·19	3·49	9·50	18·00
15	Punjab	6·19	9·66	12·15	9·50	45·00
16	Rajasthan	2·43	2·77	3·72	4·50	15·00
17	Tamil Nadu	16·24	14·34	20·92	18·00	90·00
18	Uttar Pradesh	16·29	15·11	19·12	20·00	100·00
19	West Bengal	1·06	0·97	1·24	2·50	13·00
20	union territories	0·16	0·32	0·40	1·56	3·00[2]
21	*total*	**118·75**	**123·67**	**134·43**	**160·00[2]**	**700·00[1]**

[1]The Fourth Plan target relates to loaning programme of the Land Development Banks through ordinary debentures and excludes loans for schemes to be refinanced by Agri. Refinance Corporation. The targets proposal by the States/Union Territories aggregated to Rs. 793 crores.

[2]The targets of States/Unon Territories for 1971-72 aggregate to Rs. 168·16 crores.

ANNEXURE VI

Progress of Cooperative Marketing of Agricultural Produce

(Rs. crores)

sl. no.	state	1968-69	1969-70 anticipated	1970-71 anticipated	1971-72 target	Fourth Plan target 1973-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Andhra Pradesh	23·49	23·40	25·00	21·50	40·00
2	Assam	9.65	12.70	13.00	4.50	25.00
3	Bihar	7·36	7·50	8·00	10·00	17·00
4	Gujarat	57·20	67·00	70·00	71·40	80·00
5	Haryana	14·41	21·20	23·00	20·00	20·00
6	Jammu and Kashmir	0·05	3·10	3·00	0·60	5·00
7	Kerala	8·23	8·20	9·00	13·50	18·00
8	Madhya Pradesh	11·72	14·30	160·00	30·00	40·00
9	Maharashtra	168·66	173·50	180·00	225·00	200·00
10	Mysore	26·37	26·50	28·00	42·00	55·00
11	Orissa	1·62	3·00	4·00	5·00	10·00
12	Punjab	76·12	74·50	81·00	90·00	100·00
13	Rajasthan	3·47	3·90	5·00	7·50	10·00
14	Tamil Nadu	25.25	24.60	27.00	29.00	35.00
15	Uttar Pradesh	145·64	148·00	150·00	155·00	200·00
16	West Bengal	6·91	6·00	7·00	7·50	20·00
17	*union territories*	2·51	2·60	6·00	7·00	10·00
18	***total***	**588·46**	**620·00**	**655·00**	**740·00**	**900·00**

ANNEXURE VII

State-wise Progress and Programme for Distribution of Fertilisers by Cooperative

(Rs. crores)

sl. no.	state	1968-69 actual	1969-70 provisional	1970-71 anticipated	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	Andhra Pradesh	13·62	10·32	14·00	15·00
2	Assam	neg.	—	—	2·00
3	Bihar	13·23	11·00	10·50	12·00
4	Gujarat	16·03	16·71	24·00	27·00
5	Haryana	8·01	10·00	12·50	18·00
6	Jammu and Kashmir	4·00	6·00	6·00	8·00
7	Kerala	4·27[1]	6·00[1]	7·00	10·00
8	Madhya Pradesh	6·15	10·00	13·50	18·00
9	Maharashtra	50·00	50·00	35·00	40·00
10	Mysore	10·58	11·10	12·70	15·00
11	Nagaland	—	—	—	—
12	Orissa	3·08	3·00	4·20	6·00
13	Punjab	35·46	46·30	50·00	50·00
14	Rajasthan	3·32	4·00	5·00	8·00
15	Tamil Nadu	11·71	16·28	17·00	26·00
16	Uttar Pradesh	19·29	29·28	33·80	35·00
17	West Bengal	0·97	2·00	3·00	8·00
18	*union territories*	1·08	1·50	2·00	3·00
19	***total***	**200·80**	**232·49**	**250·00**	**301·00**

[1]Estimated.

ANNEXURE VIII

Statewise Outlay and Expenditure for Community Development

(Rs. lakhs)

sl. no.	state	Fourth Plan outlay	1969-70		1970-71		1969-71		1971-72
			outlay approved	actual exp.	outlay approved	anticipated exp.	col. (4+6)	its percentage of Fourth Plan outlay	approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**8360**	**1598**	**1715.72**	**1927**	**2110·30**	**3826·02**	**45·8**	**1907·56**
2	Andhra Pradesh	500	80	153·79	170	170·25	324·04	64·8	150·00
3	Assam	285	99	71·90	64	59·60	131·50	46·1	62·00
4	Bihar	1200	268	243·74	254	280·67	524·41	43·7	220·00
5	Gujarat	481	80	112·81	96	96·00	208·81	43·4	90·00
6	Haryana	205	20	11·80	13	13·20	25·00	13·2	20·00
7	Jammu and Kashmir	100	37	37·00	21	21·00	58·00	58·0	14·00
8	Kerala	400	45	100·49	75	100·00	200·49	50·1	100·00
9	Madhya Pradesh	600	25	68·00	105	220·00	288·00	48·0	150·00
10	Maharashtra	800	164	148·18	357	400·45	548·63	68·6	378·00
11	Meghalaya	118	n.a.	33·79	25	25·00	58·79	49·8	22·00
12	Mysore	400	90	60·54	20	18·00	78·54	19·6	20·00
13	Nagaland	115	19	17·32	21	21·00	38·32	33·3	21·00
14	Orissa	400	69	68·00	64	64·00	132·00	33·0	80·00
15	Punjab	100	20	20·00	40	40·00	60·00	60·0	32·50
16	Rajasthan	280	65	60·36	65	65·00	125·36	44·8	58·00
17	Tamil Nadu	970	160	216·61	229	22·13	438·74	45·2	182·06
18	Uttar Pradesh	1015	283	217·00	223	223·00	440·00	43·3	237·00
19	West Bengal	391	74	74·39	85	71·00	145·39	37·2	71·00
20	*union territories*	**494**	**113·48**	**108·84**	**107·97**	**101·86**	**210·70**	**43·6**	**104·65**
21	*total*	**8854**	**1711·48**	**1824·56**	**2034·97**	**2212·16**	**4036·72**	**45·6**	**2012·21**

ANNEXURE IX

Statewise Outlay and Expenditure for Panchayats

(Rs. lakhs)

sl. no.	state	Fourth Plan outlay	1969-70		1970-71		1969-71		1971-72
			outlay approved	actual expenditure	outlay approved	anticipated expenditure	col. (4+6)	Percentage of fourth plan outlay	approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**795**	**117**	**52·12**	**96·15**	**116·79**	**168·91**	**21·2**	**150·20**
2	Andhra Pradesh	100	20	0·45	0·15	0·15	0·60	0·6	—
3	Assam	70	9	4·81	11·00	9·00	13·81	17·7	12·00
4	Bihar	60	5	0·33	5·00	4·64	4·97	8·3	5·00
5	Gujarat	20	20	2·86	4·00	4·00	6·86	34·3	4·00
6	Haryana	15	—	—	—	—	—	—	6·00
7	Jammu and Kashmir	35	5	5·00	5·00	5·00	10·00	28·6	6·00
8	Kerala	100	5	4·80	15·00	15·00	19·80	19·8	20·00
9	Madhya Pradesh	75	—	3·00	10·00	10·00	13·00	17·3	20·00
10	Maharashtra	—	1	—	—	—	—	—	—
11.	Meghalaya	—	—	—	—	—	—	—	—
12	Mysore	25	5	3·59	—	2·00	5·59	22·4	—
13	Nagaland	25	5	4·27	5·00	5·00	9·27	37·1	5·00
14	Orissa	20	2	—	4·00	4·00	4·00	20·0	5·00
15	Punjab	50	6	4·96	7·00	7·00	11·96	23·9	10·20
16	Rajasthan	40	7	0·05	8·00	8·00	8·05	20·1	8·00
17	Tamil Nadu	—	—	—	—	—	—	—	—
18	Uttar Pradesh	100	20	18·00	22·00	33·00	51·00	51·0	37·00
19	West Bengal	60	7	—	—	10·00	10·00	16·7	12·00
20	*union territories*	113	16	**5·30**	**18·20**	**16·73**	22·03	19·5	**19·18**
21	*total*	**908**	**133**	**57·42**	**129·20**	**133·52**	**190·94**	**21·0**	**169·38**

ANNEXURE X

Outlay and Expenditure for Central and Centrally Sponsored Schemes in Community Development

(Rs. lakhs)

sl. no.	scheme	approved Fourth Plan outlay	1969-70		1970-71		1969-71		1971-72
			approved outlay	actual expenditure	approved outlay	anticipated expenditure	total cols. (9+6)	its percentage of Fourth Plan outlay	approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*Central Plan Schemes* .	**590 ·00**	**100·20**	**27·77**	**71·59**	**53·78**	**81 ·55**	**13·8**	**110 ·50**
2	composit nutrition programme for women and pre-school children . .	390 ·00	70 ·00	9 ·76	32 ·50	32 ·21	4.97	10 ·7	69 ·00
3	demonstration feeding . encouragement of ceo. activities by Mahila Mandals	366 ·00	66 ·00	7 ·35	29 ·00	28 ·82	36 ·17	9 ·9	65 ·00
4	training of associated women workers . .	24 ·00	4 ·00	2 ·41	3 ·50	3 ·39	5 ·80	24 ·0	4 ·00
5	training, publicity, production of Lit. and youth programmes	200 ·00	30 ·20	18 ·01	39 ·09	21 ·57	39 ·58	19 ·8	41 ·50
6	incentive awards to youth mandals . . .	100 ·00	16 ·00	9 ·99	21 ·00	10 ·67	20 ·66	20 ·6	21 ·00
7	samellans . . .	18 ·00	3 ·00	2 ·07	3 ·00	2 ·98	5 ·05	28 ·0	3 ·00
8	training of youth workers in rural areas . .	10 ·00	2 ·00	1 ·19	2 ·00	1 ·30	2 ·49	24 ·9	2 ·40
9	orientation of school teachers in C.D. . .	5 ·00	1 ·00	0 ·34	0 ·82	0 ·27	0 ·61	12 ·2	1 ·00
10	research through univ. and other institutions .	24 ·00	4 ·00	3 ·00	3 ·77	3 ·89	6 ·89	28 ·7	5 ·60
11	prize compt. scheme .	4 ·00	0 ·70	0 ·47	1 ·00	—	0 ·47	11 ·7	1 ·00
12	estab. of inst. of trg. of youth in vill. occup. .	11 ·00	2 ·00	—	—	—		—	—
13	Lit. for non-officials Assoc. with panchayatiraj .	3 ·00	0 ·50	0 ·32	0 ·50	0 ·49	0 ·61	27 ·0	0 ·75
14	basic, and cultural Lit. for Non-Literates . .	5 ·00	1 ·00	0 ·63	1 ·00	1 ·55	2 ·18	43 ·6	1 ·50
15	photographic Compt. .	5 ·00	—	—	1 ·00	0 ·36	0 ·36	7 ·2	0 ·75
16	prodn. of films of CD and panchayatiraj . .	15 ·00	—	—	5 ·00	0 ·06	0 ·06	0 ·4	4 ·50
17	*Centrally sponsored schemes*	**1145 ·00**	**180 ·14**	**187 ·17**	**204 ·00**	**225 ·60**	**421 ·91**	**36 ·9**	**245 ·00**
18	applied nutrition programme	1000 ·00	155 ·14	187 ·13	180 ·00	224 ·04	411 ·17	4 ·10	225 ·00
19	pilot research project in growth centres . .	145 ·00	25 ·00	0 ·04	24 ·00	1 ·56	10 ·74	7 ·4	20 ·00

CHAPTER 13

FOOD AND NUTRITION

I. FOOD POLICY AND ADMINISTRATION

Food Policy

THE main objectives of food policy adopted in the Fourth Plan were as under :

(i) to ensure that the producers get reasonable prices and continue to have adequate incentives for increasing production;

(ii) to ensure that consumer prices are stabilised and, in particular, that the interests of the low income consumers are safeguarded; and

(iii) to build up an adequate buffer stock of foodgrains with a view to ensuring both the objectives mentioned above. The progress of implementation of the above objectives is briefly analysed below :

Procurement

2. Apart from State purchases, the Food Corporation of India has been acting as the principal agency of the Government in procurement of foodgrains. Procurement operations have been intensified right from the beginning of the Fourth Plan, both in the surplus and deficit States with the twin objective of meeting the public distribution requirements and building up of buffer stocks. The following figures show the progress of procurement cerealwise from 1968 :

TABLE 1: *Progress of Procurement of Cereals*

(million tonnes)

year	rice	wheat	coarse grains	total
(1)	(2)	(3)	(4)	(5)
1968	3·4	2·4	1·0	6·8
1969	3·7	2·4	0·4	6·5
1970	3·1	3·2	0·5	6·8
1971[1]	2·1	5·1	0·2	7·4

[1]Upto the end of Oct. 1971.

3. The Food Corporation of India has been active in undertaking necessary measureas to maximise procurement of wheat and paddy/rice. For regulated management of Food supplies, the Plan envisaged the procurement target for the country as a whole at a minimum of 8 million tonnes in any given year. It would be seen that the achievement in this direction has been impressive particularly during the current year and the target is likely to be fulfilled.

4. As a part of Government's comprehensive support-cum-procurement policy, the procurement prices are being announced before the start of the rabi and kharif harvesting seasons. The procurement prices in 1969-70 and 1970-71 were as follows :

TABLE 2: *Procurement Prices of Cereals*

(Rs. per quintal)

sl.no.	crop	1969-70	1970-71
(0)	(1)	(2)	(3)
1	paddy	45·00	45·00
		56·25	56·25
2	rice	72·69	74·30
		99·00	99·00
3	jowar	52·00[1]	55·00[1]
4	bajra	52·00[1]	55·00[1]
5	maize	52·00[1]	55·00[1]
6	ragi	52·00[1]	55·00[1]
7	wheat	76·00[2]	76·00[2]

[1]For Central Pool purchases.

[2]All varieties except indigenous red.

By and large, procurement prices have been maintained at the level adopted in 1969-70, is case of wheat throughout the country. As regards paddy/rice, the procurement prices were marginally raised in Haryana, Madhya Pradesh, Punjab and Tamil Nadu. In Andhra Pradesh, paddy prices were raised by Rs. 4 per quintal with a proportionate increase in rice prices. In other States, the procurement prices were maintained at the previous level.

Public Distribution

5. Pressure on the public distribution system indicates a declining tendency on account of sizeable increase in foodgrains and market arrivals during the past two years as well as in the current year. The public distribution of foodgrains since 1968 is given below :

TABLE 3: *Public Distribution of Foodgrains*

(million tonnes)

year	rice	wheat	other grains	total
(1)	(2)	(3)	(4)	(5)
1968	3·2	5·7	1·2	10·1
1969	3·5	5·2	0·8	9·5
1970	3·1	5·4	0·4	8·9
1971[1]	2·6	3·6	0·1	6·3

[1]Jan. to Oct. '71.

During 1971, an off-take of about 8·5 million tonnes, consisting of 3·5 million tonnes of rice, 5·00 million tonnes of wheat, and 0·2 million tonnes of other grains, was expected. The public distribution of foodgrains done so far gives an indication that the off-take at the end of the current year might turn out to be lower than the expected off-take of 8·5 million tonnes.

6. Stabilisation of consumer prices is of vital importance for protecting the intrests of consumers particularly in the low income groups. The consumer prices as measured by the All India working class consumer Price Index have been as follows from the beginning of the Plan :

TABLE 4: *All India Consumer Price Index Number for Working Class* (1949=100)

year	food index	general index
(1)	(2)	(3)
1968-69	223[1]	212[1]
1969-70	223	215
1970-71	n.a.	226

[1]Average based on 4 months figures in the interim series (1949=100) and eight months figures estimated from new series.

Whereas in earlier periods the prices of foodgrains were one of the major factors contributing to the rise in prices, these do not seem to have exerted much of pressure on the wholesale prices during the past two years and were almost steady in 1970.

Buffer Stock

7. In the Fourth Five Year Plan, considerable stress has been laid on the building up of buffer stock of foodgrains as a major instrument of food policy. The Plan visualised that a buffer stock of 5 million tonnes should be built by the end of the Plan period. During 1968-69, a start was made in this direction with a stock on hand at 1·6 million tonnes. The progress achieved so far is as under :

TABLE 5: *Level of Buffer Stock*

sl. no.	item	stock (million tonnes)	value (Rs. crores)	accretion to buffer stock (million tonnes)	financial investment for accretion to buffer stock (Rs. crores)
(0)	(1)	(2)	(3)	(4)	(5)
1	buffer stock on hand at the beginning of the Fourth Plan (1968-69) .	1·6	141	—	—
2	end of 1969-70	2·0	158	0·4	17
3	end of 1970-71	2·9	274	0·9	116
4	1971-72[1] .	4·9	431	2·0	157

[1]April to Sept. '71.

The achievement in building up of buffer stock of foodgrains has been impressive and the Plan target is fulfilled much before the end of the current year. An outlay of Rs. 69 crores, consisting of Rs. 50 crores from the budget and the remaining Rs. 19 crores from the banking sector, provided for financing buffer stock operations during the current year has already been exhausted. The buffer stock of 4·9 million tonnes at the end of September 1971, is composed of 0·6 million tonnes of rice, 4·0 million tonnes of wheat, and 0·3 million tonnes of coarse grains. On present indications, the Fourth Plan target of 5 million tonnes of buffer stock of foodgrains would not only be achieved but can easily be exceeded. However, a view about optimum stock of buffer stock which should be built up in the remaining Plan period is still to be taken. In taking this view, all relevant considerations would have to be considered. A substantial stock of foodgrains would stand us in good stead in facing any bad year in future as well as the conditions of the present emergency. However, the financial burden of a steady accrection of stocks is bound to eat into our resources for investment unless certain corrective steps are taken. One part of corrective steps is to evolve a more suitable price policy which, while continuing to maintain the incentive for the producer does not do so at the risk of generating inflation and an increase in income disparity or of slowing down of investment. In the case of cereals like wheat where production may be consistently in excess of current demand, the support price may have to be somewhat less than the procurement price. Adjustment in the price policy will have to be supplemented by a much larger distribution system. Such distribution system should be sought to be integrated with a large scale rural works programme which is currently in operation.

Food Corporation of India

8. The Food Corporation of India now acts as the sole purchasing and sale agency of the Central Government. They also act as a purchasing agent on behalf of some of the State Governments. The activities of the Corporation at present extend throughout the country. The progress achieved by the Food Corporation of India may be seen from the following figures :

TABLE 6 ; *Progress of Food Corporation of India*

(qty: lakh tonnes) (Value: Rs. crores)

sl. no.	item	1968-69 qty.	1968-69 value	1969-70 qty.	1969-70 value	1970-71 qty.	1970-71 value	1971-72 (estimated) qty.	1971-72 (estimated) value
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	purchase	87·14	714·69	97·32	725·57	88·12	739·14	95·50	806·77
2	sale	66·35	567·20	88·52	759·55	75·35	683·99	70·35	629·07

The work of the F.C.I. is progressively increasing and has been assuming a crucial role in food administration.

II. Nutrition

9. The Fourth Plan attempted to frame a coordinated nutrition programme. While the Plan visualised stepping up of research with a view to breeding cereal varieties with high protein content, specific programmes of nutrition having impact in the short run were given high priority. In formulating them, the following requirements were kept in view :

(i) since resources are limited, it is necessary to establish priorities with reference to needs, classes and areas;

(ii) it is important to improve the efficiency, and extend the coverage, of the organisations which serve the needs of the priority age-groups, classes and areas, and

(iii) programmes of distribution should be supported wherever this is necessary, by programmes of production, processing and supply.

Production of Unconventional Protein Foods

10. For supplementing the diets, some schemes for the production of unconventional protein foods like balahar, cotton seed flour, weaving food, groundnut flour and soyabean products have been initiated in the Fourth Plan. It was envisaged to manufacture 2·5 lakh tonnes of balahar it was envisaged to manufacture in the Fourth Plan period. During the first two years of the Plan, only 18,000 tonnes of it could be manufactured. The target of production of 50,000 tonnes of balahar in the current year seems to be high. Even if this rate of production is achieved, the total production of balahar in the Fourth Plan period may not exceed 1·5 lakh tonnes leaving a gap of about 1 lakh tonnes in the Fourth Plan target. Even though there may be a shortfall in production target, Fourth Plan outlay for balahar will have to be enhanced as it has been decided that from 1971-72 onwards the expenditure on groundnut flour will have to be incurred indigenously which was so far coming as aid. A new formula for the production of balahar (70% cereals, 15% groundnut flour and 15% soya flour) will be adopted during the second half of 1971-72.

11. A unit for the processing of maize for human consumption is being established by the Food Corporation of India. This unit will be producing corn flour which could be utilised as one of ingredients of balahar. The possibility of establishing a unit for commercialisation of balahar along with establishment of maize milling plant is also under examination.

12. A project for fortification of Atta with vegetable protein, Vitamin 'A', mineral nutrients, calcium and iron was initiated in 1970. A total quantity of about 40,000 tonnes of fortified atta has been produced in collaboration with flour mills in Bombay and Calcutta and has been distributed to under-privileged groups of both urban and rural population.

13. A scheme for the production of cotton seed flour is being worked out in detail. The production of low cost weaning food for children is being developed at the Kaira Cooperative Union with the assistance of UNICEF and USAID. So far about 100 tonnes of BALAMUL has been produced by the Kaira Union.

Nutrition Education

14. For nutrition education involving dissemination of knowledge regarding proper food habits, 'applied nutrition programme' and 'composite programme for women and children' have been taken up. The applied nutrition programme is a continuing one. This programme is normally taken up in 10 villages in a block for the first year and gradually extended later, so as to cover the entire block. It was envisaged to extend this programme in another 450 blocks in the Fourth Plan period in addition to 734 blocks already in operation on the eve of the Fourth Plan. Out of the total of 450 blocks, 285 blocks have been allotted till 1971-72. It is hoped that the balance of 165 blocks will be taken up during the remaining two years of the Plan period. Considering the pace of progress, there may be need of about Rs. 90 lakhs additional outlay for this scheme during the remaining Fourth Plan period.

15. The composite programme for women and pre-school children has five elements *viz.*, (i) nutrition education through Mahila Mandals, (ii) strengthening the supervisory machinery for women workers; (iii) encouragement of economic activities by Mahila Mandals; (iv) training of associate women workers and (v) demonstration feeding. Elements (i) and (ii) are in the State sector and the rest in the Central sector. For the Central sector components an outlay of Rs. 3·90 crores has been provided in the Fourth Plan. Against this, the actual expenditure during 1969-70 and 1970-71 is of the order of Rs. 41·81 lakhs which constitute about 11% of the Fourth Plan outlay. The outlay provided in the Annual Plan 1971-72 is Rs. 69 lakhs. The scheme could not make much progress during the first two years of the Plan as the condition of making counter-part provision by the State Governments for the two state sector components proved to be the main impediment in the implementation of the programme. From 1970-71 onwards this condition is proposed to be relaxed. It is hoped that this programme will get accelerated during the remaining years of the Plan.

Special Measures for Vulnerable Groups

16. The Fourth Plan lays stress on the scheme benefiting pregnant women, infants and young children. The mid-day feeding programmes of

school children which covered 11 million children in 1968-69 was envisaged to extend to 14 million children by the end of the Fourth Plan. However, the coverage of the programme came down in 1969-70 to 10 million children only, as the State Government of Bihar curtailed the programme when famine conditions were over in the State. It is expected that in 1971-72 the number of beneficiaries under this programme may remain at the level of 1968-69 itself. The State Government of Bihar has discontinued the scheme from 1971-72. The State Government of Haryana has transferred the scheme from the current financial year to non-plan budget. Although in financial terms the scheme is making satisfactory progress yet it is doubtful in the Fourth Plan physical target would be achieved.

17. The programme of nutritional feeding of pre-school children through Balwadis of the Department of Social Welfare for which a provision of Rs. 6 crores was made in the Fourth Plan could be inaugurated only in December 1970. This scheme is implemented with the help of Indian Council of Child Welfare, Bhartiya Adamjati Sevak Sangh, Harijan Sewak Sangh and the Central Social Welfare Board. Upto the end of 1970-71 only 19 thousand children could benefit from this scheme with an expenditure of Rs. 1·80 lakhs. It is hoped that the scheme will make desired progress in 1971-72 when about Rs. 102 lakhs are expected to be spent on it.

18. The Department of Social Welfare has also formulated a special feeding programme for pre-school children in the age group 0-3 years in tribal areas and slum areas of metropolitan cities. This scheme was launched in 1970-71 when 6·8 lakh children—3·4 lakh in tribal areas and 3·4 lakh in slum areas were envisaged to be covered with an outlay of Rs. 4 crores. However, only Rs. 1·3 crores could be utilised in that year since the programme commenced late. It is proposed to extend this programme to include the entire group of pre-school children upto the age of years as well as expectant and nursing mother and tribal development blocks, urban slums of cities having more than 1 lakh population and also in the special poverty pockets outside these areas.

Plan Outlay and Expenditure

19. An outlay of Rs. 45·18 crores was provided in the Fourth Five Year Plan for the Nutrition Programmes in the States and the Centre together. This outlay was revised to Rs. 42·51 crores on account of a reduction in outlays of the two schemes of the Ministry of Health and Family Planning as shown below :

TABLE 7: *Provision for Some Selected Schemes under Nutrition Programmes*

(Rs. lakhs)

sl. no.	item	original Plan Provision	revised Plan Provision
(0)	(1)	(2)	(3)
1	prophylaxis against nutritional anaemia in mothers and children	405	200
2	control of blindness in children caused by vitamin 'A' deficiency	102	40

These two schemes of the Ministry of Health and Family Planning had made a small beginning during 1970-71. The other two schemes of this Ministry were not taken up for implementation even by the end of 1970-71. Similarly, the schemes of Nutrition Feeding of pre-school Children through *Balwadis* of the Department of Social Welfare was commenced only in December 1970. The Composite Nutrition Programme for Women and Children has made only relatively slow progress during the first two years of the Fourth Plan. A few Nutrition Programmes of the Department of Food could not make much headway during the first two years of the Plan. Hence the progress of expenditure has not been satisfactory. Considering the progress of various programmes so far, it is felt that there will be a shortfall of about Rs. 8-10 crores.

CHAPTER 14

IRRIGATION AND FLOOD CONTROL

I. MAJOR AND MEDIUM IRRIGATION

THE area under major and medium irrigation increased from 9·7 million hectares at the commencement of the First Plan to a potential of 18·5 million hectares and a utilisation of 16·8 million hectares by the end of 1968-69. The potential is targeted to increase to 23·3 million hectares and utilisation to 20·7 million hectares at the end of the Fourth Plan.

2. Irrigation benefits targeted to be created over the Fourth Plan years are shown in table 1. Also shown are the cumulative benefits to end of 1969-70, 1970-71 and 1971-72.

TABLE 1: *Potential and Utilisation under Major and Medium Irrigation Schemes*

(million hectares gross)

sl. no.		addl. benefits during Fourth Plan	additional benefits in first 3 years	percentage benefits in first 3 years to Fourth Plan target	cumulative benefits to end of				
					1969-70		1970-71		1971-72 target
					target	actual	target	actual	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	potential	4·77	1·91	40	19·47	19·14	20·01	19·75	20·39
2.	utilisation	3·89	1·72	44	17·67	17·14	18·14	17·68	18·35

3. Annexure I gives a break-up of these areas for individual States. In the first three years of the Fourth Plan, only about 40 per cent of the targeted potential is likely to be achieved. The bulk of potential would be added during the next two years as several projects get completed towards the end of the Fourth Plan. In view of the rise in costs since the formulation of the Plan, a shortfall of about 0·8 million hectares may be expected in the potential compared to the Fourth Plan target.

4. There is evidence of reduction in the gap of created potential and utilisation. Against the national average of utilisation of 85 per cent of the potential created, Bihar, Madhya Pradesh and Maharashtra have utilisation figures in the range of 50-60 per cent. In Bihar, Kosi, and in Madhya Pradesh (Only Chambal are) responsible for the excess in lag. In Maharashtra, it seems to be a common characteristic for most of the projects.

Outlays and Expenditure

5. The Fourth Plan outlay on major and medium irrigation schemes is Rs. 951 crores. This includes Rs. 42 crores for investigations and research.

6. While formulating the Fourth Plan, it was envisaged that, during this period, almost all the continuing medium schemes would get completed and major schemes on which substantial expenditure had been incurred would get completed or come to a stage when benefits would start accruing from them. For medium continuing schemes it was possible to provide their full spill-over cost of Rs. 103 crores. For the major schemes on which appreciable progress had been made, Rs. 582 crores could be provided against their spill-over cost of Rs. 819 crores. Towards the other ongoing projects on which substantial progress had not been made, a provision of Rs. 86 crores was made. It was envisaged that partial benefits from some of them would start flowing in during the first year of the Fifth Plan.

7. It was proposed to take up new schemes mostly in the latter part of the Fourth Plan for, which a provision of Rs. 138 crores was made. Up to September 1971 new schemes worth Rs. 130 crores have been accepted for inclusion in the Plan.

8. The expenditure incurred in the first two years and outlays approved for 1971-72 for major and medium irrigation programmes along with the Fourth Plan provisions are indicated in table 2.

TABLE 2: *Outlays and Expenditure on Major and Medium Irrigation*

(Rs. crores)

sl. no.		Fourth Plan provision	expenditure in 1969-70	anticipated expenditure in 1970-71	percentage of expenditure in first 2 years	outlay approved for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	states	932·25	174·35	187·02	38·8	202·62
2	union territories	3·70	0·10	0·04	3·7	0·08
3	central sector	15·50	1·67	2·30	25·6	3·05
4	*total*	**951·45**	**176·12**	**189·36**	**38·4**	**205·75**

The State-wise details of expenditure are given in Annexure II. Expenditure on irrigation programmes during the first three years is about 60 per cent of the Plan provision, as compared to the average of 54 per cent for the Plan as a whole.

9. As indicated earlier, the requirements of all the continuing major schemes could not be met in full. The provisions made for certain projects in State Plans were not adequate, being related to what could be accommodated in the State Plans rather than to the needs of the projects themselves. The problem has been further accentuated by the rise in cost of a number of projects. This has contributed to the higher rate of expenditure obtaining under the major and medium irrigation sector. For the seven projects listed in Annexure III the actual outlays for the first three years alone are Rs. 190 crores as against the total provision of Rs. 227 crores for them. It is obvious that even keeping to the current pace of investment (which is not the optimum), the expenditure during the Fourth Plan will exceed the approved provision available for this sector by over Rs. 100 crores. The excess expenditure will mostly be in Nagarjunasagar (Rs. 20 crores), Pochampad (Rs. 20 crores), Kosi (Rs. 6 crores), Ukai (Rs. 5 crores), Beas Unit II (Rs. 27 crores), Ramganga (Rs. 8 crores), and Project Assist (Rs. 8 crores).

10. The cost of most of the major and medium irrigation projects, continuing from earlier Plans, has been going up. Since the preparation of revised estimates and their formal approval after scrutiny both in the State and the Centre take quite some time, the likely increases in the costs of projects under revision as assessed by the States were taken into account at the time of formulation of the Fourth Plan. The important major projects whose costs have gone up are listed in table 3.

TABLE 3: *Estimated Costs of some Major Projects*

(Rs. crores)

sl. no.	name of scheme	estimated cost: at the time of Fourth Plan formulation	estimated cost: as indicated by the states
(0)	(1)	(2)	(3)
1	Nagarjunasagar (Andhra Pradesh)	171·20	200·00
2	Pochampad (Andhra Pradesh)	80·50	90·25
3	Gandak project (Bihar)	107·16	130·56
	Kosi project (Bihar) . .		
4	Irrigation	61·00	74·00
5	Flood Control . . .	30·00	36·00
6	Beas Unit II (Haryana, Punjab and Rajasthan). . .	163·00	193·00
7	Periyer Valley (Kerala) .	6·49	11·00
8	Pamba (Kerala) . . .	9·20	17·90
9	Kuttiadi (Kerala) . .	5·20	12·60
10	Kallada (Kerala) . .	14·49	45·00
11	Jayakwadi (Stage I) (Maharashtra) . . .	60·00	74·36
12	Rajasthan Canal (Stage I) .	110·20	118·80
13	Ramganga Project (Uttar Pradesh)	85·71	91·71

The revised estimates for some of these project have since been received in the Central Water and Power Commission for scrutiny while in other cases they are awaited from the States.

11. Apart from increase in the cost of materials and labour, which is a common factor, the other important reasons contributing to rise in costs have been (i) higher cost of land compensation and rehabilitation, (ii) provision of certain engineering structures not included earlier like lining of canals, distribution system down to 100 acre-blocks and drainage system, (iii) inadequate investigations, (iv) revision in the scope of projects and (v) increase in the construction period due to dispersal of investment over a large number of projects. The high cost of land compensation and rehabilitation is responsible for increase in the cost of Beas Project and Periyar Valley, Pamba, Kallada, Kuttiadi and Pazhassi projects of Kerala. The entire increase in the cost of Beas Project Unit II is due to increase in compensation for land from Rs. 18 crores to Rs. 45 crores and an increase in expenditure of Rs. 3 crores towards resettlement of oustees. Although the estimates of Kerala schemes were approved in 1964 or later they were based on 1959-60 prices. Since then the cost of labour is reported to have increased three-fold and cost of land four to five times. The steep rise in cost of Kerala projects is also on account of inadequate investigations. The Pochampad Project in Andhra Pradesh also falls in this category, increase in cost being on account of additional structures, water courses and drainage not envisaged earlier. The cost of Gandak and Kosi projects of Bihar has gone up due to provision of drainage bridges at closer intervals, water courses and some engineering structures.

12. The effect of increase in cost would be three-fold. It slows down the physical progress on certain ongoing projects like Pamba, Kuttiadi, Pazhassi(Kerala), Jayakwadi Stage I(Maharashtra), Pochampad (Andhra Pradesh) and Ramganga (U. P.), which were earlier proposed to be substantially completed in the Fourth Plan but would now spill-over into the Fifth Plan and, thus, postpones the benefits. Secondly, owing to increase in cost, funds would get diverted to completing the continuing projects. This will postpone the taking up of new projects earlier envisaged for the Fourth Plan and reduce the possibility of creating adequate potential in the Fifth and Sixth Plans. Thirdly, it would not be possible to achieve the target of irrigation benefits unless the Fourth Plan allocations for such projects are suitably enhanced to cover the increases in cost.

13. At the time of the formulation of the Fourth Plan, the spill-over cost of the continuing major and medium projects was estimated at Rs. 1,260 crores. Since then as already stated earlier, the costs of projects have gone up. Whereas a number of States have reported the increase in cost of various projects, others have still not done so. The costs are, however, expected to go up specially on some projects in Mysore, Maharashtra, Madhya Pradesh and Bihar. As estimated in the Planning Commission, the total spill-over on continuing projects into Fourth Plan is expected to be Rs. 1,730 crores. At the time of the formulation of the Fourth Plan, it was envisaged that new schemes worth Rs. 750 crores would be approved and work initiated. It is now felt that this figure may be of the order of Rs. 650 crores. The expenditure on new schemes during first two years was Rs. 16 crores and an outlay of Rs. 18 crores has been provided for 1971-72. The State-wise details are given in Annexure IV.

Advance Action required for Fifth Plan

14. A tentative target of 6 million hectares has been assumed for the Fifth Plan. To achieve this target, an outlay of Rs. 40 crores would be required during the Fourth Plan itself in order to expedite work on some of the schemes already in hand and to start work on other selected schemes. From the magnitude of spill-over into the Fifth Plan, the position with regard to the number of ongoing schemes appears to be satisfactory, but in certain States, schemes would have to be got ready in time and, in some cases, preparatory field work will have also to be taken up in the last year of the Fourth Plan; specially in Madhya Pradesh, Bihar, Jammu and Kashmir, Punjab, Rajasthan, Tamil Nadu and West Bengal. In Madhya Pradesh and Tamil Nadu, inter-State disputes on Narmada and Kaveri basins are likely to hamper advance action. Currently, water disputes on the river basins of Krishna, Godavari and Narmada are before Tribunals. On account of the disputes, it has not been possible to approve new projects in these basins. There is a very large un-utilised potential in basins of Godavari and Narmada. As the construction period of irrigation projects is quite long, this problem, unless it is resolved quickly, is likely to create serious difficulties in the matter of attaining the projected potentials beyond the Fifth Plan.

II. Minor Irrigation

15. The benefits under the minor irrigation schemes flow from small storage tanks, river pumping projects, State tube-wells, private wells and tube-wells and also from improvement of irrigation supplies and from the construction of small drainage and embankments. The total benefits as derived from the investment from the public sector, the financing institutions and private resources at the beginning of the Fourth Plan were 19 million hectares. The Fourth Plan target of net new irrigated area was 3.2 million hectares, bringing the total at the end of the Fourth Plan to 22·2 million hectares. The details of achievements are indicated in table 4.

Table 4: *Benefits from Minor Irrigation*

(million hectares)

sl. no.		Fourth Plan	1969-70 actuals	1970-71 anticipated	1971-72 target
(0)	(1)	(2)	(3)	(4)	(5)
1	new irrigation added .	4·8	0.80	1·468	0·98
2	depreciation on existing works	1·6	0·26	0·326	0·30
3	net new irrigated area .	3·2	0·54	0·652	0·68
4	benefits due to improvement of irrigation supplies .	2·4	0·40	0·490	0·60

16. In recent past, there has been a phenomenal growth in the exploitation of ground water which received a stimulus from the time of the unprecedented droughts in 1965-66 and 1966-67 and also with introduction of more efficient equipment for drilling. The progress is indicated in table 5.

Table 5: *Achievements of Pumpsets/Tubewells*

sl. no.	item	unit	achievements during 1969-70	achievements during 1970-71
(0)	(1)	(2)	(3)	(4)
1	electrical pumpsets	thousand	160	265
2	private tubewells	thousand	90	100
3	state tubewells	numbers	800	1000
4	dug wells	thousand	NA	170

Although it is desirable to develop ground water projects on an area basis, this has been possible only in respect of schemes undertaken with refinance from A.R.C. For the rest, it is still a goal to be pursued. In several States, the drilling facilities are provided by Government and subsidised; commercial operation is also developing on a considerable scale.

17. On an average, a pumpset runs for 700 hours in a year and there is a declining trend with the increase in the number of pumpsets over a particular area. While the average time of operation of a pumpset per annum is above 1400 hours in Gujarat and 1100 hours in Tamil Nadu, it is around 650 hours in Andhra Pradesh and 500 hours in Bihar. This low utilisation is partly due to the small size of the holding and its fragmentation. Each farmer likes to have his individual pump. Also tubewells cater for supplemental irrigation either in irrigated areas from surface sources or rain-fed areas. In the southern region, there is a possibility of the water table being lowered due to the large number of pumps in operation. This also prevents the pumps from running for longer hours. These facts underline the need for measures to improve the more efficient and economic utilisation of ground water resources.

TABLE 6: *Energy Consumption on Pumpsets*

year	no. of sets in operation	total connected load (mw)	energy consumption m. kw.	consumption per pumpset kWh.	consumption per kW connected load kWh
(1)	(2)	(3)	(4)	(5)	(6)
1966-67	649182	2501	2107	3245	842
1967-68	847357	3175	2585	3056	814
1968-69	1088774	4155	3466	3190	843
1969-70	1342006	5106	3770	2809	739
1970-71 (anticipated) . .	1642006	6254	4110	2500	655

18. The Exploratory Tubewell Organisation set up in 1954 was reorganised as the Central Ground Water Board in 1970. Among the activities of the Board are ground water exploration, studies for water resources evaluation and management, technical feasibility evaluation of area development financed by institutional agencies, developing expertise and providing training facilities for State Government personnel. The general exploratory work has been conducted in the first two years in Gujarat, Madhya Pradesh, Punjab, Haryana, Jammu and Kashmir, Uttar Pradesh, West Bengal, Andhra Pradesh, Tamil Nadu, Orissa and Tripura.

TABLE 7 : *Progress made by Central Ground Water Board*

sl. no	item	unit	fourth Plan target	provisional		
				1969-70	1970-71	1971-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	outlay (net)	Rs. lakhs	850	117	145	161
2	wells drilled	numbers	1256	240	266	421
3	successful wells . . .	numbers	—	162	172	—
4	total drilling	metres	—	51564	59416	—
5	total area explored . .	sq. kms.	204100	19286	25000	N.A.
6	proved area for ground water development . .	sq. kms.	—	4420	N.A.	—
7	potential for additional tubewells	numbers	—	1675	N.A.	—
8	total area likely to be benefited by tubewell irrigation	thousand hectares	—	138	N.A.	—

As against a target of 400 wells in 1969-70, the actual achievement was 240. The performance was low as only 33 rigs could be deployed against 44 planned for. One of the significant developments in the technique of operation is that deeper drilling up to a depth of 640 metres with an average around 520 metres was possible from 1969-70 unlike shallow drilling in the past. One of the causes of comparatively slow progress is the dispersal of programme and the consequential operational problems. The problem has since been attempted to be tackled by opening a new division and a few sub-divisions.

19. The public sector outlay earmarked for minor irrigation is Rs. 516 crores. The progress of expenditure for the first two years and outlay for 1971-72 are given in table 8.

TABLE 8 : *Outlay and Expenditure on Minor Irrigation*

(Rs. lakhs)

sl. no.	category	Fourth Plan outlay	1969-70 outlay	1969-70 expenditure	1970-71 outlay	1970-71 anticipated expenditure	1971-72 outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	states	50768	8477	9160	9040	9887	9849
2	union territories	364	69	48	77	93	87
3	centre	800	220	125	242	134	161
4	*total*	**51932**	**8766**	**9333**	**9359**	**10114**	**10097**
5	percentage of Fourth Plan outlay			18		20	20

The State-wise outlays and expenditure are indicated in Annexure V. There was some shortfall in expenditure in Bihar while the expenditure exceeded the outlay in Gujarat, U. P. and Tamil Nadu.

Institutional and other Financial Support

20. The public sector outlay is expected to be supplemented by support from the financial institutions including commercial banks to the extent of about Rs. 650 crores and an estimated investment by cultivators from their own resources of Rs. 300 crores. The outlay for rural electrification programme, which is essential for lift schemes, is Rs. 445 crores in the power sector. Thus, the total investment in minor irrigation from all sources in the Fourth Plan is estimated at Rs. 1,911 crores.

21. Against Rs. 650 crores of institutional finance, the order of finance from all institutional sources in 1969-70 and 1970-71 was estimated at Rs. 115 crores and Rs. 135 crores respectively. The maximum utilisation of institutional finance was in Punjab, Haryana, U. P., Tamil Nadu, Andhra Pradesh, Maharashtra and Gujarat. Utilisation was poor in the eastern States and also in Himachal Pradesh, Jammu and Kashmir and Kerala.

22. Adequate information is not available on the investment in this programme from private sources. However, it is estimated that it was of the order of Rs. 80 crores in the first two years of the Plan against an estimate of roughly Rs. 300 crores for the Fourth Plan.

23. For rural electrification, out of State Plans, the expenditure in 1969-70 was Rs. 75·34 crores, and in 1970-71 Rs. 94·34 crores. An outlay of Rs. 86 crores has been approved for 1971-72. Besides this, there has been an expenditure on this programme from financial institutions of Rs. 33·73 crores in 1969-70, Rs. 81·20 crores in 1970-71 and it is expected to be about Rs. 70 crores in 1971-72. This indicates that the expenditure on this in the Fourth Plan is likely to be more than targeted and could be of the order of Rs. 750 crores. Against a target of energising 15 lakhs pumps and tubewells during the Fourth Plan about 8·67 lakh pumps or tubewells are expected to be energised in the first three years.

III. WATER MANAGEMENT

24. In the Fourth Plan, there was originally a provision of Rs. 126 lakhs for pilot projects on water management under the Agriculture Ministry in selected command areas of major and medium irrigation projects. Subsequently, the provision was, raised by Rs. 200 lakhs. Against the enhanced total provision of Rs. 326 lakhs, the expenditure in the two years was only Rs. 24 lakhs. The approved outlay for 1971-72 is Rs. 35 lakhs. At this rate, the expenditure on programme is likely to be limited within the dimension originally envisaged in the Plan. The efforts need to be made to step up the programme.

Basin-wise Plans

25. Since water is in short supply, it would be desirable to do perspective planning with regard to water resources and the likely requirements for various purposes in the next twenty to thirty years. For this, it would be necessary to divide the country river-basin-wise and to carry out these investigations and data collection, their analysis and projections State-wise in an integrated manner with regard to total water resources, including surface and ground water. It is also necessary to carry out the water balance studies. Such studies would help to identify the deficit and surplus areas and to prepare a master plan for development which may include schemes for water transfer and for recharging ground water. Some progress is being made with regard to surface water estimation under the Central sector in two water basins of the Ganga and Mahanadi. It is expected that most States would take up the preliminary studies.

26. The irrigation water charges vary from State to State and in most of the States are low compared to the gross income to the farmer. As recommended by the Nijalingappa Committee in 1965, the water rates should be about five to twelve per cent of the gross income to the farmer.

So far it has not been possible to make any significant progress on this with the States. This would be a good source of additional revenue which could be well utilised in maintaining the irrigation works in a better manner and also in reducing the subsidy to people who are already in a better position than those who do not get any irrigation facilities at all. Even the betterment levies which have been proposed by States from time to time are not being collected except in Haryana. If this could be strictly enforced it would go a long way in providing funds for irrigation facilities to areas which lack them.

IV. Flood Control and Anti-Sea Erosion

27. The recent floods have caused widespread and heavy damage to life and property. Efforts at flood control have not been commensurate with the dimensions of the problem and actual needs. Increasing damage from floods in monetary terms can be attributed to several reasons—rise in price of crops, increasing pressure on land inducing people to occupy, build and cultivate in traditional ponds, depressions and khadir lands and the role of development works such as roads, railways and canals in exposing more public property to damage and in accentuating the damaging capacity of the flood waters. The problem of floods in various basins has to be viewed in its totality and an ultimate technical solution formulated. This will indicate the approach and direction in which the various component parts are to move and how they will fit into the overall scheme of things. The urgent need for formulation of comprehensive master plans for the various river basins has been emphasised in discussions with States.

28. The problem of protection against sea erosion is acute in Kerala though it exists in some other States also. At the beginning of the Fourth Plan about 70 kilometres length of coastline in Kerala was protected out of 320 kilometres requiring protection. A provision of Rs. 5 crores has been made in the Fourth Plan for anti-sea erosion measures in the State. The expenditure incurred during first two years is Rs. 1 crore. During 1971-72, the expenditure is anticipated at Rs. 0·9 crore. The outlays need to be stepped up. Also, there is need for a comprehensive master plan for anti-sea erosion works in the State.

29. The outlays provided in the Fourth Plan for flood control and anti-sea erosion programme, the expenditure incurred in the first two years and the outlays approved for 1971-72 are indicated in table 9.

TABLE 9 : *Outlay and Expenditure on Flood Control Works*

(Rs. crores)

sl. no.	item	Fourth Plan provision	expenditure during 1969-70	expenditure anticipated in 1970-71	percentage of expenditure in first 2 years	approved outlay for 1971-72	percentage of outlay in first 3 years to Fourth Plan provision
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	states	126·19	18·14	22·28	32·0	21·98	49·5
2	union territories	8·58	1·33	1·97	38·5	1·87	60·2
3	central programme	8·00	0·14	1·36	18·8	2·02	44·0
4	***total***	**142·77**	**19·61**	**25·61**	**31·7**	**25·87**	**50·0**

State-wise details are given in Annexure VI. It would appear that the progress under flood control programme is not unsatisfactory though slight stepping up of the programme would be necessary.

ANNEXURE I

State-wise Position regarding creation of Irrigation Potential and its Utilisation from Major and Medium Irrigation Schemes

('000 hectares gross)

sl. no.	state	irrigation from pre-plan schemes	benefit from plan schemes: to end of Fourth Plan (targets) pot.	utl.	at the end of 1969-70 (actual) pot.	utl.	at the end of 1970-71 (anticipated) pot.	utl.	at the end of 1971-72 (target) pot.	utl.
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Andhra Padesh	1676	1380	985	824	713	853	764	906	810
2	Assam . .	65	70	47	27	27	30	28	40	38
3	Bihar . .	590	2300	1790	1458	717	1606	730	1765	1004
4	Gujarat . .	33	800	660	468	332	514	366	545	405
5	Haryana . .	[1]	1070	1000	921	910	936	922	962	943
6	Jammu and Kashmir	43	36	28	20	19	23	21	27	23
7	Kerala . .	158	298	290	184	184	195	195	210	210
8	Madhya Pradesh	512	790	485	430	201	433	249	445	270
9	Maharashtra .	279	730	510	359	160	415	216	455	281
10	Mysore . .	308	585	525	495	425	514	460	535	474
11	Orissa . .	455	895	790	708	614	778	659	807	686
12	Punjab . .	1656[2]	710	690	692	688	702	692	707	701
13	Rajasthan .	320	990	810	848	613	895	677	927	732
14	Tamil Nadu .	1141	380	360	221	210	233	229	237	235
15	Uttar Pradesh .	1991	1730	1420	1121	1008	1209	1071	1345	1160
16	West Bengal .	440	900	790	698	648	746	684	813	710
17	total .	**9667**	**13664**	**11180**	**9474**	**7469**	**10082**	**8013**	**10726**	**8682**

[1]Included in Punjab.
[2]Haryana's figures included.

ANNEXURE II

Statement showing the Position of Expenditure/Outlay during first three years of the Fourth Plan on Major and Medium Irrigation Programme

(Rs. crores)

sl. no.	name of state	Fourth Plan provision	1969-70 approved outlay	1969-70 expenditutre	1970-71 approved outlay	1970-71 anticipated expenditure	%age of expr. in first 2 years to Fourth Plan provision	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	*states*	932·25	144·87	174·35	177·71	187·02	38·76	202·62
2	Andhra Pradesh	76·00	17·40	22·68	19·95[1]	20·36	56·63	19·00[1]
3	Assam	6·17	1·19	0·70	1·51	1·27	31·92	1·23
4	Bihar	111·00	15·60	24·47	20·68	20·74	40·72	24·49
5	Gujarat	103·00	18·60	15·37	21·84	21·05	35·35	21·76
6	Haryana	29·90	2·20	3·92	5·80	7·05	36·68	8·91
7	Himachal Pradesh	—	—	—	—	—	—	—
8	Jammu and Kashmir.	5·66	0·60	0·38	0·76	1·18	27·66	1·21
9	Kerala	26·75	3·25	4·68	4·50	4·71	35·10	5·25
10	Madhya Pradesh	83·06	8·11	7·79	10·50	12·07	23·91	16·80
11	Maharashtra	142·25	19·50	23·41	26·89	25·72	34·53	27·90
12	Meghalaya	—	—	—	—	—	—	—
13	Mysore	75·25	13·38	14·59	11·20	15·36	39·80	13·97
14	Nagaland	—	—	—	—	—	—	—
15	Orissa	24·00	4·44	4·38	4·57	4·95	38·87	5·15
16	Punjab	15·88	2·85	3·12	3·41	3·41	41·12	4·95
17	Rajasthan	88·73	13·70	18·41	17·47	17·37	40·32	17·11
18	Tamil Nadu	35·60	4·30	4·74	4·85	4·95	27·21	5·00
19	Uttar Pradesh	90·00	17·00	20·38	19·93	23·00	48·20	26·88
20	West Bengal	19·00	2·75	5·33	3·94	3·85	48·31	3·01
21	*union territories*	**3·70**	**0·20**	**0·10**	**0·129**	**0·042**	**3·7**	**0·08**
22	Dadra and Nagar Haveli . . .	—	—	—	—	—	—	—
23	Delhi	—	—	—	—	—	—	—
24	Goa, Daman and Diu	3·00	0·065	0·034	0·065[1]	0·005	1.3	0·015
25	Manipur	0·10	—	—	—	—	—	0·040
26	Pondicherry	0·46	0·130	0·06	0·064	0·037	21·0	0·021
27	Tripura	0·14	0·005	0·002	—	—	1·4	0·004
28	*total*	**935·95**	**145·07**	**174·45**	**177·839**	**187·062**	**36·6**	**202·70**

[1]Including flood control.

ANNEXURE III

Schemes on which Expenditure is likely to exceed the Fourth Plan Provision and extent thereof at the Current Rate

(Rs. crores)

sl. no.	scheme	spill-over into the Fourth Plan	Fourth Plan provision available	outlay in the first 3 years of the Fourth Plan	minimum expenditure likely to be incurred during Fourth Plan at current rate of expenditure
(0)	(1)	(2)	(3)	(4)	(5)
1	Nagarjunasagar (Andhra Pradesh) . .	53 ·32	24 ·2	29 ·6	44 ·2
2	Pochampad (Andhra Pradesh) . . .	78 ·66	25 ·0	24 ·0	44 ·0
3	Kosi (Bihar)	34 ·10	15 ·4	12 ·9	21 ·4
4	Ukai (Gujarat)	43 ·77	35 ·0	30 ·6	40 ·0
5	Beas Unit II (Haryana, Punjab and Rajasthan)	124 ·17	70 ·0	48 ·0	97. 0
6	Ramganga (U. P.)	40 ·33	35 ·0	31 ·0	43 ·0
7	Project Assist (U. P.)	64 ·42	22 ·35	14 ·14	30 ·35
8	*total*	**438 ·77**	**226 ·95**	**190 ·24**	**319 ·95**

ANNEXURE IV

State-wise position of likely spill-over into the Fifth Plan from continuing and new Major and Medium Schemes

(Rs. crores)

sl. no.	state	continuing schemes									new schemes				
		carryover into Fourth Plan			Fourth Plan Provision			spill-over into Fifth Plan			estimated cost of schemes approved so far	cost of further schemes likely to be approved during Fourth Plan	provision in Fourth Plan for new schemes	spill-over into Fifth Plan from new schemes	total spill-over into Fifth Plan
		major	medium	total	major	medium	total	major	medium	total					
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Andhra Pradesh	146·64	16·23	162·87	64·10	10·85	74·95 +16·00[2]	66·54	5·38	71·92	—	—	—	—	71·92
2	Assam	—	4·00	4·00	—	4·00	4·00	—	—	—	1·53	8·10	1·87	7·76	7·76
3	Bihar	153·71	5·17	158·88 +15·00[1]	92·11	5·17	97·28 +2·20[2]	59·60	—	59·60 +15·00[1]	15·35	34·00	12·87	36·48	96·08 +15·00[1]
4	Gujarat	179·10	8·40	187·50	69·59	7·61	77·20	109·51	0·79	110·30	18·26	33·00	22·20	29·06	139·36
5	Haryana	28·80	1·86	30·66	16·27	1·23	17·50	12·53	0·63	13·16	7·44	32·00	12·15	27·29	40·45
6	Jammu and Kashmir	—	0·71	0·71	—	0·70	0·70	—	0·01	0·01	5·17	3·60	4·52	4·25	4·26
7	Karela	100·65	1·44	102·09	25·25	1·00	26·25 +1·50[2]	73·90	0·44	74·34	—	—	—	—	74·34
8	Madhya Pradesh	59·03	18·83	77·86 +10·00[1]	46·80	16·30	63·10	12·23	2·53	14·76 +10·00[1]	6·10	130·00	14·96	122·14	136. 90 +10·00[1]
9	Maharashtra	209·89	29·75	239·64 +70·00[1]	93·94	29·75	123·69	115·95	—	115·95 +70·00[1]	42·92	20·00	8·36	54·56	170·51 +70·00[1]
10	Mysore	234·58	5·27	239·85 +20·00[1]	69·32	1·88	71·20 +1·30[2]	163·96	3·39	167·35 +20·00[1]	3·90	67·00	13·55	57·44	224·79 +20·00[1]
11	Orissa	42·06	5·88	47·94	15·60	5·88	21·48	26·46	—	26·46	2·15	31·00	1·77	31·38	57·84
12	Punjab	29·77	—	29·77	12·58	—	12·58	17·19	—	17·19	—	15·00	2·87	12·13	29·32
13	Rajasthan	136·14	0·72	136·86	80·39	0·72	81·11 +6·20[2]	49·55	—	49·55	8·19	9·00	7·42	9·77	59·32
14	Tamil Nadu	13·79	7·59	21·38	13·79	5·72	19·51	—	1·87	1·87	8·15	35·00	15·53	27·62	29·49
15	Uttar Pradesh	130·27	13·24	143·51	75·81	9·31	85·12 +1·00[2]	53·46	3·93	57·39	7·68	100·00	3·30	104·38	161·77
16	West Bengal	29·11	0·30	29·41	18·00	0·30	18·30 +2·00[2]	9·11	—	9·11	1·64	—	0·51	1·14	10·25
17	*total*	1493·54	119·39	1612·93 +115·00[1]	693·55	100·42	793·97 +30·00[2]	769·99	18·97	788·96 +115·00[1]	128·57	517·7	121·87	525·40	1314·36 +115·00[1]
				1727·93						903·96					1429·36
				say 1728						say 904					say 1429

[1]Figures relating to projects whose costs are likely to go up but States have not given any indication so far.
[2]Expenditure incurred out of non-Plan assistance or other special funds.

ANNEXURE V

Statements showing Outlay and Expenditure on Minor Irrigation

(Rs. lakhs)

sl. no.	state/union territory	Fourth Plan approved outlay	1969-70 approved outlay	1969-70 actual expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	1971-72 approved outlay	total of col. (4+6)	percentage of col. (8) to col. (2)	percentage of col. (7) to col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	*states* .	**50768**	**8477**	**9160**	**9040**	**9887**	**9849**	**20047**	**39·5**	**19·4**
2	Andhra Pradesh	3000	350	472	530	527	530	999	33·3	17·7
3	Assam . .	1515	138	120	276	255	255	375	24·7	16·8
4	Bihar . .	5400	900	615	750	747	895	1362	25·2	16·6
5	Gujarat . .	3022	450	732	545	621	591	1353	44·8	19·6
6	Haryana . .	963	105	121	121	194	196	315	32·7	20·3
7	Jammu and Kashmir	764	100	106	114	159	150	265	34·7	19·6
8	Kerala . .	1000	188	181	200	295	275	476	47·6	27·5
9	Madhya Pradesh	3790	650	618	717	662	800	1280	33·8	21·1
10	Maharashtra .	7000	1150	1310	1100	1291	1250	2601	37·2	17·9
11	Mysore . .	3200	809	809	718	718	563	1527	47·7	17·6
12	Nagaland .	85	10	8	13	12	16	20	23·5	18·8
13	Orissa . .	1250	253	253	200	200	347	453	36·2	27·8
14	Punjab . .	2320	277	222	350	311	347	533	23·0	15·0
15	Rajasthan .	1300	190	223	235	266	300	491	37·8	23·1
16	Tamil Nadu .	3270	440	673	499	671	689	1344	41·1	21·1
17	Uttar Pradesh .	9600	1800	2087	2050	2129	2130	4216	43·9	22·2
18	West Bengal .	3034	612	541	575	760	450	1301	42·9	14·8
19	Meghalaya .			12		14	17	26	—	—
20	Himachal Pradesh	255	55	57	47	53	48	110	43·2	18·6
21	*union territories*	**363·57**	**68·83**	**47·61**	**76·91**	**93·23**	**86·76**	**140·84**	**38·73**	**23·86**
22	Andaman and Nincobar Islands	1·00	—	—	—	0·15	0·33	0·15	15·0	33·0
23	Chandigarh .	3·00	0·60	0·50	0·50	0·50	0·50	1.00	33·3	16·7
24	Dadra and Nagar Haveli	12·00	2·00	0·86	1·84	4·13	2·50	4·99	41·6	20·8
25	Delhi . .	89·00	24·16	9·77	24·66	24·52	13·00	34·29	38·5	14·6
26	Goa, Daman and Diu . .	90·00	14·00	13·00	15·50	18·65	19·78	31·65	35·2	22·0
27	Laccadive, Amindive and Minicoy Islands .	—	—	—	—	—	—	—	—	—
28	Manipur .	27·87	5·50	2·00	6·00	7·50	7·60	9·50	34·1	27·3
29	NEFA . .	22·70	1·57	1	3·94	4·53	5·05	4·53	20·0	22.2
30	Pondicherry .	53·00	12·00	15·29	12·47	12·24	13·00	27·53	51·9	24.5
31	Tripura . .	65·00	9·00	6·19	12·00	21·01	25·00	27·20	41·8	38·5
32	*total* . .	**51131.57**	**8545.83**	**9207.61**	**9116.91**	**9980.23**	**9935.76**	**20187.84**	**39.48**	**19.43**

1Included under agricultural production.

ANNEXURE VI

Statement showing the position of Expenditure Outlay during First Three Years of the Fourth Plan on Flood Control Programme

(Rs. crores)

sl. no.	state/union territory	Fourth Plan provision	1969-70 approved outlay	1969-70 expenditure	1970-71 approved outlay	1970-71 anticipated expenditure	percentage of expenditure in first two years to Fourth Plan provision	1971-72 approved outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	*states*	**126·19**	**11·03**	**18·14**	**18·66**	**22·28**	**32·03**	**21·98**
2	Andhra Pradesh	10·00	0·05	0·04	[1]	0·03	0·07	[1]
3	Assam	32·04	2·00	4·68	5·13	7·20	37·07	5·37
4	Bihar	10·00	1·50	2·04	2·20	2·48	45·20	2·20
5	Gujarat	7·00	0·40	0·19	0·42	0·32	7·20	1·74
6	Haryana	9·00	0·85	1·16	1·60	1·60	30·22	2·50
7	Himachal Pradesh	0·40	0·02	0·03	0·03	0·05	20·00	0·04
8	Jammu and Kashmir	6·25	1·00	1·03	1·15	1·51	40·64	1·00
9	Kerala	6·53	0·55	0·63	0·70	1·29	29·40	1·30
10	Madhya Pradesh	0·50	0·05	0·04	0·05	0·05	18·00	0·10
11	Maharashtra	1·50	[1]	0·05	0·20	0·03	5·33	0·10
12	Meghalaya	—	—	—	—	—	—	0·05
13	Mysore	2·00	0·02	0·02	0·20	[1]	1·00	—
14	Nagaland	—	—	—	—	—	—	—
15	Orissa	3·00	0·25	0·28	0·25	0·25	17·00	0·45
16	Punjab	14·28	1·61	3·64	2·20	2·50	42·99	2·00
17	Rajasthan	2·89	0·80	0·90	0·33	0·40	44·98	0·50
18	Tamil Nadu	2·25	0·10	—	0·13	[1]	[1]	[1]
19	Uttar Pradesh	8·00	1·30	1·30	2·00	2·00	41·25	2·06
20	West Bengal	10·55	0·53	1·91	2·07	2·57	42·46	2·57
21	*union territories*	**8·58**	**1·46**	**1·33**	**1·78**	**1·97**	**38·46**	**1·87**
22	Dadra and Nagar Haveli	0·04	0·01	—	0·01	—	—	—
23	Delhi	6·00	1·10	1·02	1·35	1·35	39·50	1·20
24	Goa, Daman and Diu	0·20	—	—	[1]	0·04	20·00	0·07
25	Manipur	1·00	0·07	0·07	0·13	0·20	27·00	0·20
26	Pondicherry	0·48	0·08	0·10	0·07	0·12	41·66	0·16
27	Tripura	0·86	0·20	0·14	0·22	0·26	46·51	0·20
28	*total*	**134·77**	**12·49**	**19·47**	**20·44**	**24·25**	**32·44**	**23·85**

[1]Included under irrigation.

CHAPTER 15

POWER AND ENERGY

WITH a contemplated investment of Rs. 2447·57 crores in power development activities by the States, Union Territories and Centre, the benefits envisaged during the Fourth Plan period were :

(a) an increase in generation capacity from 14·29 million kW to 23 million kW;

(b) energisation of 15,00,000 irrigation pump sets, bringing the total number in operation by 1973-74 to 26,50,000;

(c) an appreciable increase in transmission and distribution facilities in all States; and

(d) setting up integrated operation on regional basis through inter-state lines and regional load despatch stations.

Benefits

2. As against the targetted capacity of 23 million kW, it is now reasonably certain that 21·2 million kW may be achieved in 1973-74. During the first three years of the Plan the additions are of this order :

TABLE 1: *Targets and Achievements of the First Three Years of the Fourth Plan*

(million kW)

year	target	actual	cumulative total
(1)	(2)	(3)	(4)
1969-70 . . .	1·63	1·22	15.524
1970-71 . . .	1·32	0·97	16.502
1971-72 . . .	1·18	1·18[1]	17.681

[1]Anticipated.

The reduction is mainly due to slow progress on projects and delay in delivery of plant and equipment from the public sector manufacturing units.

3. The target of energisation of pump sets is likely to be achieved :

TABLE 2: *No. of Pump sets Energised during First Three Years of the Fourth Plan*

year	pump sets energised (nos.) during the year	pump sets energised (nos.) cumulative total
(1)	(2)	(3)
as on 31-3-1969 . . .	—	1088662
during 1969-70 . . .	265006	1353668
1970-71 . . .	275831	1629499
1971-72 . . .	300000	1929499

The tempo built up is expected to be maintained. States and Rural Electrification Corporation are poised for a larger effort. The target can be exceeded, provided adequate finances are forthcoming.

4. The Plan did not set up a target for village electrification because available outlays were considered adequate only for energisation of pump sets. However, the States have been able to divert resources to this aspect of rural electrification. During 1969-72 the achievements are as follows:

TABLE 3: *Achievements of Rural Electrification during the Frst Three Years of the Fourth Plan*

villages electrified (nos.)

year	during year	cumulative total
(1)	(2)	(3)
as on 31-3-1969 . . .	—	71410
during 1969-70 . .	18587	89977
1970-71 . . .	15461	105438
1971-72 . . .	17661	123099

The indications are that by 1973-74 nearly 1,58,000 villages would get electrified and about 43 per cent of the rural population would be in a position to benefit from electricity. The Rural Electrification Corporation, which has adopted a project approach for financing rural electrification schemes, has so far sanctioned 131 schemes to electrify 11,747 villages, and 2,11,847 pump sets and 24,927 industrial connections, besides domestic connections in the villages, will receive power supply.

5. Many States have made considerable efforts at improving the transmission and distribution facilities. The investment on extending or creation of this facility has been encouraging.

TABLE 4 : *Investment on Transmission and Distribution*

(Rs. crores)

years	allocation	actuals
(1)	(2)	(3)
1969-70	95·63	133·09
1970-71	126·99	136·00
1971-72	154·38	

Energy losses in transmission and distribution lines, however, continue to remain high in many States. It has been stated that for every one per cent reduction of losses, the revenue benefit would be about Rs. 5 crores. There is urgent need for closer study of the problem in each State. Speeding up work on transmission and distribution programmes, strengthening of the mains, installing static capacitors on rural power consumer installations and other appropriate methods need to be adopted for reducing the losses to normal level.

6. States have tried to speed up work on the transmission programme for supporting large rural electrification programmes and improving voltage conditions at consumer ends. The present shortage in steel is likely to hamper these efforts since the imports of steel will meet only a limited portion of important lines.

7. Construction of the regional load despatch centres, construction of inter-State lines and setting up integrated operation of State Grid systems on a regional level are accepted as high priority items. The Centre has undertaken financing of the inter-State lines and regional load despatch stations. In the Fourth Plan 27 inter-State lines were included with a Plan provision of Rs. 22 crores. The Ministry of Irrigation and Power has recently advocated increasing this outlay to Rs. 40 crores and inclusion of 37 lines in the Plan. There is need for expediting construction of regional load despatch centres and speeding up integrated operation on a regional basis. Failing this it would not be possible to maximise benefits from available capacity and may even result in power shortages.

8. The Power Economy Committee has assessed that with conditions obtaining in 1973-74, integrated operation would effect a saving of about Rs. 8 crores in the Southern Region. In the Northern Region the revenue increase could be about Rs. 4.5 crores per annum from integration. Integrated operation in the Eastern Region would bring in economies of scale since the utilisation of available capacity in the region can be improved considerably. In the Western Region the Madhya Pradesh system where surplus is available needs to be linked with other State systems. There is thus scope for considerable improvement from integration in four of the power regions. This should receive top priority.

Power Position in States

9. The Northern region is currently undergoing power shortage, mainly owing to delay in commissioning of major power projects like Rana Pratapsagar atomic station, Badarpur thermal station and Yamuna stage II. The region may overcome power shortage in 1973-74 where the nuclear station (235 MW), Badarpur (300 MW) and Bhatinda thermal station (220 MW) are in operation with Beas nearing completion. It would however be necessary to speed up work on certain inter-State lines for maximising benefits from available capacity.

10. The Western region has been meeting demand, but without any standby. The recent failure on one unit of the Tarapur atomic station has, therefore, resulted in shortage of power. The difficulty is likely to continue and the region will face power shortage in 1973-74 and onwards unless Maharashtra and Gujarat expedite progress on projects in hand.

11. The Southern region has also been meeting the power demand and would have continued to meet the demand if additional capacities were brought into operation. In 1972-74 except for Kothagudem and Ennore thermal stations, no other additions are anticipated. The region is likely to slip into a period of shortages if Idikki, Lower Sileru and Kalinadi hydro electric schemes are not expedited.

12. The Eastern and North-Eastern regions have surplus capacity. It is necessary to speed up work on transmission and distribution programmes to serve the needs of the region efficiently.

Remedial Measures

13. At the end of the Fourth Plan the peak demand may reach about 14 million kW and the installed capacity 21 million kW i.e. a margin of about 50 per cent. Yet power shortages are anticipated because integration of State grid systems into regional grid systems has not made progress and regional load despatch centres have yet to be installed. Deficits in one State can be met to a large extent by taking advantage of diversities in daily and seasonal peak demands in other States and scheduling the outages of the generating capacities on a regional basis. These benefits however would emerge only from an integrated regional system and from regional integrated operation. The construction of inter-State lines will have to be given high priority and the regional and State load despatch stations will have to be installed and set into operation also on a high priority. For integrated operation even with the system available in 1973-74 inter-State agreements on exchange or transfer of power and on scheduling of capacities are an a priori condition. These issues will have to be tackled at the national level.

14. Generation schemes which have been anticipated to go into operation during 1972-74 period and raise the capacity in the country to 21.0 million kW need to be closely monitored. Construction and erection at site as well as the manufacture and supply of plant and equipment will have to be coordinated if these schemes are to reach commissioning stage during the Plan period.

15. The tasks of integrating the systems, working out inter-State tariffs and agreements, setting into integrated operation the regional systems, and monitoring the projects to successful completion call for undivided attention of a high-powered body vested with statutory authority for discharging these responsibilities. The Central Electricity Authority to which the Electricity (Supply) Act, 1948 has entrusted these and other important tasks of power development is at present operating on a part-time basis. It is also entrusted with functions far removed from power development.

There is, therefore, an emergent need for setting up the Central Electricity Authority as a whole-time effective body which will perform these important functions.

16. The investment programme as planned is indicated in table 5 :

TABLE 5 : *Fourth Plan Investment Programme on Power*

(Rs. crores)

sl. no.	item	generation	transmission and distribution	rural electrification	miscellaneous	total
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	states	974·06	645·51	285·15	14·35	1919·07
2	union territories	25·48	44·27	9·54	2·49	81·78
	centre					
3	Min. of Irrigation and Power	79·25	—	—	9·47	88·72
4	D. V. C.	38·85	9·80	—	0·35	49·00
5	Neyveli Lignite	2·00	—	—	—	2·00
6	R. E. C.	—	-	150·00	—	150·00
7	A. E. C.	135·00	—	—	—	135·00
8	centrally sponsored programmes	—	22·00	—	—	22·00
9	*total*	**1254·64**	**721·56**	**444·69**	**26·66**	**2447·57**

In addition, it was anticipated that Rs. 75 crores or so would become available from financing institutions for selected rural electrification programmes. A part of the investment, to the extent of Rs. 551·35 crores, was expected to be contributed by State Electricity Boards from their internal resources. At the Centre, the Ministry of Irrigation and Power, Department of Atomic Energy and the Damodar Valley Corporation were expected to contribute about Rs. 78.6 crores to the Centre's Plan resources.

17. The expenditure during the first two years of the Plan period and that allocated for 1971-72 have been as follows.

TABLE 6 : *The Expenditure in the First Three Years of the Fourth Plan*

(Rs. crores)

sl. no.	item	1969-70 allocated	1969-70 actual	1970-71 allocated	1970-71 anticipated	1971-72 allocated	total 1969-72
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	states	303·65	397·00	375·83	414·23	413·66	1224·89
2	union territories	15·55	15·70	17·94	13·11	12·30	41·11
3	centrally sponsored	3·00	3·00	5·00	5·00	7·00	15·00
	centre						
4	Min. of Irrigation and Power	13·51	11·76	18·60	16·10	20·48	48·34
5	D. V. C.	1·50	7·36	15·67	10·40	12·53	30·29
6	A. E. C.	22·99	24·11	28·43	26·89	23·81	74·81
7	R. E. C.	10·00	—	20·00	26·09	39·00	65·09
8	Neyveli	1·92	1·92	0·93	0·93	0·19	3·04
9	*total*	**372·12**	**460·85**	**482·40**	**512·75**	**528·97**	**1502·57**

Nearly 64 per cent of the outlay has been utilised by the States in the first three years of the Plan period. In addition States were able to obtain outlays outside their Plans to the extent of Rs. 33.73 crores in 1969-70 and Rs. 59.72 crores in 1970-71 for rural electrification programmes (excluding the contribution of the Rural Electrification Corporation). In 1971-72, States expect to obtain about Rs. 79 crores from these sources.

18. For the first three years of the Plan expenditure on generation, transmission, distribution and rural electrification is shown in table 7.

TABLE 7 : *Expenditure on Generation, Transmission and Distribution and Rural Electrification for the First Three Years of the Fourth Plan*

(Rs. crores)

sl. no.	item	1969-70 allocation	1969-70 actual	1970-71 allocation	1970-71 actual	1971-72 allocation
1	generation	218·24	247·26	283·79	271·40	277·57
2	transmission and distribution	95·63	133·09	126·99	135·91	154·38
3	rural electrification	55·36	75·34	66·02	94·34	85·99
4	miscellaneous	2·89	5·16	5·60	11·10	11·03
5	*total*	**372·12**	**460·85**	**482·40**	**512·75**	**528·97**

Expenditure on all programmes has exceeded Plan allocations. The benefits have not been commensurate with investment for generation and utilisation of available capacity.

19. The contribution from internal resources has, also, shown a trend towards decreasing over the Plan years :

TABLE 8 : *Contribution from Internal Resources for the Fourth Plan*

(Rs. crores)

sl. no.	year	estimated resources	actuals reported
(0)	(1)	(2)	(3)
1	1969-70	71·45	84·36
2	1970-71	85·38	73·27
3	1971-72	90·97	70·76
4	1972-73	108·88	73·18
5	1973-74	125·15	80·78
6	additional mobilisation ..	69·84	131·65
7	*total*	**551·55**	**514·00**

The main reasons for this reduction are :

(i) lower revenue returns than anticipated owing to slow growth in power demand. The sale of energy as anticipated in 1969 and as now assessed for the Plan period is :

TABLE 9 : *Regionwise Sale of Energy Assessed in* 1969 *and* 1971

(million kwh)

sl. no.	region	assessment made in 1969	assessment made in 1971	Difference
(0)	(1)	(2)	(3)	(4)
1	northern	57535	53250	4285
2	western	56238	54302	1936
3	southern	70218	67253	2965
4	eastern	32227	26063	6164
5	north-eastern	1671	1672	—
6	*total*	**217889**	**202540**	**15350**

While in the Northern and Western regions the reduction in sale of energy may be attributed to lack of capacity due to delay in commissioning of projects, the growth in demand has been slower than anticipated in the Southern and Eastern regions;

(ii) steep increase of Rs. 126 crores in working expenses over Rs. 619 crores of working expenses (aggregate for all States) assessed in 1969, mainly on wages and salaries; and

(iii) payment of interest and repayment of loans at a higher level than envisaged earlier owing to larger short-term borrowings. (State Governments will receive Rs. 110 crores less interest payments from State Electricity Boards).

20. For generation programme the Plan outlay was Rs. 1254·64 crores. Of this Rs. 786 crores will have been utilised in the first three years. The schemes which will go into operation and raise the installed capacity to 21·0 million kw will need about Rs. 566 crores in the first three years and the remaining schemes aggregating to 7 million kW about Rs. 221 crores during the same years. The former category of priority schemes will require about Rs. 840 crores during the Plan period. This leaves a balance of Rs. 193 crores for the second category of schemes for 1972-74. It is now estimated that additional Rs. 220 crores would be required on the Plan schemes for generation programmes only, comprising Rs. 175 crores in State Plans and Rs. 45 crores in the Central Plan. The details are given in Annexure.

The need for additional outlay has arisen in most cases owing to escalation in costs. On a few schemes spilling over into the Fifth Plan, the Plan provision was kept low for lack of adequate State Plan resources.

21. Rural Electrfication Corporation has an investment programme of Rs. 150 crores over the Plan period. It will have entered into financial commitments by 1971-72 which will involve a cash outflow of Rs. 130 crores by 1973-74. Unless additional finances are made available to the Corporation, its investment activities will come to a stand-still. States have been making large demands on the Corporation. In addition it has been called upon to subscribe to the extent of Rs. 35 crores to rural debentures which are proposed to be issued during 1971-74. REC and the Ministry of Irrigation and Power have indicated that for maintaining the Corporation's activities even at the present level over the next two years, it will be necessary to provide additional Rs. 110 crores to REC.

22. Briefly the additional requirements of outlays on Plan schemes, during the Plan period, are :

TABLE 10 : *Outlays on Plan Schemes During the Plan Period*

(Rs. crores)

sl. no.	generation	plan provision	actual requirements	additional requirements
(0)	(1)	(2)	(3)	(4)
1	states	974·06	1148·93	174·97
2	union territories ..	25·48	25·48	—
centre				
3	Min of Irrigation and Power	88·72	98·89	10·17
4	D.V.C.	38·85	38·85	—
5	D.A.E.	135·00	170·14	35·14
6	N.L.C.	2·00	2·00	—
7	R.E.C.	150·00	260·00	110·00
8	inter-state lines	22·00	40·00	18·00
9	*total*	**1436·11**	**1784·29**	347·28

Advance Action for Fifth Plan

23. Advance action on the schemes which have to yield benefits in the Fifth Plan has to be initiated immediately. For this, financial provision will have to be made in the Fourth Plan. The schemes, now in various stages of implementation, will on completion during the Fifth Plan

raise the installed capacity to 28 million kW. It is considered necessary that new schemes which will add 14 million kW and raise the installed capacity to 42 million kW in 1978-79 should be identified now. Financial provision needs to be made for the advance action on them.

24. Advance action on a scheme involves payment to public sector manufacturers of about 50 per cent of the cost of the plant and equipment; preliminary works at site such as site clearance, residential accommodation, construction power and water supply; engaging consultants, preparation of designs and drawings tendering civil works and plant and equipment other than supplied by Heavy Electricals or Bharat Heavy Electricals; and construction of civil works phased out to be ready for erection when the plant is delivered.

25. The Ministry of Irrigation and Power has advocated that by 1980-81 the generating capacity in the country should be stepped up to 52 million kW. The Ministry has suggested the names of many hydro, thermal and nuclear schemes for implementation. It would be desirable to invest on investigation of these schemes and preparation of realistic project reports, so that the projects can be considered *inter se* and the most economical schemes in each region could be taken up for implementation in the order of merit as the necessary resources become available.

26. The total cost of the above schemes may aggregate to Rs. 3000 crores. It would be desirable to invest about Rs. 600 crores during 1971-74 on these projects. This includes Rs. 410 crores of advance payment for plant and equipment. Thermal stations will have to make considerable progress during the Fourth Plan period if thermal capacities have to go into operation even at the rate of one set a year in each station during the Fifth Plan period. Preliminary works on hydro schemes are more time-consuming: construction of road to project site, laying lines to take power and construction of accommodation at site are involved.

Long-term Measures

27. During the Fifth Plan nearly 21 million kW of capacity is proposed to be added, as against about 7 million kW being added in the Fourth Plan. Presently, even with a nominal growth in the industrial sector, power shortages have occurred in some regions. In the years ahead, power requirements would be on an increasingly larger scale, and shortages are likely to become a greater handicap. Past experience has indicated that there is urgent need for:

(a) comprehensive investigation of schemes prior to preparation of project reports;

(b) preparation of realistic project estimates and realistic construction schedules, utilising modern techniques;

(c) monitoring of manufacture of plant and equipment and delivery according to schedule; and

(d) monitoring of each scheme and ensuring that each scheme is completed according to schedule.

28. There is urgent need for reorganising the power supply industry for enabling planning of power generation and bulk transmission of power in a more comprehensive manner. This line of action was envisaged even in pre-Independence days and was laid down in the Electricity (Supply) Act, 1948. A statutory body, the Central Electricity, Authority has been entrusted with these functions. Unless C.E.A. is set up as a high-level, full-time and effective body, the progress during the Fifth Plan may not be commensurate with the power requirements of the country.

29. Selection of generating schemes on a regional basis is accepted policy, yet States continue to plan for self-sufficiency in each State. Uneven distribution of hydro and fossil fuel resources demand fuller understanding between the States for their exploitation so as to obtain power at the most economic rate to the consumer. However rich they may be, hydro resources have remained uninvestigated. Thermal stations on a distress basis are being recommended even in hydro rich regions far removed from coalfields. Such a strategy may meet the short-term needs. But the impact of high cost energy in the long run on regional development has remained unnoticed. The advantage of low cost generation from pit-head super thermal stations and from large capacity hydro stations and bulk transfer of power are being neglected because of lack of inter-State understanding and because of the financing problems involved in such ventures. These disadvantages can be overcome with benefit for all and to the economy as a whole if the Centre were to construct and operate major generation schemes and bulk transmission lines in each region. The State Electricity Boards could obtain their power supply in bulk from the Central pool. Uniform power tariffs over a region could also be established under such conditions. Power development on a more rational basis with a view to helping the economy as a whole calls for such a policy at the national level.

30. The public sector manufacturing units will have to step up production in the Fifth Plan period to a high level, compared to their present performance. In the Fifth Plan, BHEL, Hardwar, expects to deliver 31-200 MW sets, BHEL, Hyderabad 34-110 MW sets and Bhopal 20-120 MW sets. Nearly 30 sets for spill-over hydel schemes are scheduled to be supplied by BHEL and HE (I)L during the Fifth Plan. Even if 5 million kW of new hydro capacity were to be added, the number of hydro sets to be delivered during the Fifth Plan will exceed 100.

31. The boiler manufacturing capacity expected to be available during the Fifth Plan, however, does not match with the turbo generator output

capacity. The Tiruchirapalli boiler factory has a capacity of 0·75 million kW and is expected to reach 1·5 million kW capacity in 1974-75. In terms of production tonnage, it is designed for an output of 53,000 tonnes in 1974-75. A 200 MW boiler will comprise approximately 7,500 tonnage and a 110 MW about 4,000 tonnage. As such if the full output of 200 MW sets is to be provided with boilers, only half the production of Hyderabad can be provided with boilers from the Trichy plant. It can perhaps improve upon this by getting more parts and components from other manufacturers. But the extent to which improvement is possible has to be determined on a firm basis.

32. The AVB plant at Durgapur has a capacity for manufacture of 2 boiler units of 120 MW each. It may be desirable to undertake an expansion programme which will double this capacity. These manufacturing units largely depend upon HEC, Ranchi, and some Units in the private sector for the supply of castings and forgings. So far HEC and the private sector manufacturers have not been able to develop capabilities in this direction. There is no metallurgical base in the country for the supply of raw materials. These factors, coupled with other labour and management problems of the public sector units, will affect the manufacturing programme and these, in turn, will affect the power development programme. This needs to be examined. Steps have to be taken to commence production of castings and forgings, by improving the expertise and know-how if necessary.

33. For maximising production, thermal sets could be mass produced in a continuous stream. Standardisation of thermal station layouts, including the steel structure, piping, cabling, control and instrumentation, would enable mass production of plant and equipment. Moreover, implementation would be rendered simpler and this will be welcome to project authorities. Therefore the standardisation of lay o:.ts for thermal sets of each size—200 MW, 110 MW and 120 MW—needs to be introduced.

34. The Central Electricity Authority will have to monitor the progress of schemes. Planning and scheduling cells on each project will have to pursue the progress in the manufacturers' plants.

35. So far there has been no organised attempt at investigating the rich hydro resources. Hydro schemes, when they have been investigated, are included in the Plan on an *ad hoc* basis. There is urgent need for a national plan for investigation of the hydro sources with a view to exploiting them on a larger scale in the Sixth and subsequent Plans.

ANNEXURE I

Requirement of Additional Outlays on Power Generation Schemes

(Rs. crores)

sl. no.	state	Plan provision	outlays during			total required during Fourth Plan	additional requirement
			1969-70 actual	1970-71 anticipated	1971-72 approved		
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*states*	**974·06**	**197·48**	**212·97**	**220·62**	**1148·93**	**174·97**
2	Andhra Pradesh	86·50	16·26	21·82	24·40	115·01	28·51
3	Assam	14·02	2·85	2·74	2·19	14·02	—
4	Bihar	63·25	6·87	9·81	13·34	63·25	—
5	Gujarat	70·80	18·30	18·20	15·50	91·49	20·69
6	Haryana	40·53	7·43	11·02	10·21	54·35	13·82
7	Jammu and Kashmir	27·48	4·62	5·23	5·13	30·66	3·18
8	Kerala	48·75	6·67	8·43	10·93	58·75	10·00
9	Madhya Pradesh	28·40	2·93	3·43	6·21	28·40	—
10	Maharashtra	142·00	23·76	26·74	22·08	142·00	—
11	Mysore	21·90	2·39	4·40	5·55	30·90	9·00
12	Nagaland	0·36	—	0·04	0·10	0·36	—
13	Orissa	35·77	7·97	10·41	9·82	35·77	—
14	Punjab	73·93	22·16	19·85	29·80	111·57	37·64
15	Rajasthan	28·64	7·57	6·53	7·73	41·53	12·89
16	Tamil Nadu	80·00	22·52	13·30	8·39	80·00	—
17	Uttar Pradesh	177·73	38·13	38·90	39·50	207·95	30·32
18	West Bengal	34·00	7·05	12·02	9·74	41·92	7·92
19	*union territories*	**26·39**	**7·22**	**6·43**	4·76	**26·39**	—
20	Delhi	10·78	3·39	2·45	1·10	10·78	—
21	Himachal Pradesh	10·78	2·23	1·98	2·30	10·78	—
22	Manipur	0·11	0·29	0·18	0·04	0·11	—
23	Tripura	4·72	1·31	2·82	1·32	4·72	—
24	*central plan*	**264·57**	42·56	**51·49**	**52·19**	**309·88**	**45·31**
25	Min. of Irrigation and Power	88·72	10·61	15·00	18·50	98·89	10·17
26	N. L. C.	2·00	1·92	0·93	0·19	2·00	—
27	D. A. E.	135·00	23·87	21·28	23·81	170·14	35·14
28	D. V. C.	38·85	5·92	8·67	9·69	38·85	—
29	R. E. C.	150·00	—	26·09	39·00	260·00	110·00
30	inter-state lines	22·00	3·00	4·50	7·00	40·00	18·00

CHAPTER 16

VILLAGE AND SMALL INDUSTRIES

THE principal objectives of the programmes for Village and Small Industries, as outlined in the Fourth Plan, were to improve progressively the production techniques of small industries, so as to enable them to produce quality goods and to bring them to a viable level; to promote decentralisation and dispersal of industries; and to promote agro-based industries. The broad approach was that, besides measures of protection and concessions, greater emphasis will be placed on a variety of positive measures of assistance, including liberal credit facilities, adequate supply of raw materials, and provision of technical assistance.

2. Industries in which scale of operation or high degree of modernisation had no pronounced impact on economics were to be carefully identified, and appropriate technology evolved in selected industries. Outside the designated field for small industries, the small and large industrial sector were to be developed wherever possible, as complementary to each other, as so to facilitate the growth of ancilliary industries.

3. As regards the traditional sector, it was recognised that the problem was of a different character and that, at their present technological level, these industries would not be able to sustain themselves without appropriate fiscal support. One of the more important recommendations of the Asoka Mehta Committee was that a seven-year programme should be worked out in respect of each of the traditional industries including khadi, with a view to bring them to a viable level. The recommendations of this Committee were then still under the consideration of Government.

4. The measures for the promotion of industries in semi-urban and rural areas, and in selected industrially backward districts, were outlined in the chapter on Industry and Minerals. Special encouragement was to be given to agro-related industries, based on local skills, raw materials or demand, and the growing needs for repair and service facilities.

5. The total outlay in the public sector provided in the Fourth Plan amounted to Rs. 293 crores, comprising about Rs. 149 crores in the Central sector, Rs. 5 crores for the Centrally sponsored schemes, and about Rs. 139 crores in the States and Union Territories. The major components were Rs. 123 crores for small scale industries and industrial estates, Rs. 96 crores for kahdi and village industries, and Rs. 39 crores for the handloom and powerloom industries.

6. In reviewing the progress in this sector, it is necessary to reiterate the continuing handicap relating to adequate and reliable statistics. The picture of the progress, as it has emerged during the first half of the Fourth Plan, is a mixed one. While the progress in what may be described as the modern small scale sector has been generally gratifying, the position in many of the traditional industries has not been up to expectations, and in certain areas of some concern. While the pace of expenditure in the public sector outlays, both in the Central and in the States sectors, has been below average, the flow of institutional credit, and consequently of private investments, has been encouraging. The position as among the different States presents the usual uneven picture.

7. On the whole, so far as the small scale sector is concerned, the strategy outlined in the Plan of greater emphasis on positive measures, and the steps since then taken in this regard, appear to have been justified. These, coupled with the inherent dynamism of this sector, seem to be the main contributory factors accounting for the satisfactory progress.

8. As to technology, it cannot be said that the objectives, as set out in the Fourth Plan, in terms of progressive improvement of skills and production techniques; modernisation of selected industries; and evolution of appropriate technology, have been advanced, in any significant or widespread sense. At any rate, there has been little impact so far as the Plan programmes are concerned. This has been a matter of particular concern in some of the traditional industries.

9. Regarding dispersal of industries, the programme for the Rural Industries Projects has registered satisfactory progress. The scheme for the promotion of industries in selected backward districts has not made much headway yet, as discussed elsewhere.

10. The progress of expenditure in the public sector outlays, in the Central and States sectors, are shown in Annexures I and II. It will be seen that the overall expenditure during the first three years will be less than half of the total Fourth Plan outlay, the average performance in the Central sector being somewhat better than in the States sector. The detailed progress in the more important fields are discussed in the following paragraphs.

11. *Small Scale Industries.*—By all accounts, the growth of small industries during the first two years of the Plan has been rapid in numbers

as well as the value and range of production. The number of registered units has increased from 1,62,000 in 1968-69 to 2,09,000 in 1970-71. In pursuance of the policies indicated in the Plan, a number of steps were taken during the period. A further list of 81 items was added to those reserved for exclusive development in the small scale sector, bringing the total to 128. The allocation of imported and scarce raw materials and of foreign exchange for imported capital equipment and components were progressively and substantially liberalised. The value of actual users' import licences issued to small scale units went up from Rs. 37 crores during 1968-69 to Rs. 83 crores during 1970-71. Release orders for imported items through the canalising agencies, such as, the STC, MMTC and HSL, were also increased. Recently, the allocation of scarce raw materials to the small scale sector has been further reviewed by a Committee, which has recommended certain measures for more liberal and equitable distribution.

12. The most notable feature of the period has been the increase in institutional credit. In the Fourth Plan, it was expected that, apart from the outlay in the public sector, about Rs. 560 crores would be invested from private sources, including financial and banking institutions. The total advances by the commercial banks to small industries went up from Rs. 286 crores in June 1969 to Rs. 496 crores in March 1971. As a proportion of the total bank credit to all sectors also, the position of the small scale sector improved. However, while the amount advanced went up by more than 70 per cent, the number of accounts involved increased only by about 22 per cent, the amount per account having gone up from Rs. 35,000 to Rs. 50,000. The Credit Guarantee Scheme, administered by the Reserve Bank was further extended and liberalised. A total of 149 credit institutions, including commercial banks, cooperative banks and State Financial Corporations, were participating in the scheme. During 1970-71, the total amount of outstanding guarantees went up from Rs. 662 crores to Rs. 791 crores. It is also worth noting that the cumulatve payments so far arising from calls on guarantees was only Rs. 27 lakhs. The State Bank of India and most of the major banks have formulated special schemes for providing credit to technically qualified entrepreneurs on liberal terms. The terms for the supply of machinery on hire purchase basis by the National Small Industries Corporation were liberalised in June 1970, and the value of machinery supplied increased from Rs. 4.5 crores in 1968-69 to Rs. 5.5 crores in 1970-71.

13. The value of purchases from small industries by the Directorate General of Supplies and Disposals rose from about Rs. 30 crores in 1968-69 to about Rs. 43 crores in 1970-71. Consolidated guidelines were issued to public sector enterprises for encouraging and coordinating the development of ancillary units. There are about 150 ancillary units established around public sector undertakings, and the total purchases by the public uudertakings amounted to about Rs. 8 crores during 1970-71.

14. Training courses in industrial entrepreneurship for technically qualified persons are being run by the Small Industries Service Institutes and other agencies. About 1,800 persons have been trained so far, and over 900 are currently under training. As part of a new programme for assisting educated unemployed persons, certain special schemes have been drawn up to assist technically qualified persons to set up small industries and industrial cooperatives.

15. The Fourth Plan included a provision of Rs. 10 crores in the Central sector for the establishment of new Prototype Production and Training Centres. Hardly any progress has been made so far, and the outlay now expected to be utilised will be substantially lower. The working of the existing Prototype Centres also, in terms of their objectives, seem to call for a review. The Fourth Plan had stated that a phased programme of modernisation of equipment will be undertaken in selected industries, such as machine tools, foundry and rerolling. No progress has been made in this matter.

16. The programmes for industrial cooperatives are mainly in the nature of consolidation and revitalisation. There are a total number of about 48,500 industrial cooperatives, with a membership of about 3 million and working capital of Rs. 188 crores.

17. *Industrial Estates.*—Under the programme of industrial estates, about 900 additional functioning units were established during 1969-70. Production is estimated to have increased by about Rs. 48 crores and employment by about 21,000.

18. *Handloom and Powerloom Industries.*—The production of cloth by the handloom and powerloom industries increased from about 3,540 million metres in 1969 to about 3,700 million metres in 1970. The value of exports of handlooms increased from about Rs. 8 crores in 1968 to over Rs. 11 crores in 1969. In some States and Union Territories, the handloom weavers' co-operative societies continued to experience difficulty in obtaining their requirements of working capital from the State co-operative banks. Certain steps to assist them to obtain larger institutional finance for the purpose are now under consideration. A scheme has recently been formulated to assist the handloom industry in obtaining their requirements of yarn. Steps are also being taken to enforce more effectively the restrictions on production of specified varieties of cloth already reserved exclusively for the handloom sector. The progress in the installation of powerlooms continued to be slow in most States. Out of about one lakh powerlooms allotted to the States and Union Territories in 1966, installation of about 23,110 powerlooms had been authorised upto June 1971.

19. *Khadi and Village Industries.*—The production of all varieties of Khadi increased from about 60.0 million sq. metres in 1968-69 to about

62.0 million sq. metres in 1969-70. Employment, however, has declined from over 1.3 million persons to a level of 1.1 million persons.

20. The Fourth Plan envisaged that additional production of traditional khadi, including Ambar khadi, will be on a self-sufficiency basis. Pursuant to the recommendations of the Evaluation Team on New Model Charkhas, it has been decided to instal 1040 sets of 6-spindle and 230 sets of 12-spindle new model charkhas during the Fourth Plan period. While production of traditional khadi will remain at the level of 55 million sq. metres, the production from new model charkhas may go upto about 27 million sq. meters.

21. The progress in regard to village industries, assisted by the Khadi and Village Industries Commission, has also not been satisfactory, as indicated by the following figures :

TABLE 1: *Progress of Village Industries*

sl. no.	item	1968-69	1969-70
(0)	(1)	(2)	(3)
1	production (Rs. crores) . .	81·50	78·00
2	sales (Rs. crores) . .	64·11	64·54
3	employment (lakh persons) .	8·17	9·00

The programme for the progressive improvement of production techniques of village industries so as to bring them to a viable level, as recommended by the Asoka Mehta Committee and as envisaged in the Plan, has not made any headway.

22. *Rural Industries Projects.*—Based on an earlier review, the Fourth Plan envisaged reorientation and contraction in the programme of the 49 Rural Industries Projects. The steps since then taken and the progress so far indicates a more encouraging picture. A special scheme of financial assistance by the State Bank of India has been introduced. The number of units given financial assistance and the number of new units set up have progressively increased. The gross value of production increased from Rs. 22 crores in 1969-70 to Rs. 26 crores in 1970-71. Employment also increased from 1.16 lakh to 1.33 lakh persons. The coverage of the project area is being extended to the whole district, and five new projects have been taken up. The programme is also being coordinated with the rural electrification schemes. In the light of the above and the need to maximise employment opportunities, the Fourth Plan outlay for this programme under the Centrally sponsored sector has been substantially increased. Under the programmes for small and marginal farmers, provision has been made for training of rural artisans.

23. In pursuance of the objective set out in the Fourth Plan, and after detailed discussions with experts, a Cell for Appropriate Technology has been set up in the Ministry of Industrial Development, and studies have been initiated in selected fields.

24. *Sericulture.*—Though there was a slight decline in the production of raw silk during the first year of the Plan, it increased to 2.8 million kgs. in the second year, and is expected to touch the Fourth Plan target of 3.0 million kgs. well within the Plan period. Area under mulberry has shown a progressive increase. Exports which went up sharply from about Rs. 6 crores in 1968-69 to Rs. 17 crores in 1969-70, fell back to Rs. 10 crores in 1970-71, and is presently somewhat stagnant, though world demand is still high. The aberrations in exports is mainly accounted by silk scarves, and appears to point to the need for greater quality control. Price fluctuations, related to the trends in quantum and costs of production and exports, constitute a problem affecting the sound growth of the industry. The Fourth Plan included a provision of Rs. 2 crores for the Central Silk Board, mainly for research and related schemes. The expenditure during the first three years is likely to be of the order of Rs. 20 lakhs, largely as a result of administrative delays in the formulation and approval of schemes. In view of the large current and potential employment and export prospects, the progress of these schemes during the remaining period will need to be greatly expedited. The scheme for extension of tassar silk in the sub-Himalayan region seems to be of particular significance. A comprehensive scheme for increasing production of raw silk in Mysore State, involving substantial assistance from the banks, is currently under consideration.

25. *Coir.*—Exports of coir products declined from about Rs. 15 crores in 1968-69 to Rs. 13.22 crores in 1969-70. A large number of cooperative societies, particularly those engaged in retting activities, have been facing serious difficulties. The progress in the implementation of the Plan schemes, both at the Centre and in the States, has been unsatisfactory. The Study Group appointed by the Planning Commission in 1969 has made a comprehensive review of industry, and action is being taken for the implementation of its recommendations. Particular attention will need to be paid to reorganise the cooperative societies so as to place them on a viable basis; to ensure an adequate and smooth flow of institutional finance; and to bring about an improvement in the methods of production and quality and diversity of the products, so as to retain competitive strength in the export markets.

26. *Handicrafts.*—Exports of handicrafts increased from Rs. 75 crores in 1968-69 to Rs. 83 crores in 1969-70, but declined to Rs. 80 crores in 1970-71. While there has been some fluctuation in the exports of precious stones and jewellery, the exports of most other categories have increased steadily. Sales through public emporia increased from Rs. 4.4 crores in 1968-69 to Rs. 5.3 crores in 1969-70. Again, so far as the Plan programmes are concerned, the progress has been poor. The tempo of activities of the Handicrafts Board seems, in fact, to have declined. No progress has been made in setting up industrial estates for handicrafts. Lack of adequate statistics on matters pertaining to various handicrafts, such

as credit, employment etc., also constitute a problem in drawing up suitable programme of development.

27. In the light of the present review, appropriate adjustments have been made in the Fourth Plan outlays in the Central and Centrally sponsored schemes, as shown in Annexure I. In regard to the States and Union Territories, it has been emphasised during the course of the Annual Plan discussions that the progress in the remaining period of the Fourth Plan will need to be accelerated.

28. In undertaking the Mid-Term Appraisal one of the primary considerations has been the need to maximise employment opportunities in the present context. The importance, in this connection, of the group of industries covered by these programmes arises from the fact that they currently provide employment to something of the order of 18 million persons, among relatively vulnerable classes, and widely dispersed in rural and semi-urban areas. They also possess distinct possibilities for enlarginig employment opportunities on a significant scale at relatively small costs. Some of the specific problems pertaining to the concerned industries have been referred to in the relevant paragraphs. Among the more general issues which would call for special attention are institutional credit and technological improvements. While, in general, the provision of credit to small industries has substantially increased in recent years and especially after the nationalisation of the major commercial banks, the problems impeding its flow in specific sectors, such as coir, sericulture and other rural industries, will need to be resolved. Apart from the total quantum of financial assistance and the terms and conditions on which it is provided, there is need for enlarging the coverage in terms of location; for a greater degree of diversification as to the types of credit, including equity, long term loans and hire purchase arrangements; and for some measure of integration with other related facilities, such as technical and managerial assistance and marketing. Over the years, in the field of agricultural credit, a hierarchy of institutions has been built up, with an extensive coverage and offering a comprehensive range of facilities based on detailed surveys by the Reserve Bank of India. It will be useful if, at this stage, a similar survey of the credit situation in the field of small industries is undertaken, so as to provide sound guidelines for future development.

29. The present review clearly brings out that in areas where the technology has been sound and capable of adaptation, the pursuit of a comprehensive policy, with some measures of positive assistance, have yielded encouraging results. Equally, where there have been basic problems of a technological nature, other measures of support have not been of much avail. It is in the matter of technology that the deficiencies in the programmes as outlined in the Plan have been of most crucial concern. Special attention will need to be paid to the formulation and expeditious implementation of schemes for the modernisation of selected small scale industries; programmes for village industries as recommended by the Asoka Mehta Committee; research and extension activities in sericulture; and improvements in the coir industry.

ANNEXURE I

Outlay and Expenditure on Village and Small Industries

Central and Centrally-sponsored Schemes

(Rs. crores)

sl. no.	industry	Fourth Plan outlay as set out in the Plan	1969-70 actual expenditure	1970-71 actual expenditure	1971-72 budgeted outlay	total 1969-72 col. (3 to 5)	Fourth Plan outlay as revised
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	handloom industry }	4·50	0·08	0·07	0·08	0·23	1·10
2	powerlooms }						
3	small scale industries	37·65	2·81[1]	2·67	2·77	8·25	27·33
4	industrial estates	..	..	..	..	..	..
5	handicrafts	8·00	0·14	0·14	0·25	0·53	2·60
6	sericulture	2·00	0·05	0·06	0·11	0·22	1·30
7	coir	1·50	0·10	0·10	0·01	0·21	1·00
8	khadi and village industries	95·00	17·44	19·54	19·56	56·54	111·00
9	rural industries projects	4·50	1·19	1·15	0·87	3·21	9·00
10	collection of statistics	0·60	0·06	0·08	0·15	0·29	0·60
11	*total*	153·75	21·87	23·81	23·80	69·48	153·93

[1]Excluding the amount of Rs. 3 crores of loan converted into share capital of N.S.I.C.

ANNEXURE II

Outlay and Expenditure on Village and Small Industries

States and Union Territories

(Rs. lakhs)

sl. no.	state/union territory	Fourth Plan outlay	1969-70 actual expenditure	1970-71 actual expenditure	1971-72 anticipated expenditure	1969-72 (total)
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	*states*	**12970·00**	**1466·98**	**1866·27**	**2139·82**	**5473·07**
2	Andhra Pradesh	850·00	88·01	124·53	136·78	349·32
3	Assam	579·00	60·91	72·93	100·65	234·49
4	Bihar	700·00	59·26	76·15	152·00	287·41
5	Gujarat	298·00	49·21	45·08	45·25	139·54
6	Haryana[1]	500·00	52·87	63·70	72·00	188·57
7	Himachal Pradesh	200·00	24·95	26·26	30·00	81·21
8	Jammu and Kashmir[1]	385·00	47·13	61·36	72·00	180·49
9	Kerala	1043·00	132·49	181·83	248·15	562·47
10	Madhya Pradesh	537·00	44·69	61·61	93·32	199·62
11	Maharashtra[1]	750·00	113·13	127·37	117·00	357·50
12	Meghalaya	125·00	n.a.	10·83	25·64	36·47
13	Mysore	500·00	94·46	79·36	150·84	324·66
14	Nagaland	66·00	13·26	10·01	13·70	36·97
15	Orissa	322·00	35·49	59·31	83·02	177·82
16	Punjab	850·00	145·74	119·04	79·31	344·09
17	Rajasthan	87·00	10·48	22·28	21·83	54·59
18	Tamil Nadu[1]	2500·00	274·43	394·79	300·00	969·22
19	Uttar Pradesh[2]	2064·00	162·96	218·79	265·33	647·08
20	West Bengal[1]	614·00[3]	57·51	111·04	133·00	301·55
21	*union territories*	**840·71**	**101·19**	**139·19**	**190·59**	**430·97**
22	Andaman and Nikobar Islands	5·11	0·35	0·40	0·66	1·41
23	Chandigarh	28·00	10·00	4·50	4·50	19·00
24	Dadra and Nagar Haveli	10·00	1·00	0·44	0·53	1·97
25	Delhi[1]	475·00	47·05	75·00	100·00	222·05
26	Goa	56·60	15·27	11·29	26·05	52·61
27	Laccadive, Minicoy and Amindive Islands	4·00	0·18	0·36	1·32	1·86
28	Manipur	71·22	7·03	18·30	20·51	45·84
29	NEFA	44·90	9·55	8·44	8·95	26·94
30	Pondicherry	50·00	6·66	5·68	4·92	17·26
31	Tripura[1]	95·88	4·10	14·78	23·15	42·03
32	*total*	**13810·71**	**1568·17**	**2005·46**	**2330·41**	**5904·04**

[1]Latest figures of actual expenditure for 1969-70 and 1970-71 are not available. Figures for the year 1971-72 represent the approved outlays.

[2]Includes a provision of Rs. 54 lakhs for Uttarkhand.

[3]Fourth Plan outlay for West Bengal has been revised from Rs. 795 lakhs to Rs. 614 lakhs.

CHAPTER 17

INDUSTRY AND MINERALS

At the time when the Fourth Five Year Plan was being formulated, the economy was slowly recovering from a period of recession. There were surplus capacities in a number of industries, especially in the capital goods and engineering industries. At the same time, there were emerging gaps in many industries, particularly in alloy and special steels, non-ferrous metals, fertilisers, petro-chemicals and petroleum. In the pattern of development, the need was recognised to bring about a more synchronised growth in the light of changing conditions, greater dispersal of industries, and a wider diffusion of entrepreneurship. Above all, it was necessary to step up the overall rate of industrial development. In this background, the industrial programmes and policies envisaged in the Fourth Plan were designed to maximise the utilisation of the capacity already built up, to achieve a greater degree of self-reliance in important areas, to correct the imbalances in the industrial structure, and to promote vigorous growth in industrial output and capacity to meet increasing demands, both internal and external. The tempo of investment was to be substantially higher than in the earlier period. The Fourth Plan envisaged a total investment of Rs. 5,300 crores, Rs. 3,050 crores in the public sector and Rs. 2,250 crores in the private and co-operative sectors. The bulk of the investment was envisaged in key sectors like steel, non-ferrous metals, fertiliers, petro-chemicals, petroleum and iron ore development. The role of the public sector and the private sector was also broadly defined in the Plan, matching the programmes with the resources available. Further, the Plan provided for a measure of inbuilt flexibility, without attempting to lay down pre-determined targets, except in the core sector. With respect to the core sector as defined in the Plan, definite targets of capacity and production were laid down. In recognition of the importance of the core industries to the economy, the public sector was given a large role in the development of these industries.

2. Based on the investments and targets postulated in the Plan, it was envisaged that a growth rate of 8 to 10 per cent in industrial production would be achieved in the Fourth Plan period. In the initial years of the Plan, this was to be brought about largely through activisation of existing capacity. Apart from such additional capacity as would come into existence based on investment decisions taken earlier, further increase in production was to come largely through new additions to capacity as visualised in the Plan.

3. The Plan also outlined a set of policies intended to coordinate the development of industries in the large and in the small scale sectors to pevent concentration of economic power, and to support the emergence of new entrepreneurship; and to bring about a greater measure of regional dispersal. Further, the Plan indicated the broad approach to be adopted in regard to foreign collaboration, and for the development of scientific and technological capabilities to attain a greater degree of self-reliance.

4. At the beginning of the Fourth Plan, industrial production had shown a marked recovery. The rate of growth in industrial production went upto 6·6 per cent during 1968-69, and to 6·9 per cent during 1969-1970. This was largely through fuller utilisation of the available capacity. However, during 1970-71 the rate of growth dropped to about 3.5 per cent. There seems to have been a further decline in this trend in the initial months of 1971-72. Thus, during the first half of the Plan period, industrial production has remained substantially below the average levels envisaged in the Fourth Plan.

5. The increase in production through higher utilisation of existing capacity has not materialised to the extent anticipated. In this regard, there has been no significant improvement in industries, such as steel, fertilisers, transport equipment, and textiles.

6. The performance of the running enterprises in the public sector has not been altogether satisfactory. The production in many of the major units is still substantially below installed capacity. The lag in production in the public sector is also reflected in the financial results of the undertakings.

7. The overall picture as above does not, however, fully reflect the more satisfactory progress in certain directions. There has been significant growth in capacity and production in industries, such as aluminium, synthetic fibres, electrical equipment, and electronic components. In exports, the performance of manufactured goods, in terms of both value and proportion, has been encouraging, notably in engineering products. Mention should also be made of the rapid growth in the modern small scale sector.

8. Turning to new investments, there have been appreciable short-falls in the public sector in relation to both the overall Fourth Plan outlays, as shown in table 1.

TABLE 1: *Outlay and Expenditure*

(Rs. crores)

year	Annual Plan outlay	actual/anticipated expenditure
(1)	(2)	(3)
1969-70	580	448
1970-71	622	475
1971-72	610	550
total	**1,812**	**1,473**

Taking the three years together, the total expenditure will be less than half the total Fourth Plan outlay.

9. The trend of investments in major sectors is at table 2.

TABLE 2: *Trend of Investment in Major Sectors*

(Rs. crore)

sl. no.	sector	fourth plan outlay	actual/anticipated expenditure			total for three years	percentage of the Fourth plan outlay
			1969-70	1970-71	1971-72		
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	iron and steel	1,053·32	173·20	177·84	191·90	542·84	51
2	non-ferrous metals	247·77	14·49	23·37	38·61	76·47	30
3	iron ore	88·34	7·14	9·40	17·89	34·43	39
4	fertilizers	493·73	77·09	54·68	65·87	197·64	40
5	petroleum including refineries	303·20	55·27	61·00	80·78	197·05	65
6	petro-chemicals	77·50	4·97	7·20	23·78	35·95	46

10. There have been slippages in the schedules of construction and upward revision of cost estimates. As a result of the delays that have taken place, the output levels envisaged in the Annual Plans were not realised. Further, in view of the significant escalation in costs, the anticipated benefits from the investments envisaged in the Plan can now be secured only through a larger outlay.

11. Consequent on the slippages in implementation and lower levels of production, the contribution of the public sector to the financing of the Plan has substantially come down. It is estimated that as against Rs. 785 crores of internal resources assumed in the Plan, only about Rs. 500 crores can now be reckoned upon.

12. Precise figures relating to private investments in the organised sector during the first two years of the Plan period are not available. While the levels of the capital raised in the market and the disbursement of funds by the term—lending institutions have shown an increasing trend during the first two years, the total investments in the private sector have still remained below the levels envisaged in the Plan. A proportion of the assistance from the financing institutions is also accounted for by replacements and modernisation rather than additions to capacity. However, there are indications that conditions are generally conducive to accelerated development in the future, as shown by the general level of demand for industrial goods and the broad picture of investible resources for industry. This is also reflected in the substantial increase in approvals for the import of capital goods which has gone up from about Rs. 38 crores in 1968-69 to about Rs. 83 crores in 1970-71, which is indicative of the investment intentions likely to materialise in the future. The number of letters of intent and industrial licences issued has also increased over this period, though in view of the change in the industrial licensing policy there are some limitations in interpreting this data. Further, the issue of letters of intent does not necessarily reflect firm investment decisions.

13. During first half of the Plan period, certain steps have been taken in pursuance of the broad policy objectives laid down in the Fourth Plan, as pertaining to the private sector. The Monopolies and Restrictive Trade Practices Act was brought into force from June 1970. Guidelines have been formulated governing the participation of public financial institutions in undertakings assisted by them. As a part of the policy for the promotion of the small-scale sector, a total number of 128 industries have been reserved for exclusive development in the small-scale sector. In pursuance of the policy of dispersal of industries, selected backward districts have been identified for the purpose of concessional finance from institutions and subsidy by the Central Government. A scheme of transport subsidy has also been worked out for industries located in Jammu and Kashmir State and the eastern region of Assam and the neighbouring Union Territories.

14. A variety of factors seem to have contributed to the deceleration in the growth of industrial production and investment. Broadly speaking, the factors responsible for slower growth of production were constraints arising from inadequate supplies of input, sluggish demand and shortage of capacity. The shortage of steel has undoubtedly depressed production in the capital goods and engineering industries. This, coupled with lower investment by the Railways in rolling stock, as also shortage of non-ferrous metals has adversely affected production in this group of industries. In the consumer group of industries, output of cotton textiles, which has relatively larger weight in the industrial index, was affected due to shortage of cotton.

Production was also affected in certain regions particularly in the North, on account of power shortage. This, alongwith operational problems in some of the units, resulted in considerable shortfall in the production of fertilisers. Industries affected by demand constraints are coal, railway wagons and certain machinery industries, such as paper and pulp machinery and cotton textile machinery. The low level of demand for these industrial goods has been, in turn, a reflection of the inadequate levels of investment in the user sectors. By far, the most serious constraint, however, has been the limitation of capacity in a large number of industries. This includes a number of key industries like steel, non-ferrous metals, agricultural tractors, fertilisers, paper and newsprint, cement, petro-chemicals, certain inorganic chemicals like caustic soda and soda ash, automobile tyres and tubes etc. In fact, in many of these commodities, shortages have emerged and substantial imports have had to be made. Apart from these major constraints, certain general problems, such as industrial relations and inadequacies in the transport system, have also contributed to lower levels of production during the first half of the Plan period.

15. Considering the wide range of industries affected by capacity constraint, the slower pace of new investment has been a matter of concern. In the public sector, as seen, the slow progress has not been due to limitations of finance, but mainly a reflection of the considerable time-lag in finalising the scope and details of the projects and in construction and implementation. Since, under our conditions, the level of investment in the public sector has a bearing on the growth of the private sector, this has had some effect on investment in private sector also. In part, this also represents the after-effects of the earlier period of uncertainty in investment decisions in the private sector.

16. The general performance of the industrial sector in the first half of the Plan highlights the need for concerted efforts during the remaining period to reverse some of the unsatisfactory trends and to step up substantially the tempo of production and investment. In the short-term, measures will have to be taken to obtain maximum output from existing capacities. Adequate supply of raw materials would be an important factor in increasing production in a number of industries. Timely action would need to be taken to ensure import of basic raw materials like steel, non-ferrous metals, and raw cotton. In some industries, it may be possible to achieve somewhat higher levels of output through multiple shift operation. To the extent existing capacities can be stretched to obtain larger output by injection of relatively small capital investments by way of balancing equipment, it can lead to a welcome addition to production.

17. In the longer term, continued growth in industrial production has necessarily to be achieved through the flow of new investments to create additional capacity. Measures will need to be taken to strengthen the capabilities in the public sector to formulate, construct and commission complex industrial projects with greater speed and efficiency, so as to sustain a higher tempo of investment. In regard to industries in which the private sector is expected to play an important role, it would be necessary to analyse the problems on an industry-wise basis, with a view to stepping up investment in accordance with the Plan.

18. Based on the actual performance during the first half of the Plan period, and on the basis that special efforts would be made to make up, to the extent possible, the lag in implementation during the remaining part of the Plan, certain adjustments in the allocations for the public sector programmes are now being made in the Fourth Plan. Account has been taken of the financial requirements of new projects included after the formulation of the Plan or those which are now considered to be essential. An attempt has also been made to assess the likely achievements, both in the public and in the private sectors, in relation to the targets originally envisaged in the Plan. The broad conclusion that emerges is that there would be generally a time-lag of one to two years in the achievement of physical targets in many industries, as originally envisaged in the Fourth Plan, although in financial terms, the outlay indicated in the Plan may be substantially incurred. As a result, the average growth rate during the Fourth Plan period will be lower than that predicted in the Plan. Further, as a consequence of delayed implementation, there may be a larger spill-over into the Fifth Plan than originally contemplated. The fulfilment of the revised programme is conditional on substantial improvements in performance over what has actually been achieved in the past.

19. As against the outlay of Rs. 3150.86 crores envisaged under Industry and Minerals in the Central sector, it is now estimated that the revised outlay will be somewhat lower. Annexures I and II present the revised allocations for the projects and programmes under the different Ministries. In respect of States and Union Territories, based on the progress so far, the outlay may turn out to be somewhat higher than the original figure of Rs. 186.8 crores. The programmes in respect of some of the more important industries are reviewed in some detail in the ensuing paragraphs.

20. *Steel*:—The steel programme as laid down in the Fourth Plan consisted of (1) increased production in the existing plants, through technological improvements; (2) implementation of expansion and continuing projects, namely Bhilai, IISCO and Bokaro; and (3) establishment of new steel plants essentially to meet the requirements in the Fifth Plan.

It was envisaged that, as a result, the capacity in the steel industry would be stepped up from 9.0 million tonnes to 12·0 million tonnes (ingots), and that production would go up from 6.5 million tonnes in 1968-69 to 10.8 million tonnes in 1973-74.

21. Both in terms of production as well as additional capacity, the progress has not been satisfactory. Production has been around 65 to 70 per cent of the installed capacity. Inadequate attention to maintenance and operational problems and disturbed labour relations have affected fuller utilisation of capacity. The Plan schemes for technological improvements have made little headway. For a variety of reasons, the implementation of the first stage of Bokaro has got prolonged. Shortage of steel, delays in the delivery of indigenous equipment by H.E.C. and other suppliers, and labour problems are stated to be among the factors responsible. According to present anticipations, the first stage is expected to be commissioned in stages, commencing from April 1972. Efforts are, however, made to complete the 2.5 million tonnes stage, along with the hot strip mill, by the end of the Fourth Plan. The cost of the project has gone up significantly, and the Plan outlay has also now been substantially increased. In regard to Bhilai Expansion, the scope of the project has since been revised. The revised scheme is now expected to be commissioned only by 1976. The expansion of IISCO has made no progress and is not expected to materialise during the Fourth Plan. Based on the-above anticipations, the capacity and production of steel in 1973-74, are likely to be of the order of 11.8 and 8.25 million tonnes (ingots) respectively, as against 12.0 and 10.8 million tonnes respectively envisaged in the Plan.

22. Regarding the three new steel projects Visakhapatnam, Hospet and Salem, the sites have been finally decided upon and land acquisition proceedings started. The preparation of techno-economic feasibility reports has been taken in hand. Detailed studies on raw materials are also in progress. Final decisions on the product-mix for these projects are expected to be taken in the near future.

23. Subsequent to the finalisation of the Fourth Plan it has been decided to incorporate the Central Engineering Design Bureau as a separate company. A decision has also been taken to set up a Steel Research and Development Board to initiate and direct research and development activities for the steel industry. Necessary provision for this purpose is being made in the Plan.

24. *Alloy Steel.*—The position in regard to alloy steel is more satisfactory. Production at the Alloy Steel Plant, Durgapur has been gradually stepped up. Inclusive of the output from the Mysore Iron & Steel Works and the private sector projects, the production target of 2,20,000 tonnes of alloy and special steels envisaged for 1973-74 is likely to be fully realised.

25.—*Aluminium.*—The existing capacity in the aluminium industry is all in the private sector. A major part of the programme in the Fourth Plan was the establishment of two projects in the public sector, at Korba (M.P.) and Koyna (Maharashtra), with a total capacity of 150,000 tonnes, involving an outlay of Rs. 125 crores. The public sector programme has not proceeded according to the original assumptions. The considerable delays in the preparation of the feasibility reports and sanction of the projects has put back the implementation of these projects, which will now be completed only in the Fifth Plan. At Korba, the alumina plant is under construction and is scheduled to be commissioned during 1972. However, the smelter is not expected to commence operation till late 1974. In the case of Koyna, the detailed project report is yet to be finally approved. Thus, while some quantities of alumina will be produced, no aluminium metal will be available from either of these projects within the Fourth Plan period. The progress in the case of the private sector projects has been generally satisfactory. On the whole, it appears that the targets of capacity and production of 230,000 tonnes and 220,000 tonnes respectively, as envisaged in the Plan, would be nearly achieved.

26. *Copper.*—The Fourth Plan envisaged an increase in the capacity for the production of copper from the current level of 9,600 tonnes to 47,500 tonnes in 1973-74, through the expansion of the existing unit of the Indian Copper Corporation in the private sector, and the establishment of a new copper smelter in the public sector at Khetri (Rajasthan). The expansion scheme of the Indian Copper Corporation is expected to be completed during 1972, though the matching mining and concentration capacity will not be achieved till much later. The schedule of implementation of the Khetri copper project has been affected, due to delays in finalising the details of the project and in placing contracts and other difficulties. According to the revised schedule, the smelter is expected to be commissioned only by the end of 1973. No significant production of copper from Khetri can be reckoned upon during the Fourth Plan period. The full development of the mine to correspond to the smelter capacity is, however, expected to take a further period of about two and half years, indicative of the problems encountered in developing a mine of this nature. The production of copper by 1973-74 will be of the order of 14,000 tonnes, as compared to the target of 31,000 tonnes envisaged in the Plan.

27. *Zinc*—The capacity at the beginning of the Fourth Plan was 38,000 tonnes. However, production in recent years has been only of the order of 25,000 tonnes, primarily due to operational problems at the plants. The Fourth Plan included the expansion of the public sector unit of Hindustan Zinc Ltd. at Debari (Rajasthan) from 18,000 to 36,000 tonnes, and the expansion of the private sector unit at Alwaye (Kerala) from 20,000 to 40,000 tonnes. The expansion of the Hindustan Zinc smelter is expected to be completed by 1973-74. There may, however, be some difficulty in synchronising the expansion of the mining capacity to match the smelter capacity. In the initial stage, it may become necessary to depend

on imported zinc concentrates. While approval has been given to the private sector expansion scheme, subject to certain conditions, it does not appear likely that it will materialise during the Fourth Plan period. Subsequent to the finalisation of the Plan, it was decided to include a project in the public sector for setting up a zinc smelter at Visakhapatnam (Andhra Pradesh), with a capacity of 30,000 tonnes, based on imported concentrates. Not much progress could be made on this project so far, and it is unlikely to materialise during the Fourth Plan period. Thus, as against the target of 76,000 tonnes, the capacity likely to be achieved by 1973-74 will be about 56,000 tonnes. The production level in 1973-74 may be of the order of 38,000 tonnes, as against 70,000 tonnes indicated in the Plan.

28. *Fertilisers.*—The capacity and production targets for nitrogenous fertilisers were 3.0 million tonnes and 2.5 million tonnes (nitrogen) respectively by 1973-74. The installed capacity at the beginning of the Fourth Plan was 1.024 million tonnes. During the first two years of the Plan, the capacity increased to 1.344 million tonnes, comprising 0.684 million tonnes in the public sector and 0.660 million tonnes in the private sector. An additional capacity of around a million tonnes is under implementation and is expected to be brought into production by the end of 1972. All these, however, are projects which were included in the Third Plan, which have been delayed in varying degrees. Over and above this, projects amounting to approximately 1.5 million tonnes are in the process of being taken up for implementation. These, however, are likely to come into production only in the early years of the fifth plan. Thus, the capacity expected to be achieved by 1973-74 will be about 2·4 million tonnes, and the anticipated production about 1·8 million tonnes. The main factors which have contributed to the delays in the implementation of fertiliser projects are shortage of steel, delays in the supplies of equipment by local fabricators, and prolonged negotiations for foreign exchange requirements. More recently, the question of the feed stock policy has created some uncertainty in firming up the projects.

29. In the case of phosphatic fertilisers, there is likely to be a shortfall of about 0·6 million tonnes in capacity and of 0·4 million tonnes in production. This is mainly for the reason that the realisation of additional capacity for phosphatic fortilisers is closely linked up with the progress in the production of nitrogenous fertilisers. Corresponding to the overall progress in the implementation of fertiliser projects, the Plan outlay will also come down substantially.

30. *Agricultural Tractors.*—There are at present five units engaged in the manufacture of agricultural tractors with a capacity of 35,000 numbers. The production in 1970-71 was about 21,000. The Fourth Plan envisaged targets of capacity and production of 68,000 and 50,000, respectively, by 1973-74. The Plan also includes the establishment of a tractor project in the public sector by H.M.T. A large number of letters of intent have been issued for the creation of additional capacity. It is too early to be certain as to the capacity that might actually come up. However, keeping in view the progress being made in the public sector project, as also the general indications, the targets of capacity and production envisaged in the Plan are likely to be realised.

31. *Newsprint.*—The Fourth Plan envisaged capacity and production targets of 165,000 tonnes and 150,000 tonnes, respectively, by 1973-74. The current level of production is about 40,000 tonnes, from the public sector unit of NEPA Mills, which is the only one in the country. The expansion of this unit to 75,000 tonnes as envisaged in the Plan, is almost complete, and would achieve full production during the Plan period. In addition, the Plan included a second public sector unit in Kerala, to be implemented by the Hindustan Paper Corporation, and a new private sector project in Himachal Pradesh. The detailed project report for the public sector is under preparation. Tests on raw materials to establish the pulping characteristics have also been undertaken. Neither this, nor the private sector project, is likely to make any contribution to production in the Fourth Plan period. The capacity and production likely to be realised by 1973-74 would thus be about 75,000 tonnes and 65,000 tonnes, respectively.

32. *Iron Ore.*—The Fourth Plan envisaged that the production of iron ore would be stepped up from about 28.0 million tonnes in 1968-69 to 51.4 million tonnes in 1973-74. Of this, 31.0 million tonnes was planned for export. The contribution of the projects under the National Mineral Development Corporation to the total production was to be about 14.0 million tonnes. Because of the slippages in the construction schedules, partly due to the longer time taken in completing the preparatory steps and partly due to delays in the supply of equipment, production by the NMDC will be only about 7 million tonnes by 1973-74. Export of iron ore, which was at the level of 13.0 million tonnes in 1968-69, is at present of the order of 20.0 million tonnes. On present reckoning, it is likely to reach only about 25.0 million tonnes by 1973-74. This is due not only to the lag in production in the mining sector, but also to the provision of complimentary transport facilities. The port programmes at Visakhapatnam and Madras Outer Harbour are behind schedule. This underlines the importance of appropriate institutional machinery to ensure effective coordination in planning and implementation between the different sectors, such as mine development, railway transport and port facilities. In regard to the iron ore requirements for the three new steel plants, detailed studies are currently under way. Taking into account the lags in implementation, it seems unlikely that production of iron ore would be more than about 42.0 million tonnes by 1973-74.

33. *Coal.*—The Fourth Plan envisaged a demand of 93.5 million tonnes of coal by 1973-74. Coking coal production was to be stepped up

from a level of about 17.0 million tonnes in 1968-69 to 25.4 million tonnes in 1973-74, of which 23.0 million tonnes constituted the requirements of the steel industry. Demand for both coking and non-coking coal from the consuming sector has not materialised to the extent envisaged at the time of the formulation of the Plan. Due to slippages in the steel production programme, offtake of coking and blendable coals fell short of anticipations and production had to be curtailed. The deep coking coal mines at Sudamdih and Monidih are now expected to be commissioned only by the beginning of the Fifth Plan period. In view of the importance of conservation and rational utilisation of the limited reserves of coking coal, the Government have recently taken over the private sector collieries producing coking coal. In the non-coking coal sector, certain readjustments in the pattern of linkage between specific collieries and thermal stations become necessary. As a result, the development of certain new mines are now being undertaken.

34. *Petroleum.*—The programmes envisaged in the Fourth Plan include an increase in crude oil production from about 6.06 million tonnes in 1968-69 to 8·5 million tonnes in 1973-74, and of refinery capacity from 16.25 million tonnes to 28·0 million tonnes. The output of refinery products was expected to go up from 15·4 million tonnes to 26·0 million tonnes.

35. There has been some increase in the production of crude during the last two years. The production was 6·81 million tonnes in the year 1970-71 and is expected to be 7·5 million tonnes in 1971-72. During 1970, the Oil and Natural Gas Commission initiated off-shore exploration at Cambay, where drilling had shown encouraging results. It is also proposed to carry out exploratory work in the Bombay High region, and a final agreement has been reached with Japan for the supply of equipment. Although it is too early to be definite about the success of the new exploration programme at Tripura, Cambay Off-shore and Bombay High region, it is expected that the Plan target of 8·5 million tonnes would be achieved by 1973-74. With regard to the refinery programme, there is likely to be a significant shortfall in relation to the target. The capacity realised in 1970-71 was 20 million tonnes. On an assessment of the crude oil available in the Gujarat and Assam regions, the earlier refinery programme had to be somewhat modified. The new refinery of a million tonnes in Assam is not likely to go into production during the Fourth Plan period. The construction schedule of the Haldia Refinery has been behind hand, and is now expected to be commissioned in 1972-73. A decision has recently been taken in principle to set up a new refinery in the North-West region. This refinery along with the pipeline, is expected to cost about Rs. 150·00 crores. Necessary provision has now been made for commencing construction during the Fourth Plan period. On the whole, it appears that a refinery capacity of about 22·5 million tonnes may be realised by 1973-74.

36. *Petro-chemicals*—The most important programme in the field of petro-chemicals in the Fourth Plan is the construction of the petro-chemical complex in Gujarat. The implementation of the Gujarat complex, with the exception of the aromatics unit, has got substantially delayed. The aromatics project, which is in an advanced stage of construction, is expected to go into production in 1972. While the collaboration and other arrangements for the olefins unit were tied up, the various 'down-stream' units, which were to be taken up in the private sector, did not proceed in synchronised manner. As the construction of the olefins unit had to be closely dovetailed with that of the "down-stream" units, it became necessary to review the arrangements for the implementation of the "down-stream" units. It has since been decided that most of the "down-stream" units would be taken up in the public sector. Necessary adjustments have now been made to provide the increased outlay for implementing the larger programme in the public sector. In addition, it has been proposed to secure assistance from the long-term financial institutions. This represents the first major public sector project sought to be financed through long-term institutions, following the policy decision taken in 1970. With these decisions, it is now expected that the olefins and the associated "down-stream" units, in regard to which all preliminary action including foreign collaboration arrangements have been completed, would make significant progress. According to the current time schedule, all these units are expected to go on stream in the early years of the Fifth Plan. With the establishment of the Gujarat complex, the public sector will secure a substantial role in the production of petro-chemicals and a major entry into a field of modern technology.

37. The Fourth Plan had also included provisions for petro-chemical schemes in Assam and Barauni. The scope of these schemes was to be fully defined later after detailed examination. The feasibility report for the Assam petro-chemical complex has been prepared and is under examination. This envisages the recovery of aromatics and production of DMT and polyesterfibre. The scope of the Barauni project is yet to be decided. Detailed studies are in progress.

38. On account of the delay in proceeding with the Gujarat complex, many of the targets for petro-chemicals as envisaged in the Plan will not now be achieved. While the target for DMT may be fulfilled, the targets for synthetic rubber, synthetic fibres and intermediates (other than DMT) may be realised only in the early years of the Fifth Plan.

39. *Electronics.*—In the electronics industries certain important components have been included under the core sector in the Fourth Plan. The production of such components increased from Rs. 21 crores in 1968-69 to Rs. 38 crores in 1970-71. The target of Rs. 80 crores by 1973-74 is expected to be achieved. Total production in the industry, inclusive of components increased from Rs. 106 crores in 1968-69 to Rs. 175 crores in

1970-71. Production in 1973-74 is estimated to each about Rs. 374 crores. Electronic products being manufactured in the country cover an increasingly wider range, including entertainment, telecommunications, and defence equipment. While the overall progress in the industry may be regarded as being satisfactory, this is accounted by a relatively faster tempo in the entertainment rather than in the professional grade of equipment. An important programme now included in the Plan is the substantial expansion of the Electronics Corporation of India, for the production of highly specialised equipment including computers.

40. Recognising the need for a well-directed programme for the rapid development of the electronic industry, Government have recently constituted the Electronics Commission with a wide range of functions and powers. The Commission is currently engaged in drawing up a long term programme of development for the electronics industry, in close consultation with major user Ministries and sectors. An intensified programme of research and development, which is a basic ingredient in this science-based industry, is being undertaken under the guidance of the Commission. Provision has been made in the Plan for this purpose.

41. *Heavy Electrical Equipment*—Production of heavy electrical equipment at HEL, Bhopal and the units of BHEL has shown substantial improvement during the first half of the Plan period. The Hardwar unit of BHEL has gone into trial production. The slippages in the commissioning of different power projects emphasize the need, among other things, for advance planning and closer coordination between the manufacturing units and the electricity authorities.

42. *Heavy Engineering*—The output at the Heavy Machine Building Plant, Ranchi continued to be low, though there is some evidence of improvement recently. The investment on the Foundry Forge project has been virtually completed. The installation of the 6,000 tonne press is expected to be completed during 1972. However, the output, particularly of heavy castings and forgings, continues to be low. While the order position with HEC, Ranchi is satisfactory, the delayed supplies of equipment to steel and other industries, have had serious repercussions on the completion of these projects. In view of the lower demand for coal equipment, MAMC has taken up diversification into allied items, such as port handling equipment. Some of the major problems still facing the heavy engineering industries are—shortage of steel, inadequate back-up by way of design facilities, and the need to improve productivity through greater experience and assimilation of production techniques. With the liberal imports of steel and other measures being pursued, it is expected that the performance of the heavy engineering units will progressively improve in the coming years.

43. *Machine tools*—The output of machine tools increased from Rs. 24 crores in 1968-69 to Rs. 37 crores in 1970-71. It would seem that the industry has more or less got over the recessionary phase. However, imports are still continuing at substantial levels and it would be necessary for the industry to diversify into more specialised types of machine tools. The programmes of diversification of HMT, included in the Fourth plan, for the production of heavy duty presses, printing machinery and agricultural tractors, are in various stages of implementation. It is expected that these will be substantially completed during the Plan period. Important aspects requiring special attention in this industry are the more rapid development of indigenous design skills and expansion of exports.

44. The capacity and production targets estimates for industries included in the core sector and other selected industries for 1973-74, as envisaged in the Plan and as now anticipated, in the light of the Mid-term Appraisal, are shown at Annexures III and IV.

45. The Mid-Term Appraisal is an occasion not only to take stock of the situation as it has emerged, but also to review the assumptions underlying the Plan as originally formulated, in the light of subsequent developments and to evolve appropriate measures to approximate to the Plan objectives to the extent now possible, and more importantly to provide greater assurances of fulfilment in the future. The preceding analysis brings out certain issues as they have affected the growth of industrial production and investment, both in the public and private sectors. The general and broad conclusions arising therefrom and the specific measures that they point to are discussed in the following paragraphs. While some of these are of a short term nature and may, therefore, be expected to make an impact during the remaining period of the Plan, others are necessarily of a more long term nature. On some action has already been initiated, and will need to be pursued in respect of others.

46. *Utilisation of Installed Capacity*.—There remains considerable scope for securing additional output in many industries through fuller utilisation of installed capacity. To this end, action has to be taken in several directions.

(1) *Raw Materials*.—Raw Material shortage has primarily affected engineering industries and industries based on agricultural raw materials. Availability of metals, ferrous and non-ferrous, is basic to the smooth operation of engineering industries. Non-availability of steel in time has also affected construction of various projects, with cumulative repercussions on overall growth. The problem here is one of arriving at a correct judgment on the level of imports necessary to bridge the gap between essential demand and availability from domestic production. In critical materials like steel and non-ferrous metals, it would, on the whole, be prudent to allow for somewhat larger imports and earlier rather than later. Apart from overall availa-

bility, it is necessary to reduce the time lags involved in securing supplies through imports or indigenous production. So far as critical categories of steel are concerned, it has been proposed to establish a "Steel Bank", to procure steel in advance of requirements and to supply essential needs ex-stock. Similar considerations would also hold good in the case of agricultural raw materials like cotton and jute.

(2) *Maintenance.*—A major problem in attaining higher level of utilisation of capacity in many industries is the accumulated arrears of maintenance leading to frequent breakdowns of critical equipment. This is particularly acute in the case of continuous process industries like steel and fertilisers. It is necessary to give much greater attention to formulating proper programmes for scheduled maintenance of complex equipment in these industries in order to prevent major break-downs and loss of production. The training and development of a special cadre of maintenance crew for each of the public sector projects is a matter to which urgent attention needs to be given.

(3) *Technological Improvement and Balancing.*—In many projects, production is inhibited due to various technological deficiencies and imbalances. Marginal investments to correct these can bring in substantial improvement in output. The proposals for technological improvements in the steel plants, and for "de-bottlenecking" in the fertiliser projects will need to be implemented expeditiously. It is also necessary to identify such imbalances in other projects, and to take appropriate action.

(4) *Intensity of Capacity Utilisation.*—There is scope for securing additional production through more intensive utilisation of existing capacity. This may be either through multiple shift operation or through the activisation of in-built capacity. It would seem that the licensed capacity as in the books of the Government is, in many cases, different from the actual capacity as effectively available in different industrial undertakings. This arises partly from the fact that industrial licences issued at earlier times were not on a uniform basis with reference to shift operation. Where licences have been issued on the basis of less than optimum utilisation, multiple shift operation may be permitted. Additional capacity brought about through technological improvements or higher productivity may be recognised. For purposes of future planning, it would be necessary to undertake a survey, on a scientific and functional basis, of the actual capacities available in various industries, particularly in the engineering industries.

47. *"Sick" units*—The closure of an increasing number of industrial undertakings in the recent past has posed serious problems of production and employment. Some industries, more than others, have been affected by these closures; similarly, some regions have been affected more than others.

Although detailed information about the total number of closures, curtailment of employment and production affected therefrom is not available, the broad estimate as pertaining to 1969-70 and 1970-71 is as follows :

TABLE 4: *Number of Closures and Workers involved*

year	number of closures	number of workers involved
1969-70	1221	190176
1970-71	948	136593

Out of the total number of closures, West Bengal has a predominant share. The share of West Bengal as a percentage of the total closures is indicated in the following table :

TABLE 5: *Percentage of Closures and Workers involved in West Bengal.*

year	establishment closed	workmen involved
1969-70	23% (282)	23% (45224)
1970-71	27% (257)	57% (76315)

The magnitude of the problem calls for a detailed analysis of the causative factors responsible for such closures and the appropriate remedial measures. Broadly speaking, these closures arise on two counts—firstly, in a number of traditional indurtries like textiles, sugar, coal, foundry structurals etc., the malady is of a more chronic and deeprooted nature, arising primarily from a long period of neglect, obsolescence of equipment, and technology, and consequent lack of competitive strength. This is also aggravated by the fact that some of these industries are characterised by a relatively slower rate of growth. Secondly, there are a set of problems of a less general nature, arising in individual units, on account of fluctuations of demand, financial weakness of the parties, or inadequate management, etc. It is necessary to distinguish between these two sets of factors in identifying the particular measures to be adopted to deal with the problem. In the first category the remedy clearly lies in a well-conceived and extensive programme of rationalisation and modernisation of the industry. As regards units in the second category, the solution has to be the induction of sound management and financial support to put them on a viable basis.

48. Various measures have been taken in recent years to deal with the situation arising from the closure of industrial undertakings. As the problem was particularly acute in the textile industry, the Cotton Textile Companies (Management of Undertakings and Liquidation or Reconstruction) Act was promulgated empowering the Government to take over the management of the textile mills and for the reconstruction of the capital with Government majority participation. The National Textile Corporation was also set up as an agency to finance and manage such mills. More recently, the Government have extended the scope of these powers to other industries, through an amendment of the Industries (Development and Regulation) Act. Thus, a legal framework for dealing with the problem of sick units has been established. In the context of the large number of closures in West Bengal, the Industrial Re-construction Corporation has also been set up, with headquarters at Calcutta, to assist industrial undertakings facing difficulties.

49. However, neither legal powers nor financial assistance would in themselves be adequate to deal with the problems, in the absence of appropriate institutional arrangements with the necessary managerial and technical competence. The need to create such institutions through existing or new agencies appears to be a matter of urgency. Past experience further suggests that Government intervention has to be timely if it is to be effective. It is, therefore, necessary to institute a proper information system, so that Government is warned of incipient difficulties such as are likely to lead to closures, so that preventive rather than curative action could be taken.

50. In regard to industries which are in need of renovation and modernisation, it would be necessary to draw an industry-wise programme. In drawing up such a programme, it is important to bear in mind not only the need for a special pattern of financial assistance, but also other relevant factors. In many cases, the long term viability of the industry will depend upon the potential for expansion and diversification, with due regard to the market conditions and the compulsions of improved technology. This would be particularly relevant in the textile industry in view of the changing position of raw materials and the shifting pattern of consumer demand. Most importantly, adequate attention will have to be paid to the management aspect. Singly, none of the above measures, namely financial, technological and management improvement, can be expected to be effective, and combination of all these inputs will be necessary. For this purpose, it will be necessary to evolve a suitable institutional frame-work with the requisite financial, managerial and technological capabilities to plan and implement the programme.

51. In addition, there are a number of smal industries, which are in need of modernisation. Particular mention may be made of small foundries, machine tool factories, fabrication workshops etc. The quality and range of the products turned out by these small-scale units can be substantially improved through a process of modernisation, requiring financial and technical assistance. In this sphere, measures could perhaps be initiates, through one of the existing financial institutions working in close collaboration with the Small Industries Institutes.

52. *Industry-wise Analysis.*—Apart from measures of an overall nature, such as supply of raw materials, infrastructure facilities, etc., there are specific problems as pertain to individual industries, which would need to be gone into in detail. This calls for an analysis of the problems of each industry and the identification of specific remedies, which are both necessary and sufficient. On the basis of such an analysis, a coordinated set of measures will have to be devised, which are inter-related to each other and which will have some assurance of continuity for a reasonable period. The Planning Commission has initiated such studies in consultation with the concerned Ministries and other agencies, and it is hoped to complete the same progressively.

53. *Public Sector.*—In terms of investment, productive capacity and a dominant share in basic industries, the public sector now occupies a pre-eminent position in the industrial field. As at the end of March 1970, the public sector investment in industrial undertakings was of the order of Rs. 3,700 crores. The value of production in 1969-70 amounted to over Rs. 1,000 crores, and provided employment to over half a million persons. Gross internal resources amounted to Rs. 194 crores, and contribution to exports about Rs. 85 crores. Nevertheless, there was a net loss of about Rs. 22 crores during the year. A major part of the additional capacity and production envisaged in the Fourth Plan was expected to accrue from public sector projects. By the same token, the shortfall in overall progress in many important fields is a reflection of the deficiencies in the public sector, in terms of utilisation of existing capacity and implementation of new projects. The performance of the public sector undertakings is, therefore, critical for securing a higher rate of industrial growth.

54. There is considerable scope for strengthening of the organisation, management and operation of public sector undertakings. Each public sector enterprise has to formulate its objectives and targets, both long and short-term, and to prepare an operational budget, covering not only outputs, such as production and sales; financial working, such as cash flow and profit estimates; but also all inputs, including materials, manpower and technology. The actual performance against such targets and estimates should be closely watched and assessed at regular intervals during the year. This would call for the institution of scientific management, information and control systems within each public sector undertaking.

55. Apart from such general measures, it would be necessary to examine in detail and identify the specific problems of individual public sector enterprises. In order to do so, it has been decided to set up a Steering Group, consisting of

professional persons of competence, experience and judgment, to go in depth into the various problems, such as management, technology, finance, industrial relations etc., of selected public sector enterprises, on a unit-wise basis and to suggest suitable remedial measures for the consideration of Government.

56. *Project Preparation.*—A major reason for the slow pace of expenditure in the public sector outlay provided in the Fourth Plan has been the inadequate preparatory work. The Fourth Plan included 100 new schemes, accounting for about Rs. 1190 crores, representing some 40 per cent of the total public sector outlay. In many cases, at the time of the formulation of the Plan, the feasibility studies had not been completed, and in some cases, even the projects had not been clearly identified. As at the end of the second year, work had been commenced only in about half the number of the new projects. Even by the end of the third year, the total cumulative expenditure is estimated to be about Rs. 180 crores, that is, about 15 per cent of the total Plan outlay on the new schemes. There are still over 20 schemes, which are yet to be even initiated.

57. Apart from the shortfalls in production, expected to be realised during the Fourth Plan, and the fact that many of these projects will spill over into the Fifth Plan, this has given rise to several other problems. As a result of the delays, there has been a significant escalation in the cost of the projects. The investment in other matching projects or sectors is likely to be idle or result in losses. A further consequence is that there would be considerable bunching of projects under construction in the remaining period of the Plan, leading to pressures on financial and managerial resources, as well as on the construction fabricating facilities available in the country. This may involve larger imports of capital equipment, in order to avoid further slippages in the implementation of these projects, though domestic manufacturing capacity may be available.

58. In order to ensure that this experience is not repeated in the future, and that projects are taken up in proper sequence, it is necessary to take advance preparatory work on projects for inclusion in the Fifth Plan. This will also permit the exercise of a meaningful economic choice, based on an ex-ante appraisal of alternative schemes presented for consideration. The Planning Commission has, therefore, advised the Ministries to initiate action in this regard and to prepare a shelf of projects well in advance of the beginning of the Fifth Plan, worked out in sufficient detail. For this purpose, the Ministries have been authorised to incur the necessary expenditure towards any studies or investigations.

59. *Project Implementation.*—Long and repeated delays in the construction and completion of projects have been a continuing and disturbing feature affecting the implementation of the Plan. To a large extent, adequate preparatory work on the project, with detailed cost and time schedules, and material procurement and construction planning, will itself be conducive to smooth implementation. During the construction stage, the coordination of different activities and systematic monitoring of progress, so as to spot out hold-ups in advance, calls for the use of scientific management tools, such as PERT and CPM at the project level. The responsibilities falling on the project management have been rendered necessarily more difficult, in the context of the progressively increasing role assigned to indigenous capital equipment and technical services. The chain of supplies has become longer, calling for a higher degree of advance planning. The mixture of inputs, with a number of inter-dependent variables requires a much greater measure of coordination, as between wholly imported equipment, domestically fabricated equipment with imported components or materials, and wholly local equipment, and between process design and detailed engineering. The procurement organisation of project management has, therefore, to include a system of surveillance, by which the progress of domestic fabrication and engineering critical to the project is kept under constant watch. Apart from such action as can be taken at the project level, the course of implementation of a project is dependent on many factors which are wholly outside the control of the project authorities. These include those at the Ministerial level, such as approval of the project report or estimates; at an inter-Ministerial level, such as approval for foreign collaboration or release of foreign exchange ; and even of an inter-Governmental nature, involving the Central and State Governments. A particularly difficult issue of coordination has been the implementation of Plan projects, with specific inter-sectoral linkages, such as coal mining and power stations; and iron ore, export rail transport and port capacity. Thus efficient and expeditious implementation of Plan projects calls for a proper system of coordination and monitoring, not only at the project level, but also in the administrative Ministeries concerned and in the Planning Commission.

60. *Core Industries*—A notable feature of the Fourth Plan and of the industrial policy underlying it was the categorisation of certain industries termed as "core" industries, which were regarded as being basic, critical or strategic to the economy. For these industries, detailed industry-wise plans were to be drawn up, definitive targets fixed, and all essential inputs assured on a priority basis. In a sense, this was a corollary to the greater degree of freedom, in terms of planning and regulation to be accorded to other industries. The Plan document had listed 38 items under 9 broad groups of industries as falling within the "core" sector. It cannot be said that anything like the detailed and comprehensive plans, on an industry-wise basis, as envisaged in the Plan, has been attempted so far. Some of the issues of long-term planning arising from this are discussed later in relation to the advance action to be taken for the Fifth Plan.

61. *Diversification of Industrial structure.*—The pattern of industrial development postulat-

ed in the Fourth Plan was designed not merely to secure a quantitative expansion of the existing industrial base and to fill up emerging gaps in the industrial structure, but also initiate major thrusts in altogether new directions such as would take the economy to a qualitatively higher level. Prior to the Fourth Plan, considerable capacities had been created for heavy electrical and engineering equipment. The metallurgical base required to sustain full output from these capacities needed to be greatly strengthened and enlarged. Hence the emphasis and substantial outlays on steel, alloy steels and non-ferrous metals, particularly, aluminium, copper and zinc. This, in turn and along with the requirements of the programmes for petroleum, atomic energy and exports, underline the importance attached to mineral development, involving modern techniques of survey, exploration and production. Similarly, in the chemical field, account was taken of the progressive shift from inorganic towards organic and more especially petro-chemical industries, where a beginning of any consequence was yet to be made. The significance of the electronic group of industries is not only in terms of production and entertainment, but in relation to communications, computerisation and national security. The Mid-term Appraisal has shown that it is precisely in these fields that progress has been generally deficient. While special care has been taken, in the revision of the outlays as now proposed to safeguard these important sectors and programmes, to the extent now feasible, continuing attention will need to be paid during the remaining years to assure more satisfactory implementation.

62. *Diffusion of Entrepreneurship.*—The Fourth Plan enunciated a set of policies to bring about a greater diffusion of entrepreneurship and prevention of economic concentration. In brief, these include the extension of the public sector not only in absolute terms and in key sectors, but also in consumer industries; the promotion of joint sector ventures, with active participation by term lending institutions; and the promotion of small-scale industries on a wider scale through reservation and positive measures of assistance. The new industrial licensing policy was announced in February 1970. The MRTP Act, which came into force in June 1970, provided the legal framework for dealing with monopolies and economic concentration. The extension of the public sector to consumer industries is reflected in the provisions made in the Plan for setting up projects for cement, paper, pharmaceuticals, watches, scooters etc. The progress of many of these schemes has not been satisfactory. In regard to the small-scale sector, a total of 128 industries have been reserved for exclusive development in the small-scale sector. In the licensing of large undertakings care is also taken to delete from the scope of production such items of components which could be secured from the small-scale sector. Ancillary units are being actively promoted in both public and private sector projects. There, however, remains a large field in which the required expansion of capacity and production can be secured only through the establishment of new units in the large-scale sector by private entrepreneurs. Except to the extent expansion of large industrial houses is allowed in terms of the present policy, this development has to be achieved primarily through the diversification of existing medium entrepreneurs already in the industrial field, or the entry of altogether new entrepreneurs. While, in the recent past, a substantial number of letters of intent in many industries have been issued to relatively new entrepreneurs, previous experience, as well as the present anlysis, suggests that many of these may not materialise, and that preferential treatment in the issue of letters of intent might not by itself be adequate to bring about the desired development. It seems necessary to adopt a more positive approach to actively promote and effectively assist new entrepreneurs, through the provision of a package of facilities by the Government and financial institutions. The financial institutions, in particular, will have to play an important role in this regard, in identifying potential entrepreneurs on a selective basis, from among those to whom letters of intent have been issued, and in extending special assistance not only in terms of finance but also managerial support. The provision of a certain infrastructural and institutional support of this nature to nurture new entrepreneurship is a pre-requisite to bring about, greater diffusion of entrepreneurship as envisaged in the Plan.

63. *Dispersal of Industrial Development.*—Based on the decisions of the National Development Council, a conscious policy towards the dispersal of industries to relatively less developed areas was worked out for the first time in the Fourth Plan. The programme envisaged the identification of industrially backward districts in the States and Union Territories, and the provision of concessional assistance by the financial institutions and of subsidies towards capital investment and transport by the Central Government. The districts qualifying for these concessions have been identified, and the scheme has recently been put into force. A provision of Rs. 5 crores has also been made in the Fourth Plan for this purpose. It is, however, realised that the extension of such concessions would not, by themselves, bring about industrial development of these areas. The generation of a set of technically and economically viable schemes that could appropriately be set up in these areas, and the identification and promotion of suitable entrepreneurs to take up such schemes are equally important. In recognition of this, the Industrial Development Bank has taken a lead in the matter, and has, along with other institutions and the lead banks and with the support of the State Governments, initiated detailed surveys to identify possible fields of industrial development. The Industrial Development Bank is also proposing to establish Joint Consultancy Groups for the preparation of feasibility studies to be made available to potential entrepreneurs. While thus a beginning has been made in this direction, the actual results on the ground are yet to be seen. Ultimately, much will depend on the part played by the State Governments and

institutions, and action at the local level. Apart from the creation and strengthening of the basic infrastructural facilities, which is the responsibility of the State Government, the State financial and developmental institutions have to play a dynamic role in ensuring that the benefits of the various concessions and assistance provided by the Industrial Development Bank and other Central institutions are fully availed of. It also seems necessary to create a proper institutionalised framework at the district level, so that potential entrepreneurs could have access to a comprehensive range of facilities through a single focal point. Over the years, it may be desirable to evolve a hierarchy of institutions, dealing with financial technical and marketing assistance, as has been built up in the agricultural sector. Finally, as admitted in the Fourth Plan itself, the problem of reducing regional imbalances and of a more even dispersal of economic activities is a much wider and highly complex one, and will call for a more fundamental approach over a longer period.

64. *Technology.*—The subject of science and technology, as pertaining to industrial and mineral development, is contained in different portions of the Fourth Plan document. Under scientific research, greater attention was to be given to purposeful research and development programmes, especially those which could be completed during the Fourth Plan period. Certain priority areas were identified, and while the laboratories would provide experimental and pilot plant data to entrepreneurs, consulting engineering firms would be engaged for design engineering and feasibility reports. The NRDC would lay greater stress on its development activity and setting up prototype and pilot plants in collaboration with industry or on its own. Under industry and minerals, the need for closer integration between industry and research laboratories was emphasised, and to this end, an increasingly larger proportion of the research was to be on a collaborative and sponsored basis. In order to assist in proving the processes developed in the laboratories from the technological and commercial point of view, a specific provision of Rs. 2 crores was made under the Ministry of Industrial Development. No use has been made of this provision so far, nor does it appear that the kind of institutional linkages to ensure the fruitful utilisation of industrial research has yet grown in strength. Among the programmes for the survey and exploration of mineral resources are those falling under the GSI, air-borne mineral survey, the ONGC and the Atomic Energy Department. The present review indicates that the progress of the exploratory part of the programme, including exploratory drilling by the GSI, and its linkages with systematic survey on the one hand and exploitation on the other, have not been adequate. Some of the problems encountered in actual mineral exploitation are traceable to this deficiency. It is expected that, with the formation of the new Department of Science and Technology, a more coordinated and purposeful direction will be imparted to the various aspects of industrial research and natural resources.

65. On the development of consultancy and design and engineering skills, the main policy issues were considered by a committee under the chairmanship of the Member, Planning Commission. Further action on the recommendations of this Committee will need to be pursued.

66. Regarding the import of technology the fields in which foreign collaboration may be permitted have been identified, and broad guidelines indicated as to the terms of collaboration. The Foreign Investment Board has been functioning as an agency for the coordinated consideration and speedy disposal of proposals. A question that continues to present difficulties relates to the evaluation of the status of domestic technology, and between competing claims for alternative technologies.

67. In regard to manufacturing industries of the traditional type, the Fourth Plan noted that they provided employment for a large number of persons, using very poor techniques. While, therefore, technological unemployment had to be avoided during a period of transition, it was recognised that over the long run it was only through the adoption of improved techniques and increasing productivity that the economy of such industries could be improved and maintained on a viable basis. These principles have yet to be worked out in operational terms, as applicable to specific industries. The problem of technology as relating to small industries is discussed elsewhere.

68. *Advance action for the Fifth Plan.*—The Mid-term Appraisal clearly brings out the imperative need to initiate preparatory work in relation to the Fifth Plan sufficiently in advance. This would especially apply to issues of policy and programmes having long-term implications; detailed studies and investigations, particularly those involving inter-sectoral aspects; and projects with long gestation periods.

(1) *Steel.*—On the basis of present estimates, it seems fairly clear that there would be a gap of the order of two million tonnes between the capacity that is expected to be attained with the steel programmes currently under-way and that considered necessary before the end of the Fifth Plan. Taking into account the time lag in the construction of the steel projects, it seems necessary to initiate straightaway studies on the alternative possibilities, taking into account also the longer-term perspective as to the regional pattern of demand, raw material sources and transport network.

(2) *Atomic energy.*—The industrial programmes connected with atomic power development are closely linked with the perspective of demand for power, the share of atomic energy in total power development, and the nature of atomic power plants to be set up in the future.

Based on the technological parameters and demand perspective as assumed, the Atomic Energy Commission has prepared a profile covering the next decade. This envisages (a) increase in uranium mining capacity, (b) additional production of heavy water, and (c) creation of facilities for the fabrication and construction of 500 MW power stations. The expansions in the industrial sector envisaged on the basis of this programme, involving substantial investments, call for detailed advance planning and action. While adequate provision is now being made in respect of the more immediate requirements, an early view will need to be taken on the more substantive and long-term issues.

(3) *Petroleum.*—On the assumptions as to the inescapable growth in the consumption of petroleum products and the presently established resources of crude in the country, imports of petroleum crude and products will impose a most severe external burden, which can be mitigated only to the extent that additional sources of crude can be identified or alternative fuels or feed-stocks maximised.

(a) *Exploration.*—In the context of the wide gaps between supply and demand, the recent increase in crude prices and the general outlook on the price trends for imported crude, the intensification of the programme for petroleum exploration is one of necessity and urgency. Petroleum exploration is at once a costly, uncertain and long-duration venture. A long-term strategy is thus essential, including off shore drilling and other possibilities.

(b) *Fuel policy.*—A study has been initiated to evolve a long-term fuel policy, based on a detailed analysis and cost-benefit considerations of the appropriate use of available alternative fuels. This will have relevance to questions relating to middle distillates for road and rail transportation, the electrification programme in railways, the use of fuel oil in industry, etc.

(c) *Feed-stock for Fertilisers and Petro-chemicals.*—Apart from its uses as a fuel, petroleum is a basic feed-stock for a variety of chemical industries and in particular for fertilisers and petro-chemicals. In the case of fertilisers, alternative petroleum products such as naptha and fuel oil can also be employed, but has implications on investment and operational costs. An early policy decision on the use of petroleum feed-stock for the petro-chemical and fertiliser industries is, therefore, relevant to the future pattern of development of the petroleum industry.

(4) *Mineral Development.*—As with other programmes perteining to natural resources, the sequence comprising the systematic survey for the identification of mineral resources; the exploratory and proving work, establishing the location and quantum of reserves; the analytical and commercial tests for quality and characteristics; and finally, the actual methods of mining and exploitation, including economic aspects is a long drawn out process, subject to inherent uncertainities at each stage. Deficiencies in the earlier stages, attempts to short circuit or cut them down and premature decisions on projects without adequate information have, in the mineral field, proved to be ultimately more costly. In view of the critical importance in the future years of metallic ores, rock phosphate, pyrites/sulphur, etc., the intensification of the mineral exploration programmes, related to specific long-term objectives, and based on a 'sound' organisational structure, will need to be pursued. Special attention may also be necessary for the acquisition of technology in aspects of mineral development in which we do not as yet have sufficient experience.

(5) *Forestry Development.*—Long-term programmes for forestry development, and modern methods of survey, exploitation and transport are of relevance to the sound planning, proper location and economic operation of pulp, paper and newsprint projects. In view of our limited forest wealth, long-term policies will have to be evolved for adoption of alternative species and use of alternative raw materials.

ANNEXURE I

Department wise Outlay on Central Industrial and Mineral Projects

(Rs. crores)

sl. no.	ministry/department	Fourth Plan outlay	
		as provided in the Fourth Plan	as provided in the mid-term appraisal
(0)	(1)	(2)	(3)
1	department of steel	1120·67	1125·29
2	department of industrial development	213·37	175·83
3	department of mines	513·13	455·93
4	department of chemicals	589·38	557·87
5	department of petroleum	303·20	357·07
6	ministry of foreign trade	40·95	36·31
7	ministry of finance	264·91	268·12
8	ministry of transport and shipping	41·00	41·00
9	department of atomic energy	64·25	108·61
10	*total*	**3150·86**	**3126·03**

ANNEXURE II

Project wise Outlay on Central Industrial and Mineral Programmes

(Rs. crores)

sl. no.	project	location	Fourth Plan outlay as provided in the fourth Plan	Fourth Plan outlay as provided in the mid-term appraisal
(0)	(1)	(2)	(3)	(4)
1	*department of steel*		**1120·67**	**1125·29**
2	*Continuing schemes*		**686·42**	**660·31**
3	*Steel*		**633·82**	**618·85**
4	Bokaro Steel plant	Bokaro	558·00	532·99
5	expansion of Rourkela steel plant—1st stage	Rourkela		17·22
6	expansion of Durgapur Steel plant—1st stage	Durgapur		2·65
7	expansion of Bhilai Steel plant—2nd stage	Bhilai	51·00	26·87
8	Alloy tool and stainless steel plant	Durgapur		2·53
9	Central engineering and design bureau of HSL			—
	Coal washeries			0·33
	Townships			12·00
10	Mysore iron and steel works	Bhadravati	5·90	8·90
11	Dalli mines for Bhilai		18·92	15·36
12	*Heavy Engineering units*		**52·60**	**41·46**
13	heavy machine building plant	Ranchi	2·47	
14	Heavy machine tool plant	Ranchi	5·96	
15	HEC Township	Ranchi	1·60	24·59
16	Foundry forge	Ranchi	26·15	
17	Bharat heavy plate and vessels	Visakhapatnam	13·08	12·02
18	Triveni structurals	Allahabad	0·85	2·36
19	Metal and mineral corporation	Durgapur	2·49	2·49
20	*new schemes*		**434·25**	**464·98**
21	*steel*		**419·50**	**450·65**
	Second sintering plant	Bhilai		
22	expansion of Bhilai steel plant—3rd stage	,,	36·00	12.00
23	Plate mill	,,	75·00	69.60
24	Bokaro 5th convertor and continuing action on expansion to 4 mill tonnes	Bokaro	122·00	241·00
25	Technological improvements		45·00	45·00
26	New steel plants—Salex, Vizag and Hospet		110·00	44·50
27	C.R.G.O. sheets			
28	Refractory plant		20·00	20·00
29	Expansion of Durgapur alloy steel plant			
30	Mysore iron and steel works (expansion)	Bhadravati	3·00	3·00
31	Tenughat dam		8·50	8·50
32	Other schemes		—	6·85
33	*Heavy engineering units*		**14·75**	**14·33**
34	tungabhadra steel products diversification	Tungabhdra	1·00	1·00
35	Seamless tubes plant		9·50	7·41
36	H.E.C. continuous casting plant		2·00	4·61
37	Heavy engineering units, New Projects		2·00	
38	Consortium for industrial projects		0·25	0·25
39	Bharat heavy plate and vessels		—	1·06
40	*Total steel—continuing and new schemes*		**1053·32**	**1069·50**
41	*Total heavy engg.—continuing and new schemes*		**67·35**	**55·79**
42	*Ministry of industrial development*		**213·37**	**175·83**
43	*ccontinuing schemes*		**87·01**	**97·43**
44	Heavy electrical Ltd. (steam turbo generators transformers and traction motor Expansion)	Bhopal	11·00	11·00
45	B.H. E.L.	Tiruchi	3·55	39·00†
46	B.H.E.L (including stamping shop)	Hardwar	24·20	
47	B.H.E.L (steam turbines)	Ramchandrapuram	4·00	
48	BHEL—ASEA switchgear	do	0·51	
49	Machine tool corporation	Ajmer	6·21	5·82

†includes outlay/expenditure for new schemes of B.H.E.L. (Tiruchi and Ramchandrapuram).

ANNEXURE II—Contd.

(0)	(1)	(2)	(3)	(4)
50	Hindustan cables ltd. (including township)	Rupnarain-pur	6·45	6·45
51	Instrumentation ltd.	Kota	3·10	3·61
52	H.M.T. Presses	Hyderabad	3·00	
53	H.M.T. Printing machines		3·00	14·48
54	H.M.T.—watch factory	Bangalore/ Srinagar	5·00	
55	National Instruments ltd.	Jadavpur/ Durgapur	2·02	3·00
56	expansion of Nepa Mills	Nepanagar	6·66	7·32
57	Hindustan Photo Films	Ooty	5·35	3·50
58	salt works	Sambhar	0·10	0·10
59	N.I.D.C. (transferred to min. of foreign trade)	New Delhi		
60	Indian Standards Institution	New Delhi	0·71	1·00
61	national productivity council	New Delhi	0·25	0·25
62	Travancore titanium products (central share)	Trivandrum	1·90	1·90
63	*new schemes*		**126·36**	**78·40**
64	H.M.T. agricultural tractors		5·00	4·00
65	pumps and compressors project	Allahabad	5·00	4·00
66	gas cylinders project	Allahabad	4·00	2·50
67	expansion and diversification of BHEL	Tiruchi	2·00	[1]
68	expansion and diversification of BHEL	Ramachandrapuram	2·00	[1]
69	cement corporation		23·00	23·00
70	paper corporation		60·00	25.00
71	tannery and foot wear corporation	Kanpur	2·15	2·00
72	All India Institute of weights and measures	Patna	0·10	0·20
73	second cable factory	Hyderabad	5·50	2·00
74	subsidy for development of backward areas		5·00	5·00
75	research and development organisation for electrical industries	Bhopal	1·62	1·62
76	central agency for inspection of boilers	New Delhi	0·24	0·24
77	scooter project		6·00	6·00
78	consortium for power projects		0·25	—
79	feasibility studies relating to advance action for Fifth Plan		0·50	0·50
80	central machine tool institute	Bangalore	2·00	2·00
81	pilot plant studies on processes developed in national laboratories		2·00	0·25
82	creep testing facility at NML Jamshedpur		—	0·09
83	*department of mines and metals*		**513·13**[2]	**455·93**
84	*continuing schemes*		**300·64**	**293·15**
85	Korba and Koyna aluminium	Korba and konya	125·00	90·00
86	Hindustan copper corporation (including Khetri, Rakha, Agnigundala etc.)	Khetri	71·28	88·69[3]
87	geological survey of India and Indian bureau of mines (including airborne mineral surveys)		40·00	31·00
88	Hindustan zinc limited		7·42	6·78
89	N.M.D.C. Bailadilla	Bailadilla	4·94	11·00
90	coal board—third plan ropeways scheme		3·14	3·14
91	N.C.D.C.		37·97	42·31
92	Neyveli Lignite corporation	Neyveli	4·50	11·93
93	P.P.C. Mining project	Amjore	3·08	
94	P.P.C. intensive exploration		0·20	5·20[4]
95	kolar gold mines[5]		3·11	3·10
96	*new schemes*		**212·49**	**162·78**
97	Gujrat alumina project (central share)		1·00	1.00
98	doubling the capacity of debari zinc smelter		5·00	10·26
99	P.P.C.—saladipura pyrites, Udaipur phosphates and Maldeota phosphate projects		10·00	[6]
100	P.P.C.—exansion of pyrites at Amjore and beneficiation scheme	Amjore	5·00	[6]
101	N.C.D.C. Coking Coal mines monidih, non-coking coal mines, washeries and advance action for Fifth Plan	Monidih	54·42	32·29
102	N.C.D.C.—other programmes		5·00	4·07
103	Coal Board—sand transportation scheme		10·00	—
104	N.M.D.C.—Bailadilla-5		33·00	30·00
105	N.M.D.C.—Kiriburu expansion		10·00	15·00
106	N.M.D.C.—Donimalai		15·00	20·00
107	N.M.D.C.—Kudremukh		15·00	15·00
108	N.M.D.C.—Pelletisation studies		0·50	2·50
109	N.M.D.C.—Other feasibility studies		0·50	
110	N.M.D.C.—Iron ore crushing and screening plant		9·40	—
	N.M.D.C.—Pelletisation plants (Donimalai & Bailadilla)	—	—	4·00
111	Hindustan copper (Rakha Agnigundala, Sukinda Nickel)		25·00	[7]

[1]Outlay Expenditure clubbed with continuing. schemes of BHEL.
[2]Inclusive of an outlay of Rs. 3.11 crores in respect of Kolar Gold Mines, a scheme transferred from Min. of Finance.
[3]Including Rakha & Agnigundala projects of H.C.L.
[4]Includes outlays expenditure for P.P.C.—Saladipura pyrites, Udaipur phosphates etc. and P.P.C.—expansion of pyrites at Ajmore.
[5]Transferred from Ministry of Finance.
[6]Shown under P.P.C. Mining Project and intensive exploration project.
[7]The expenditure and the outlay have been included under Hindustan Copper project.

ANNEXURE II—Contd.

(0)	(1)	(2)	(3)	(4)
112	Hindustan Zinc—expansion and development of mining		11·52	10·98
113	Feasibility studies for Hindustan Zinc		0·30	—
114	Modernisation of Tundoo smelter		0·75	0·75
115	Development of rock phosphates in Maton area		0·50	0·33
	Vizag Zinc Smelter		—	9·60
116	Manganese Ore India Ltd.		0·60	—
117	N.C.D.C.—new schemes (not included in the plan)		—	7·00
118	*department of chemicals*		**589·38**	**557·87**
119	*continuing schemes*		**261·00**	**269·26**
120	FACT-IV stage expansion	Alwaye	2·67	3·71
121	Cochin Fertilisers—Phase I	Cochin	21·36	26·85
122	Madras Fertilisers	Madras	40·09	42·23
123	Expansion of Trombay Fertilisers	Trombay	38·64	16·75
124	Durgapur Fertilisers	Durgapur	24·18	21·04
125	Sindri Fertilisers—rationalisation scheme	Sindri	23·81	20·61
126	Sindri Fertilisers—naphtha gasification	Sindri	0·53	0·13
127	expansion of Namrup Fertilisers	Namrup	37·97	43·27
128	Barauni fertilisers	Barauni	38·70	46·26
129	Kanpur fertilisers (Govt. share)	Kanpur	0·47	0·47
130	Hindustan insecticides	Delhi & Alwaye	0·23	0·37
131	Sindri Sulphuric Acid Plant	Sindri	0·42	1·32
132	Gujarat Aromatics Project	Koyali	18.0	24.33
133	Hindustan Organic Chemicals	Panvel	9·16	10·80
134	Indian Drugs and Pharmaceuticals (Hyderabad, Rishikesh and Guindy)		1·88	8·96[8]
135	Namrup Fertilisers	Namrup	0·16	0·12
136	Gorakhpur Fertilisers	Gorakhpur	2·73	2·04
137	*new schemes*		**328·38**	**288·61**
	additional fertiliser capacity			
138	Talcher		262·00 (138–145)	43·21
139	Ramagundam			42·99
140	Korba			5.00
141	Haldia			20·54
142	Nangal expansion			23·58
143	Sindri modernisation			5·00
144	Gorakhpur expansion			11·83
145	Cochin phase II			33·65
146	Hindustan Insecticides.		2·42	nil
	petro-chemicals			
147	Gujarat Olefin Project		45·50 (147–153)	90·00 (147–153)
148	acrylonitrile project			
149	polybutadiene Synthetic Rubber Project			
150	research and development			
151	Barauni complex			
152	other downstream units to olefins project—koyali			
153	polyster filament project			
154	assam petro-chemical complex		10·00	
155	central institute of plastic engineering	Guindy	0·95	0.95
156	Hindustan Antibiotics-Vitamin-C and Noomycin Sulphate Plants	Pimpri	2.51	1.38
157	I.D.P.L.—diversification		1·00	[9]
158	additions and balancing equipment to methanel plant		3·00	3·06
159	Methylmines plant		1·00	1·60
160	Trombay—nitric acid plant		—	0·72
161	Trombay—phosphoric acid plant		—	3·30
162	Trombay—sodium nitrate/nitrite plant		—	0·56
163	Trombay—pollution control		—	0·40
164	Sindri ammonium nitrate plant		—	0·49
165	Sindri argon recovery plant		—	0·35
166	*department of petroleum*		**303·20**	**357·07**
167	*continuing schemes*		**302·30**	**302·09**
168	O.N.G.C.		181·00	181·00
169	Oil India ltd.		6·00	4·84
170	Gauhati, Barauni and Koyali refineries	Gauhati, Barauni & Koyali	20·80	1·71
171	Haldia refinery	Haldia	55·00	61·94
172	Cochin refinery (expansion)	Cochin	4·00	5·74
173	Madras refinery	Madras	4·61	6·26
174	Govt. ESSO lube oil project		0·61	0·60
175	I.O.C. marketing		30·28	40·00
176	*new schemes*		**0·90**	**54·98**

[8]Includes outlay/expenditure in respect of diversification scheme

[9]Included under IDPL continuing schemes.

ANNEXURE II—Contd.

(0)	(1)	(2)	(3)	(4)
177	I.O.C.—feasibility studies		0·50	—
178	lubrizol		0·40	1·60
179	bongaigon refinery (Assam)		—	6·75
180	north west refinery		—	20·00
181	Madras refinery wax project		—	3·28
182	processing of imported crude at Barauni		—	5·20
183	additional facilities at Gauhati, Barauni and Gujarat refineries and pipelines		—	6·40
	pipelines			
184	Barauni-Kanpur pipeline expansion		—	0·50
185	Haldia-Rajbandh projects pipeline			5·00
186	Salaya N.W. refinery crude oil pipeline		—	5·00
187	U.H.F. telecommunication system for H.B.K. pipeline		—	1·25
188	*ministry of foreign trade*		**40·95**	**36·31**
189	*continuing schemes*		**2·05**	**12·24**
190	N.I.D.C.		1·04	1·04
191	tea finance scheme		3·25	2·70
192	tea machinery—hire purchase scheme including irrigation scheme		4·00	5·70
193	rubber—central share for Kerala plantation corporation		2·00	1·04
194	coffee (development plant and replanting scheme)		1·76	1·76
195	*new schemes*		**28·90**	**24·07**
196	cardamom (kattee control scheme loan scheme for replanting of cardamom, hire-purchase, research etc..		1·40	1·01
197	loans to Darjeeling gardens affected by floods		1·00	
198	replantation subsidy scheme		8·50	5·56
199	development of co-operative tea factories		0·50	
200	national textile corporation		17·50	17·50
201	*ministry of finance*		**264·91**	**268·12**
202	*continuing schemes*		**254·91**	**253·98**
203	security paper mill	Hoshangabad	0·85	0·85
204	new alkaloid factory	Neemuch	1·03	1.61
205	staff quarters for security press staff		0·55	0.40
206	staff quarters for currency note press		0·55	
207	staff quarters for Bombay and Calcutta mints		1·20	0.39
208	loans to institutional financing agencies		250·00	250·00
209	Kolar gold mines[11]	Kolar	—	—
210	Hutti gold mines	Hutti	0·73	0·73
211	*new schemes*		**10·00**	**14·14**
212	printing press for bank note paper		8·50	10·00
213	printing press for stationery		1.50	2·20
214	mould cover and balancing equipment for security press mill		—	1.94
215	*ministry of transport*		**41·00**	**41·00**
216	*continuing schemes*		**16·00**	**16.00**
217	Hindustan shipyard—dry dock	Visakhapatnam	2·50	2·50
218	Hindustan shipyard expansion	Do-	7·50	7·50
219	Hindustan shipyard—subsidy	Do-	6·00	6·00
220	*new schemes*		**25·00**	**25·00**
221	Hindustan shipyard—wet basin	Visakhapatnam	3·00	3·00
222	Cochin shipyard	Cochin	22·00	22·00
223	*department of atomic energy*		**64·25**	**108·61**
224	*continuing schemes*		**41·69**	**54·20**
225	uranium corporation of India		3·05	5·00
226	electronic corporation of India		0·90	8·95
227	nuclear fuel complex (including housing)		14·56	13·17
228	heavy water plant		15·88	20.00
229	power reactor fuel reprocessing plant		6·14	6·62
230	fission production fixation plant		0·93	0·30
231	secretariat		0·23	0·16
232	*new schemes*		**22·56**	**54·41**
233	development of narwapahar		1·40	0·70
234	uranium corporation of India		0·44	[12]
235	electronic corporation of India		0·25	[12]
236	nuclear fuel complex		0·92	1·67
237	heavy water plant II and III		17·00	40·88
238	power reactor fuel reprocessing plant		1·00	—
239	secretariat		0·15	0·15
240	new thorium plant		0·40	0·06
241	loans to state authorities for water supply/electricity		1·00	—
242	heavy water project IV		—	5·00
243	pilot demonstration plant		—	0·50
244	Indian rare earths ltd.		—	3·40
245	new scheme for commercial utilisation of radio isotopes etc.		—	0·05
246	seamless tubes plant		—	2·00
247	*total*		**3150·86**	**3126·03**

[11]Transferred to the Department of Mines.

[12]Included under continuing schemes.

ANNEXURE III

Targets of Capacity and Production for Core Industries

sl. no.	industry	unit	1968-69 cap.	1968-69 prod.	1973-74 target as envisaged in the plan: cap.	1973-74 target as envisaged in the plan: prod.	1973-74 revised target as in the mid-term appraisal: cap.	1973-74 revised target as in the mid-term appraisal: prod.
(0)	(1)	(2)	(3)	(4)	(5	(6)	(7)	(8)
	iron and steel							
1	steel ingots .	mil. tonnes	9·0	6·5	12	10·8	11·8	8·25
2	finished steel .	,,	6·9	4·7	9	8·1	8·8	6·2
3	pig iron for sale .	,,	1·3	1·3	4·2	3·8	3·4	2·8
4	alloy and special steel	000 tonnes	135	220	250		250·0	247·0
	non-ferrous metals							
5	aluminium .	,,	117	125·3	230	220	210·00	210.0
6	copper . .	,,	9·6	9·4	47·5	31·0	47·5	14.0
7	zinc . . .	,,	38	26·3	76	70·0	56·0	38.0
	industrial machinery							
8	chemical machinery	Rs. million	n.a.	133[1]	300	275	200·0	185.0
9	printing machinery	,,	4·8	1·0	100	80·0	30·0	25.0
10	rubber machinery .	,,	2·0	1·7	150	120·0	76·6	50 0
11	paper and pulp machinery	,,	64	27	150	135·0	138·0	103.0
12	selected machine tools[2]	Rs. million	610	247	760	650	760·0	600·0
13	shipbuilding .	no. of ships	3	2	6	6	6	4
	fertilisers							
14	nitrogenous . (in terms of N)	000 tonnes	1024·0	541·0	3000·0	2500·0	2391	1800
15	phosphatic (in terms of P_2O_5) . .	,,	421·0	210·0	1200·0	900·0	566	458
16	pesticides (basic chemicals only)[3] . .	,,	34·0	19·0	69·0	65·0	73·0	57·0
17	rock phosphates.	mill. tonnes	—	—	—	1·25	—	0·7
18	agricultural tractors	000 nos.	20·0	15·0	68·0	50·0	80·0	60·0
19	power tillers .	,,	1·5	0·5	35·0	25·0	45·0	20·0
20	newsprint . .	000 tonnes	31·5	31·0	165·0	150·0	75·0	65·0
21	iron ore . .	mill. tonnes	—	28·1	—	51·4	—	42·0
22	coking coal .	,,	—	17·1	—	25·4	—	21·0
	petroleum							
23	oil exploration and production (production of crude) . .	,,	—	6·06	—	8·5	—	8·5
24	refinery products (capacity in terms of crude throughput) .	,,	16·25	15·4	28·0	26·0	22·5	21·5
	petro-chemicals							
25	D.M.T. . .	000 tonnes	—	—	23·0	20·0	23·0	18·0
26	caprolactum .	,,	—	—	23·0	23·0	23·0	—
27	acrylonitrile .	,,	—	—	16·0	16·0	—	—
28	synthetic rubber .	,,	30·0	26·0	70·0	70·0	30·0	36·0
	electronics							
29	resistances (fixed and variable). .	mill. nos.	n.a.	50	600	600	600	600
30	condensers or capacitors (fixed and variable)	,,	n.a.	66	700	700	700	700
31	semi conductors including diodes, thick film, thin film and integrated circuits.	,,	n.a.	20	200	200	200	200
32	transmitting and receiving tubes including cathode ray tubes.	,,	n.a.	5	8	8	8	8
33	connectors, switches and relays. . .	,,	—	—	5	5	5	5
34	sophisticated microwave and components and antennas .	Rs. million	—	—	50	50	50	50
35	ferrites and magnets	tonnes	n.a.	400	1500	1500	1500	1500
36	thirmisters and varisters	mill. nos.	—	1	6	6	6	6
37	testing and control equipment .	Rs. million	n.a.	100	500	500	500	500
38	wireless and microwave	,,	n.a.	260	670	670	670	670

[1]For calendar year.
[2]Figures indicate the total machine tool production in the organised sector.
[3]Figures are for pesticides.

ANNEXURE IV

Anticipated and Revised Estimates—Selected Industries.

sl. no.	industry	unit	1968-69 cap.	1968-69 prod.	1973-74 anticipated production as in the Fourth Plan	1973-74 anticipated production as in the Fourth Plan mid-term appraisal
(0)	(1)	(2)	(3)	(4)	(5)	(6)
	industrial machinery					
1	metallurgical and other heavy equipment .	000 tonnes	85	25	75	40
2	coal & other mining machinery	,,	50	8	20	10
3	cotton textile machinery	Rs. million	400	138	450	300
4	cement machinery	,,	230	81·8	190	150
5	sugar machinery	,,	210	118	210	190
6	heavy fabricated machinery for fertiliser & chemicals	000 tonnes	—	—	20	10
7	steel castings	,,	186·8	50·4	225	155
8	steel forgings	,,	104	44·5	220	100
9	cranes (excluding mobile cranes)	,,	30	7	32	12
10	ball and roller bearings	mill. nos.	12·74	12·71	20	21
11	heavy pumps and compressors . . .	000 tonnes	—	—	5	—
12	dumpers and scrapers	nos.	—	—	500	150
13	crawler tractors and wheeled loaders . .	,,	—	—	1200	600
14	seamless pipes	000 tonnes	39·6	21·8	90	35
15	gas cylinders	,,	—	—	30	Nil
16	power driven pumps (organised sector) . .	000 nos.	350	356	450	350
17	diesel engines (stationary) (organised sector) .	,,	125	118	200	80
18	commercial vehicles	,,	57·6	35·6	85	60
19	motor cycles, scooters mopeds and 3-wheelers .	,,	149	84·6	210	180
20	bicycles (organised sector)	,,	2175	1990	3200	2700
21	sewing machines (organised sector)	,,	450	427	600	500
22	electric fans (organised sector)	,,	1810	1481	3000	2500
23	dry batteries	mill. nos.	469	436·4	600	850
24	storage batteries (organised sector) . . .	000 nos.	950	940	1800	1500
25	radio receivers (organised sector)	,,	1400	1489	3800	3250
	heavy electrical equipment					
26	turbines—hydro	mill. kw.	0·5	0·1	1·65	1·1
27	turbines—thermal.	,,	1·5	0·4	1·30	1·2
28	power boilers	,,	1·5	0·4	1·3	1·3
	electrical transformers					
29	above 33 kv	mill. kva	5·7	3·5	6·4	6·4
30	33 kv and below	,,	5·2	4·8	5·5	8·6
	electric motors					
31	above 200 hp	mill. hp.	1·0	0·5	0·68	0·68
32	200 h.p. and below	,,	2·98	2·13	2·72	3·82
33	A.C.S.R. (conductors)	000 tonnes	94·8	62·5	125	100
34	dry core cables	000 metres	4000	3600	16000	12000

ANNEXURE IV—Contd.

(0)	(1)	(2)	(3)	(4)	(5)	(6)
	heavy chemicals					
35	caustic soda	000 tonnes	400	304	500	440
36	soda ash	,,	430	405	550	570
37	sulphuric acid	,,	1900	1038	2500	1750
38	paper and paper board	,,	730	646·6	850	850
39	cement	mill. tonnes	15·4	12·2	18	18
40	automobile tyres	mill. nos.	3·34	3·75	6	6
41	bicycle tyres	,,	21·29	24·57	35	35
42	oxygen gas	mill. cubic metres	57·87	34·44	50	72
43	dye stuffs	000 tonnes	12·6	7·51	14	17
44	drugs & pharmaceuticals	Rs. million —		2000	2500	3000
45	glass	000 tonnes	610	250	450	500
46	refractories	,,	1300	629	1250	1250
47	soap (organised sector)	,,	212·6	218·8	250	270
48	leather footwear (organised sector) . .	mill pairs	8·3	21·4	25	21
49	paints and varnishes	000 tonnes	101	65	140	80
	petro-chemicals and plastics					
50	P.V.C.	000 tonnes	44	23·4	90	80
51	polyethelene	,,	39·1	25·2	90	78
52	polystyrene	,,	17·5	9·5	30	25
53	polypropylene	,,	—	—	15	—
	cotton textiles					
54	cotton yarn	million kg.	17·51[1]	959	1100	1100
55	cotton cloth (mill sector)	mill metres	2086	4297	5100	4500
56	rayon filament (including tyre cord) . .	000 tonnes	56·7	52·0	64	58
57	rayon staple fibre	,,	67	59·97	90	78
	synthetic fibres					
58	nylon filament	000 tonnes }	7·3	6·5	29	21
59	nylon tyre cord and other industrial yarn .	000 tonnes }				
60	polyster filament and staple fibre . . .	,,	4·5	4·8	25	22
61	acrylic fibre	,, —	—	—	12	
62	man-made fabrics	mill metres —	—	1090	1500	1500
63	jute manufacturers	000 tonnes	1500	1088·5	1400	1400
64	woollen cloth	mill. metres	43·6	12·6	20	20
65	sugar	000 tonnes	3303	3559	4700	4700
66	vanaspati	,,	623	466·1	625	625

[1]million spindles.

CHAPTER 18

TRANSPORT AND COMMUNICATIONS

Railways

In the Fourth Plan, provision was made for originating freight traffic on the railways to increase from 204 million tonnes in 1968-69 to 265 million tonnes in 1973-74. Freight traffic increased to 208 million tonnes in 1969-70. In 1970-71, however, it fell to 199 million tonnes, which was less than the 1968-69 level. Therefore, the traffic forecast for 1973-74 has been reduced after a special re-appraisal from 265 million tonnes to 240 million tonnes.

2. The Plan had provided for an increase of about 20 per cent in passenger vehicle kilometres for non-suburban services and of 31 per cent in electric multiple unit services. In 1969-70, the increase in originating passenger traffic was 5.7 per cent and in 1970-71 about 6 per cent. Despite the provision of more trains in some sectors and some speeding up of trains, overcrowding continues on many routes. Overall resource constraints and beyond a point, limitations in production capacity of railway coaching factories and on line capacity near the metropolitan cities might not permit substantial relief within the Plan period.

3. In view of the traffic saturation in the metropolitan areas by the present means of transport, the Plan provided Rs. 50 crores for projects for Calcutta, Bombay, Madras and Delhi. The traffic problems in these metropolitan areas have been under detailed examination by the Metropolitan Transport Team set up by the Planning Commission and specific projects are being formulated with the help of those studies. Preparations in regard to Calcutta are the most advanced, with Bombay coming next; for Madras and Delhi, the basic initial studies are in progress.

Outlays

4. A Plan provision of Rs. 1000 crores had been made for development programmes, excluding an expenditure of Rs. 525 crores to be met by Railways from their Depreciation Reserve Fund and Rs. 50 crores for metropolitan transport. The total expenditure during the first three years is expected to be about Rs. 451·46 crores or 45 per cent of the original provision.

5. In view of the revised estimates of freight traffic, it is proposed to reduce the provision for development programmes (excluding metropolitan transport) by Rs. 150 crores, from Rs. 1000 crores to Rs. 850 crores. The expenditure from the Depreciation Reserve Fund, is however, proposed to be stepped up from Rs. 525 crores to Rs. 550 crores; this will go mainly towards acquisition of wagons on replacement account.

6. As regards metropolitan transport, having regard to the progress so far made on the various studies and surveys the expenditure during the Fourth Plan may not exceed Rs. 20 crores. The original Plan provision of Rs. 50 crores is proposed to be reduced to that. This item will constitute a major load on transport outlay in the first half of the Fifth Plan. Among advance measures would be to identify the kinds of equipment, including rolling stock, that would be needed so as to minimise the foreign exchange component.

7. The original outlays and the revised outlays proposed, are shown in table 1.

Table 1 : *Outlay for Railway Development Programme*

(Rs. crores)

sl. no.	item	original	revised
(0)	(1)	(2)	(3)
1	rolling stock . . .	620	568
2	workshop and sheds . .	30	30
3	machinery and plant . .	15	25
4	track renewals . .	200	180
5	bridge works . . .	28	29
6	line capacity works . .	315	234
7	signalling and safety . .	40	49
8	eletrification . . .	82	73
9	other electrical works . .	12	15
10	new lines . . .	83	86
11	staff welfare . .	15	20
12	staff quarters . . .	30	36
13	users amenities . .	20	20
14	other specified works . .	10	10
15	road services . . .	10	10
16	inventories	15	15
17	*sub-total*	**1525**	**1400**
18	substract depreciation expenditure	525	550
19	*plan expenditure* (17-18) .	**1000**	**850**
20	metropolitan transport .	50	20
21	*total plan expenditure* . .	**1050**	**870**

8. The additions and replacements in the revised Railway Plan are indicated in table 2, compared to the original programme:

TABLE 2 : *Changes in the Rolling Stock Programme*

(numbers)

sl. no.	item	addition: as in the Fourth Plan	addition: revised	replacement: as in the Fourth plan	replacement: revised	total: as in the Fourth Plan	total: revised
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	locomotives						
1	steam	..	..	161	124	161	124
2	diesel (main line)	269	166	379	379	648	545
3	diesel shunters	100	100	..	33	100	133
4	diesel (MG)	..	..	10	30	10	30
5	total diesel	369	266	389	442	758	708
6	electric	283	247	57	53	340	300
7	wagons (in terms of four-wheelers)	76192	33148	25340	35628	101532	68776
	coaching stock						
8	coaches	3250	3250	3200	3168	6418	6450
9	rail cars	50	12	..	20	50	32
10	electric multiple units	596	541	172	300	768	841

9. In the Fourth Plan, electric traction was proposed to be extended from 2900 route kilometres to 4600 kilometres. There might be shortfall in this programme on account of problems relating to equipment from indigenous sources. In addition to electrification works already in progress, it is proposed to take up electrification of the Madras-Vijayawada and the Durg-Nagpur-Bhusawal sections during the remaining years of the Plan.

10. It was envisaged that diesel traction would be extended from 19,200 route-kilometres in 1968-69 to about 22,000 route-kilometres in 1973-74. Diesel traction was already in operation on 23,000 route-kilometres at the end of 1969-70; partial dieselisation had to be introduced on a number of sections to cope with the growing traffic.

11. In gauge conversion, it is proposed to speed up the tempo of works in progress. Some additional schemes are under consideration. The provision for new lines is proposed to be stepped up from Rs. 83 crores to Rs. 86 crores.

Trends in Freight Traffic

12. Operations of the steel industry generate about 20 per cent of the total freight traffic :

TABLE 3 : *Freight Traffic in Steel Industry*

(million tonnes)

sl. no.	item	1968-69 actuals	1969-70 actuals	1970-71 actuals	1971-72 estimated	plan target 1973-74: original	plan target 1973-74: revised
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	total freight traffic	204·04	207·94	199·00	208·00	265·00	240·50
	of which :						
2	steel industry	43·92	42·07	40·30	41·80	64·70	49·50
3	coal for washeries	5·65	6·15	5·30	6·00	12·00	7·50
4	coal for steel plants	13·10	12·57	12·20	12·40	15·00	13·00
5	other steel raw materials	18·33	16·25	16·30	16·40	27·70	21·00
6	pig iron and finished steel from steel plants	6·84	7·10	6·50	7·00	10·00	8·00
7	percentage of 2 to 1	21·50	20·02	20·26	20·00	24·40	20·58

13. With raw coal moving to washeries, washed coal from washeries to steel plants, iron ore and other raw materials to the steel plants, and their products going out, the transport implication of every tonne of steel produced is about six times in rail freight tonnage. Until there is a sharp increase in steel production, substantial rise in total rail freight traffic can not materialise.

14. Railway links were established between washeries and captive iron ore mines, and the steel plants. Those line capacities cannot be used for other purposes. The Chandrapur-Bokaro-Ranchi-Bondamunda link was completed at a cost of Rs. 27 crores mainly for iron ore movement to Bokaro. It is currently in use only for some coal traffic to Rourkela and Bhilai and would not be fully used until the Bokaro Steel plant goes into production.

Coal Traffic

15. Coal still constitutes about one-third of the total freight traffic. About 27 per cent of the coal traffic is on account of the steel plants, which is priority movement, that is why a fall in the total coal wagons loaded from the Bengal-Bihar coal fields particularly affects movement of other coal, such as soft coke and brick-burning coal.

16. Coal loading in the Bengal-Bihar coalfields has been a cause for concern in the past, apart from the difficulties in the last twelve months. The average number of wagons loaded per day in this area in the preceding years and up to October in the current year has been as below :

TABLE 4 : *Average Number of Coal Wagons Loaded*

year	average number of wagons loaded per day
(1)	(2)
1966-67	5807
1967-68	5799
1968-69	6067
1969-70	6243
1970-71	5535
1971-72[1]	5518[1]

[1]upto October only.

17. The seasonal variations in this overall traffic, and the critical position reached in the preceding twelve months, can be seen from table 5.

TABLE 5 : *Daily Average of Wagons Loaded from Bengal-Bihar Coalfieds*

(no. of wagons in four wheelers)

sl. no	month	1969-70	1970-71	1971-72
(0)	(1)	(2)	(3)	(4)
1	april	6429	6202	5555
2	may	6282	5728	5512
3	june	6081	5453	5139
4	*quarterly average*	**6264**	**5794**	**5402**
5	july	6266	5478	5311
6	august	6214	5905	6034
7	september	6548	4763	5556
8	*quarterly average*	**6343**	**5383**	**5634**
9	october	6259	5553	5805
10	november	6287	5516	
11	december	6155	5578	
12	*quarterly average*	**6234**	**5549**	
13	january	5902	5473	
14	february	6149	5222	
15	march	6333	5600	
16	*quarterly average*	**6130**	**5432**	
17	*monthly average during the year*	**6243**	**5535**	**5518**[1]

[1]For first six months only.

18. As recently as in 1969-70, the Railways loaded more than 6000 wagons per day in this area almost every month of the year. So the recent shortfalls cannot be attributed to lack of line capacity. Now that there has been improvement in the law and order situation in the eastern region, which did affect the railways operations, a managerial campaign within the Railways should restore performance to the levels reached in the past. Effective availability of rolling stock, compared to their total number, will need particular attention.

19. In 1969-70, the average loading per day varied between 5902 in January to 6548 in September. The 'low' was 340 wagons below the year's monthly average of 6243 while the 'high' was 300 wagons above the average. Likewise, in 1970-71, with the 'high' at 6202 in April, and the 'low' at 5222 in February, the 'high' was in excess by 700 over the year's monthly average of 5535 wagons. It might not be easy to 'dampen' these fluctuations in regard to unorganised sectors amongst coal consumers, such as the demands for brick-burning and domestic fuel; these have close relationship to the changing seasons. On the other hand, programmes would need to be enforced for the 'organised' sectors, such as cement and thermal power plants, which could help to ease the overall fluctuations by stepping up their indenting and stock piling at the receiving end in the months immediately preceding the seasonal peak demand from the unorganised sector. Availability of empty wagons in the Bengal-Bihar coalfields areas, particularly in the busy season, is a crucial factor in these

operations. A closer relationship will need to be established for this purpose with the flow of wagons carrying foodgrains from Northern India into that area and the release of these wagons from the terminals in the Calcutta Metropolitan area needs to be speeded up.

Export Iron Ore

20. From 8·83 million tonnes in 1969-70, export iron ore traffic increased to 9·8 million tonnes in 1970-71. In 1971-72, difficulties in Eastern India seriously affected the Barajamda ore movement towards Paradeep and a prolonged strike in the port reduced the movement of Bellary-Hospet ore to Madras. In the first seven months (April to October), the actual movement totalled 4·67 million tonnes, as against 4·54 million tonnes for the same months last year. The total rail traffic on this item is unlikely to exceed 11 million tonnes, as against the estimate of 12 million tonnes.

21. Export iron ore traffic would be conditioned by :

(*i*) the port of Haldia will not be commissioned before the end of 1972-73;

(*ii*) by then, the railway line under construction from Cuttack to Paradeep will be completed up to Paradeep port area, but the connected railway facilities within the port, including tipplers, would not be completed till the middle of 1973-74;

(*iii*) though sufficient rail capacity exists on the line from Bailadila to Visakhapatnam, the ore production capacity of NMDC at Bailadila is unlikely to exceed 5 million tonnes within the Plan period; and

(*iv*) the Madras Outer Harbour loading berth will not be completed before the end of 1972-73; with the current port facilities, 3 million tonnes cannot be exceeded.

22. Broadly, it would appear that during 1973-74 export iron ore railway traffic is unlikely to exceed (i) 2·5 million tonnes via. Haldia, (ii) 2 million tonnes via Paradeep, (iii) 5 million tonnes via Visakhapatnam, (iv) 3 million tonnes via Madras. (v) 1 million tonnes between Mormugao, Karwar and Balikheri, and (vi) 0·5 million tonnes between Kakinada and Cuddalore. So the total railway traffic in export iron ore in 1973-74 would need to be scaled down from 16 million tonnes to 14 million tonnes.

23. Between Haldia and Paradeep, the rail-borne traffic of export iron ore is likely to be 4·5 million tonnes in 1973-74. All of this will have to be loaded from the Barajamda sector. The loading stations have so far handled the extra export ore load with the opening of Paradeep port and the ore moved to Rourkela. Now that they shall have to load some ore for Bokaro, to supplement the supply of fines from Kiriburu mine to Bokaro, the overall loading capacity will need to be enhanced.

24. In regard to other goods, there is a small decline from 49·2 million tonnes in 1969-70 to 48·0 million tonnes estimated for 1971-72. The decline can be attributed at least partly to increasing competition from road transport, the share of which in the total traffic carried by rail and road together is steadily increasing. For 1973-74, a small increase of about 3·3 million tonnes is assumed over 1968-69 to reach a level of 52·0 million tonnes.

Other Commodities

25. Railways are unable to meet in full the increasing demand for covered wagons for foodgrains and products like cement and fertilisers. Ratio of effective availability of such wagons to total number would need to be improved; in the additional rolling stock programme greater accent will need to be given to covered wagons.

Average Lead of Freight Traffic

26. There have been significant increases in average lead of freight traffic :

TABLE 6 : *Average Lead of Freight Traffic*

(kilometres)

sl. no.		1960-61	1965-66	1968-69	1969-70
(0)	(1)	(2)	(3)	(4)	(5)
	coal				
1	coal for steel plants	281	302	321	328
2	railway coal	698	766	859	818
3	finished products from steel plants	874	821	932	949
4	cement	372	456	527	583
5	mineral oils	544	598	576	564
6	foodgrains	760	808	849	887
7	all goods taken together	561	576	613	617

27. As Bokaro is located in the same region as the existing steel plants, its production might not reduce the average lead of finished steel products. Its proximity to coalfields should, however, reduce the average lead of coal for steel plants. The average lead for railway coal can be reduced by (i) use of coastal shipping alternative for railway coal movement to South India, and (ii) increased production of coal suitable for locomotives in outlying coalfields such as Singareni and Talcher. Despite more cement factories and oil refineries spread over a wider area, the average lead of freight traffic in cement and petroleum products has been increasing. In the location of new units, this factor needs to be kept in view. Imported foodgrains used to be moved from the unloading ports. That traffic has rapidly decreased but the average lead of railway movement in foodgrains remains high because the surplus production from Northern India has to be carried over longer distances. This structural change in the directional pattern of foodgrains traffic imposes strain on the railway net work in the north-west region.

28. Year to year forecasting of rail movement has been showing considerable deviations, as shown in Annexure I. During the rest of the Plan and as part of advance action for the Fifth Plan, the mechanism for forecasting of firm rail traffic demand from the important production sectors will need to be improved. Special lines are being brought into use for particular kinds of traffic between specified points, such as in the coal and ore areas. With increased mechanisation of loading and unloading, specialisation in wagon types is also on the increase. Such specialised line or wagon capacity cannot be diverted easily. Hence such bottlenecks occur, as in recent months, when coal in Bengal-Bihar area awaited transport while the new Bailadila-Visakhapatnam line for export iron ore was used below capacity.

29. Investments have been made by the Railways to cater to specific linkages indicated by the user Ministries. The most important lines to count were (i) collieries to particular washeries, (ii) washeries to particular steel plants, (iii) iron ore mines to particular steel plants or export ports, and (iv) coal fields to particular thermal power plants. For technical reasons not foreseen at the time these linkages were committed to the Railways, several of these linkages had to be changed. Such alternatives, when found to be inescapable, need to be made known quickly to the Railways so that they can adjust their programmes expeditiously.

30. Looking ahead to the commencement of production at Bokaro which will affect the railway network east of Mughalsarai, steps will need to be taken in time to "dampen" the flow of Bengal-Bihar coal traffic beyond Mughalsarai, or to the south. They include :

(*a*) stepping up of production of coal for the railways from the outlying coalfields such as Singareni and Talcher;

(*b*) supply of coal from Singrauli and Korea coalfields to thermal power stations in North India, thereby reducing the need to move Bengal-Bihar coal beyond Mughalsarai;

(*c*) similar "linkages" between the outlying coalfields and major users like thermal power and cement plants.

31. The time that rolling stock spends in transit and the detention of wagons at the loading and the unloading points are both reflected in the wagon turn-round time which is going to be a critical factor. For bulk movement of coal or ore or oil products, special types of wagons are being brought into use. Such wagons cannot be put to other use. If average detention time exceeds the time lag allowed for by Railways in their rolling stock programme, acute problem can arise in availability of such specialised rolling stock.

32. Every effort needs to be made to identify where loading and unloading arrangements can be mechanised or otherwise speeded up, and authorities concerned then bound to agreed time tables in that regard; in the interim, detention delays might have to be covered by improving effective availability ratio of existing rolling stock and some adjustment in the rolling stock programming assumptions.

33. The pace of electrification vis-a-vis dieselisation will have to be examined as an integral part of the studies already in hand on the overall energy plan for the country.

Roads

34. At the time the Fourth Plan was being formulated, there were 400 kilometres of missing road links and 17 missing major bridges in the national highway system. Of the length of 24,000 kilometres of national highways, roads with only a single-lane width added up to a total length of about 16,000 kilometres. There were many narrow and weak bridges and culverts requiring replacement. Sections of national highways passing through towns were heavily congested, and bye-passes were required.

35. The Fourth Plan provided an outlay of Rs. 418 crores for the programmes of the Central Sector and Rs. 453 crores for the road development programmes of States and Union Territories. In the Central Sector, it was proposed to complete all the missing road links, improve all the low grade sections, complete 16 of the 17 missing major bridges on the national highway system, and add only a limited new length to the highways.

36. The Fourth Plan provisions and progress of expenditure on the Central Sector road schemes are given in table 7.

TABLE 7 : *Outlay and Expenditure on Road Schemes Central Sector*

(Rs. crores)

sl. no.	item	Fourth Plan outlay	1969-70		1970-71		total expenditure 1969-71	1971-72 outlay	total cols. (7+8) 1969-72
			outlay	expenditure	outlay	expenditure			
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	national highways including national highway portion of lateral road and tools and plants .	328·45	15·73	12·28	25·62	22·74	35·02	40·54	75·56
2	improvement of existing national highways . .	313·45	15·73	11·70	25·62	22·01	33·71	37·78	71·49
3	spill-over works from third plan	20·45		9·73	..	6·75	16·48	8·56	25·04
4	fourth plan works . .	293·00	15·73	1·97	25·62	15·26	17·23	29·22	46·45
5	new national highways .	15·00	..	..	..	..	..	2·00	2·00
6	lateral road . . .	21·69	12·72	8·09[1]	10.48	8·00[1]	16·09	2·00[1]	18·09[1]
7	strategic roads . .	43·00	4·01	6·09	5·50	5·00	11·09	8·00	19·09
8	roads of inter-state or economic importance .	25·00	2·95	1·74	2·84	2·06	3·80	3·80	7·60
9	*total*	418·14	35·41	28·20	44·44	37·80	66·00	54·34	120·34

[1]covers expenditure on state road portion only. Expenditure on national highway portion of lateral road is included in the national highway expenditure.

37. Progress on the Central roads programme has been markedly slow so far. From Rs. 28·20 crores in 1969-70, it increased to Rs.37·80 crores in 1970-71. An outlay of Rs. 54 crores has been approved for 1971-72. Expenditure in the first three years works out to about Rs. 120 crores or 29 per cent of the Plan provision.

Carry-over Schemes

38. The Plan included a provision of Rs. 20·45 crores for carry-over schemes on national highways; the cost is now assessed at about Rs. 28 crores. The expenditure on these schemes during the first three years would amount to Rs. 25 crores. Work in progress is expected to be completed by 1972-73, except on some major bridges.

New Works

39. On improvement of existing national highways, expenditure in 1969-70 was Rs. 1·97 crores. It rose to Rs. 15·26 crores in 1970-71 and Rs. 29·22 crores have been provided for 1971-72. In the first three years, expenditure is Rs. 46·45 crores. Out of a Plan outlay of Rs. 293 crores, programmes estimated in the aggregate to cost Rs. 103 crores have been sanctioned, estimates totalling another Rs. 116 crores are being processed, and further estimates entailing an outlay of Rs. 215 crores are awaited from States. For addition to the existing national highway system, a provision of Rs. 15 crores has been made. Five roads aggregating 1217 kms. have been approved and were notified as national highways in July, 1971. No expenditure has been incurred until March 1971.

Lateral Road

40. The Lateral Road is a continuing project. It will connect Bareilly in Uttar Pradesh to Amingaon in Assam, passing through Uttar Pradesh, Bihar and West Bengal. So far 890 kilometres of road have been completed—278 kms. of national highways and 611 kms. of State roads. The work on the remaining 154 kms. of national highways and 353 kms. of State roads is expected to be completed by March 1972. During the first two years, Rs. 16 crores were spent on State road portions of the Lateral Road. With the 1971-72 provision of Rs. 2 crores, the expenditure in the three years is likely to be Rs. 18 crores, out of a Plan outlay of Rs. 21·69 crores.

Strategic Roads

41. The expenditure on strategic roads during the first two years was Rs. 11 crores. With the 1971-72 provision of Rs. 8 crores, the total expenditure during the first three years would be Rs. 19 crores or 44 per cent of the total outlay of Rs. 43 crores.

42. The spill-over works on strategic roads comprised 971 kms. Of this 910 kms. were completed in the first two years and the balance is expected to be completed this year. For new works, it was proposed to sanction estimates worth about Rs. 52 crores. Out of this, estimates totalling Rs. 6·70 crores have been sanctioned; the remaining estimates are awaited from the States. Out of a total of 1760 kms. to be completed during the Fourth Plan, work is in progress on 852 kms.

Roads of inter-State or Economic Importance

43. Only Rs. 3·80 crores have been utilised during the first two years; adding to that the 1971-72 outlay of Rs. 3·80 crores, the expenditure during 1969-72 would amount to Rs. 7·60 crores or 31 per cent of the Plan outlay of Rs. 25 crores.

44. Due to a change in the pattern of Central assistance from matching grants-in-aid to 100 per cent loan assistance covering both carry-over and new schemes, the amount required for carry-over schemes is assessed at about Rs. 12 crores. That leaves Rs. 13 crores for new works, against which a programme of new works has been approved in January 1971.

Remedies for Short-falls

45. Apart from general reasons like organisational inadequacy and procedural delays, there are specific reasons for shortfalls on individual schemes. For national highways, there have been delays in the submission of estimates by States and procedural delays in sanction, resulting in time lag in commencing the work. On roads of inter-State or economic importance, shortfall is due to the pattern of assistance having been finalised so late that the programme of new works could be communicated to States only in January 1971. The expenditure in the first two years covered only continuing schemes.

46. The Ministry of Shipping and Transport have taken the following measures vis-a-vis State Public Works Departments :

(1) It has been agreed to provide to the States a sum equivalent to $1\frac{3}{4}\%$ as an initial payment, against the approved agency charges of $7\frac{1}{2}\%$, so as to enable the States to expedite induction of necessary staff for project preparation, design and survey;

(2) State Governments have been informed that finances permit increased allotments provided progress is stepped up and justifies such higher allocations;

(3) Accountants-General in States have been authorised to admit excess expenditure over the sanctioned estimates up to 10% of the sanctioned estimates or Rs. 2·5 lakhs (whichever is less) as against the earlier upper limit of Rs. 25,000;

(4) In the case of projects forming part of Central aid programme of State Roads of Inter-State or economic importance, States have been authorised to sanction themselves detailed plans and estimates for projects costing up to Rs. 1 crore. This covers the bulk of new schemes in the programme of fresh projects approved in the Plan;

(5) Advance technical notes are being sent to States to enable them to invite tenders and complete formalities so as to keep them in a state ready to accept the tenders as soon as financial sanctions are communicated; and

(6) States have been promised all help by the Roads Wing in the procurement of essential materials like bitumen, steel and cement, provided they intimate their requirements in time.

47. There is a large number of civil engineers seeking employment. Road programmes can be an effective means of employing them. It will be necessary, among other things, to streamline the sanctioning of projects so that adequate projects are available with States to execute and there is also no slowing down of the tempo. Further measures to increase the tempo include :

(*a*) Proper organisation with State Governments to cover investigations, surveys, management, control and execution of projects.

(*b*) Staff in State Public Works Departments should be exclusively earmarked for the Central Sector schemes. Several States have done this.

(*c*) There should be further delegation to, and in, the States for sanctions and for settling tenders and award of works.

(*d*) The Roads Wing in the Ministry of Transport should be strengthened.

48. In the first three years, not more than Rs. 120 crores would be spent on the Central sector schemes; the 1971-72 outlay is Rs. 54 crores. Assuming that the tempo can be doubled in 1972-73 and trebled in 1973-74 over the 1971-72 level, about Rs. 250 crores could be spent in 1972-74. There would be a shortfall of about Rs. 48 crores in the total Plan outlay of Rs. 418 crores. Steps are needed for initiating surveys and studies and preparing project reports so that fully worked out projects can be taken up early in the Fifth Plan.

State Sector

49. In the State sector, progress has been satisfactory. Against the Fourth Plan provision of Rs. 453 crores for road development in States and Union Territories, the expenditure in the first two years is estimated at Rs. 173 crores. Assuming that the outlay of Rs. 101 crores in 1971-72 would be spent, the expenditure during the first three years would amount to Rs. 274 crores or 60.4 per cent of the Plan outlay.

50. In States and Union Territories, besides completion of the works in progress, priority was given to the removal of deficiencies in the existing road system. Provision was made for reconstruction of bridges, widening of roads and

strengthening of the system to some extent to meet the requirements of metropolitan cities, industrial and mining areas, and hilly and backward regions. During the first two years, about 20,000 kilometres of new surfaced roads are estimated to have been added, against the target of 60,000 kilometres for the Fourth Plan.

51. Emphasis was laid in the Plan on the development of rural roads which are necessary for the growth of rural economy, for increases in agricultural production and for providing employment. State Governments were requested to set apart 25 per cent of their outlay on road development for the development of rural roads. States had also agreed to mobilise local resources and give priority to roads leading to market towns.

52. There is marked unevenness in the implementation of the rural roads programme. Punjab has devoted almost two-thirds of its total road outlay to rural roads, over and above the resources which they have raised through the Market Committees. But some States have not spent on rural roads more than 10 per cent of their total road outlay on the plea of not being able to generate enough matching local response from the rural populace. In view of the differing nature of the rural economy, terrain conditions and the existing state of State highway and district road systems, it might be necessary to evolve specific targets for individual States. Maintenance in financial and operational terms is particularly important for rural roads, as their specifications are lower.

Road Transport

53. The Fourth Plan provides Rs. 3 crore for road transport schemes in the Central sector. The progress is shown in table 8.

TABLE 8 : *Outlay and Expenditure on Road Transport*

(Rs. lakhs)

sl. no.	scheme	Fourth Plan outlay	1969-70 outlay	1969-70 expenditure	1970-71 outlay	1970-71 expenditure	1971-72 outlay
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Central Road Transport Corporation Ltd. .	260	28	36	40	40	30
2	Central Road Transport Training and Research Institute, Poona	30	7	8	7	15	15
3	assistance to state governments for way-side amenities on national and state highways . . .	10	..	..	..	..	..
4	total	300	35	44	47	55	45

54. The Central Road Transport Corporation has a fleet of about 300 trucks. It operates on the routes from Nergundi rail head to Paradeep port for transport of export iron ore and routes in the eastern region such as Calcutta-Barauni, Calcutta-Sindri and Calcutta-Gauhati. The Corporation has been operating at a loss.

TABLE 9 : *Gross Earnings and Expenditure of Central Road Transport Corporation*

(Rs. lakhs)

year	gross earnings	total expenditure	gross surplus (+) or deficit (—)
(1)	(2)	(3)	(4)
1967-68 . . .	65·22	81·92	(—)16·70
1968-69 . . .	54·10	78·90	(—)24·80
1969-70 . . .	90·89	112·25	(—)21·36

55. The Committee on Public Undertakings recommended abolition of the Corporation in its Sixtysecond Report. The Ministry of Shipping and Transport set up a committee to look into its working and the Committee's report was received in February 1971. Several recommendations of the Committee have been implemented and it is expected that the losses will be gradually reduced.

56. The Corporation now engaged on transportation jobs for Government departments and public sector undertakings has decided to make its fleet more versatile. It will build up a fleet with a larger number of small vehicles suitable for operation in the hill areas and for transportation jobs expected from the Border Roads Development Organisation. The aim is to reduce operational expenditure and increase revenue.

57. No expenditure has been incurred so far by way of assistance to State Governments for wayside amenities on National and State High ways; in view of the current situation, the implementation of this scheme is proposed to be deferred.

Collection of Statistics

58. Arrangements in various States for the collection and compilation of statistics in respect of road transport need to be strengthened. There is also need for widening their coverage. As recommended by the Road Transport Reorganisation Committee, the Ministry of Shipping and Transport requested State Governments to set up planning and development wings in their Transport departments for the collection of statistical data and planning the development of road transport. A few States have set up such wings, cells or sections, but others have been hampered by financial constraints.

59. The Ministry of Shipping and Transport have also accepted an offer from the World Bank to depute an officer of the Bank to work for a brief period with Indian experts on a report on the collection of highway and highway transport statistics for India.

State Sector

60. The Plan includes a provision of Rs. 89 crores for States and Union Territories for augmenting the services of their nationalised transport undertakings. In addition, a provision of Rs. 10 crores has been included in the Railways plan for contribution to the capital of the State Road Transport Undertakings. In the first two years, an expenditure of Rs. 33·87 crores was incurred by States and Union Territories on this programme. With the outlay of Rs. 20·54 crores for 1971-72, the estimated expenditure during 1969-72 would amount to Rs. 54·41 crores or 61 per cent of the total Plan outlay.

61. The existing fleet of buses of State Transport Undertakings makes up about 40 per cent of the total number of buses in the country. The annual rate of growth in passenger buses of State Road Transport Undertakings has been of the order of eight per cent but has not been able to keep pace with the increasing traffic. Accelerated growth in the case of buses even to maintain this growth rate would have to face in the rest of the Plan period the problems of additional outlay per vehicle and increasing running costs due to oil prices as well as taxes having gone up. Beyond a point, delivery schedules could also become a constraint.

Major Ports

Traffic Trends

62. While formulating the Fourth Plan, it was anticipated that the traffic handled by major ports would increase from about 55 million tonnes in 1968-69 to about 77 million tonnes in 1973-74. The traffic has not, however, increased materially during the first two years. It was about 55 million tonnes in 1969-70 and about 56 million tonnes in 1970-71. The main trends are as follows :

(a) Foodgrains traffic was anticipated to decline from 4·90 million tonnes in 1968-69 to 1 million tonnes in 1973-74. It has declined to 3·12 million tonnes in 1970-71. With self-sufficiency in foodgrains, the fall in this traffic could come earlier than envisaged.

(b) Fertiliser traffic, including fertiliser raw materials, had been anticipated to increase from 3·8 million tonnes in 1968-69 to 6·71 million tonnes in 1973-74. The offtake of fertilisers, actual production of fertilisers and consumption of raw materials have not kept up to expectations. In 1970-71, this traffic at major ports was 2·36 million tonnes and the estimates for 1971-72 are placed at 2·61 millions. At this rate, this traffic is unlikely to reach the original anticipated level of 6·71 million tonnes by 1973-74.

(c) In export iron ore, traffic at major ports was expected to increase from 15·1 million tonnes in 1968-69 to 25·5 million tonnes in 1973-74. It reached 19·6 million tonnes in 1970-71. Despite the production shortfall reducing ore supply via Visakhapatnam and a prolonged strike in Madras, the current year might end with about 20 million tonnes. Allowing for contribution that the minor ports would continue to make, this traffic might not exceed 24 million tonnes in 1973-74 at the major ports.

(d) In petroleum, oil and lubricants, the traffic via major ports was 18·10 million tonnes in 1968-69. With more crude coming in but offset by lower product imports, the total traffic at major ports increased only to 18·33 million tonnes in 1970-71. In the current year, a rise to 20·35 million tonnes is expected. By 1973-74, the Plan estimates of 23·67 million tonnes might be reached with the expected commissioning of the Haldia refinery in 1972-73.

Outlay

63. The total cost of the approved programmes for the development of major ports in the Plan was estimated at Rs. 280 crores. It was envisaged that the outlay during the Plan period would be Rs. 260 crores, out of which Rs. 100 crores would be found from the internal resources of the ports and Rs. 160 crores would be provided by the Central Government. The progress of expenditure has been as follows :

TABLE 10 : *Outlay and Expenditure on Major Ports*

(Rs. crores)

sl. no.	item	Fourth Plan	expenditure in 1969-70	expenditure in 1970-71	provision for 1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	plan provision	179·84	25·90	37·24	51·18
2	ports' own resources	99·99	11·66	9·28	24·86
3	*total outlay*	**279·83**	**37·56**	**46·52**	**76·04**

The likely total expenditure in the first three years, including resources contributed by the ports themselves, comes to Rs. 160 crores or 61 per cent of the Plan outlay limit of Rs. 260 crores.

64. As regards internal resources, the contribution of major ports during the first two years is about Rs. 21 crores. It is now estimated that the internal resources may come to only about Rs. 75 crores. This is partly due to higher operating costs, including port labour wages and partly due to traffic not having increased as expected. Visakhapatnam now anticipates its contribution at about Rs. 15 crores less since its throughput of export iron ore is lagging behind the rated capacity on account of shortfall in supply from NMDC mines.

65. According to the revised proposals of the Ministry, the total outlay required for the development programme of the major ports would be Rs. 325 crores as against Rs. 260 crores originally provided. Excluding the internal resources of ports, the increase now asked for in the Plan outlay is from Rs. 160 crores to Rs. 250 crores. The port-wise details are given in Annexure II.

66. Of the major port projects shown in Annexure II, those relating to the Bombay Port Trust require separate mention for two reasons. They are being financed entirely from the internal resources of the Port Trust. Secondly, the revised cost estimates of projects relating to that Port now stand at Rs. 145 crores, as against Rs. 72 crores at the time of the formulation of the Plan, mainly on account of the Nhava-Sheva project for which the Master Plan has been received by the Port Trust. Consulting engineers place the cost of the first phase alone at Rs. 62 crores. A final investment decision on the project has yet to be taken.

67. Annexure II shows that the total estimated cost of the development projects other than at Bombay Port now stands at Rs. 422 crores, as against Rs. 322 crores estimated at the time of the formulation of the Plan. Generation of internal resources by the remaining ports is estimated at Rs. 47 crores as against Rs. 52 crores. The Central outlay is sought to be increased to Rs. 250 crores, as against Rs. 180 crores estimated at the time of the formulation of the Plan. (Expenditure during the Plan was proposed to be limited to Rs. 160 crores).

68. There are aspects of port development on which advance action needs to be initiated in regard to the Fifth Plan. Generally, completion of detailed studies of basic hydrological and engineering data for these projects take longer than anticipated. There has been significant upward revision of original cost estimates. Implementation has taken more time. In turn, these delays have led to escalation of costs. Revised cost estimates, based on tenders for floating crafts, have gone up and so have the costs of works like break-waters and mechanised equipment. Some illustrations of increases are given below :—

(a) *Haldia.*—The large esturian dredger, now ordered from indigenous sources, is likely to cost Rs. 9·50 crores as against Rs. 5 crores originally estimated. Fertiliser handling equipment is likely to cost Rs. 2·12 crores, as against Rs. 0.55 crores originally estimated.

(b) *Madras.*—The Outer Harbour Project includes the oil dock nearing completion as well as the mechanised ore loading berth under construction. As against the original estimate of Rs. 15 crores for these facilities, the revised estimates are about Rs. 35 crores, excluding an outer arm of the Harbour, the work on which is proposed to be postponed.

(c) *Cochin.*—The cost of the super tanker berth has gone up from Rs. 9·12 crores to Rs. 15·63 crores and of the dry dock from Rs. 1·50 crores to Rs. 5·04 crores.

(d) *Visakhapatnam.*—Hopper suction dredger needed for the Inner Harbour is estimated to cost Rs. 4·82 crores, as against Rs. 2.66 crores originally estimated. The cost of the Outer Harbour Project is now estimated at Rs. 50 crores, instead of Rs. 37 crores, mainly on account of quotations regarding the break-waters and mechanical handling equipment.

(e) *Kandla.*—The Hopper suction dredger is now estimated to cost Rs. 7 crores, instead of Rs. 4·45 crores.

(f) *Mormugao*.—The Hopper suction dredger is now estimated to cost Rs. 5·58 crores instead of Rs. 2 crores, and the iron ore handling plant Rs. 12·22 crores instead of Rs. 6·4 crores.

(g) *Pradeep*.—The estimated cost of providing rail facilities within the Port area is estimated to cost Rs. 3·33 crores, as against Rs. 1·20 crores.

69. Some major projects included in the Plan are behind schedule such as the development of Haldia docks, Madras Outer Harbour Project and Mormugao iron ore handling plant. Their availability for use is now expected in 1973-74. Visakhapatnam Outer Harbour Project was in any case scheduled foi commissioning in 1974-75.

Central Dredging Organisation

70. The Central Dredging Organisation was set up in 1969 with a view to undertaking special capital dredging of major ports. A provision of Rs. 9 crores was made in the Plan for two high capacity dredgers and other ancillary equipment. One of the dredgers ordered abroad has been delivered in 1971. The other dredger is being manufactured indigenously and its delivery is expected in 1972-73. Expenditure on the project during the Plan is assessed at Rs. 10 crores, against which Rs. 7 crores have already been spent. With the strengthening of the Central Dredging Organisation, the dredging requirements of ports would be met more adequately in future.

Minor Ports

71. A provision of Rs. 20 crores was made for development of minor ports in the Central sector in the Plan. This includes Rs. 7 crores for Central schemes and Rs. 13 crores for loan assistance to State Governments for specified schemes. The Central schemes included a dredging and survey organisation, development of ports in Andaman and Nicobar Islands and the Laccadive, Minicoy and Amindive Islands. The progress of expenditure has been as follows :

TABLE 11 : *Outlay and Expenditure on Minor Ports*

(Rs. crores)

sl. no.	item	Fourth Plan	expenditure in		provision for 1971-72
			1969-70	1970-71	
(0)	(1)	(2)	(3)	(4)	(5)
1	central schemes	7·00	0·90	1·55	1·24
2	centrally sponsored schemes	13·00	1·21	1·80	2·95

The progress has been slow on Centrally sponsored schemes on account of delay in sanctioning these schemes.

72. The total traffic handled by the minor ports was about 7.5 million tonnes in 1970-71. There has been some decline in this traffic in recent years due to the emergence of bulk cargoes as a dominant factor, such as export of iron ore, import of fertilisers, raw materials for fertiliser industry and refinery products.

Shipping

73. The Fourth Plan includes a provision of Rs. 140 crores for shipping. The outlays provide Rs. 125 crores for loans to the Shipping Development Fund for acquisition of ships, Rs. 10 crores for subsidy to the Shipping Development Fund to meet the difference between the rate of interest charged from shipping companies and that charged by Government from the Fund, and Rs. 5 crores for loan assistance to sailing vessel industry and other small items.

74. At the beginning of the Plan, shipping tonnage had reached 2.14 million gross registered tonnage. There was another 0.62 million GRT on order. The share of Indian shipping in liner trade was around 40 per cent but was less than 10% in the bulk cargo trade, the overall share being 15 per cent of the overseas trade. The additions were mainly intended to be made to the fleet of liners, bulk carriers and tankers. The aim was to enable Indian shipping to carry about 40 per cent of the country's overseas trade by the end of the Plan. It was intended to reach 3·5 million GRT shipping tonnage by 1973-74 and there was to be 0.5 million GRT on order.

75. In September 1971, the tonnage had increased to 2.48 million GRT. Another 1.15 million GRT was on order. Deducting a tonnage of 0.23 million GRT due to be scrapped within the Plan period, firm arrangements exists for a tonnage of 3.40 million GRT. Out of this 2.8 million GRT would be operative by the end of the Plan and the balance would await delivery. The share of Indian shipping in our overseas trade has risen to about 21 per cent.

76. Out of Rs. 125 crores for loans to the Shipping Development Fund, Rs. 58.50 crores have been released. Against the balance of Rs. 66.50 crores, commitments against loans sanctioned amount to Rs. 64.32 crores. Since the original outlay estimates were made, there have been several important developments :

(a) Prices of ships have escalated. The increase is about 33 per cent in smaller vessels (15/19000 DWT) and about 47 per cent for bulk carriers (54,000 DWT).

(b) Shipyards do not agree to fixed price contracts but insist upon escalation clauses applicable to as much as 80 per cent of the basic price negotiated.

(c) Under earlier credit terms, only 20 per cent was the down payment and the balance could be repaid over a period up to eight years. Some shipyards now ask for full payment on delivery. Generally the period of repayment has been reduced to five or six years and the rate of interest on outstanding balances has increased beyond 6 per cent.

77. Further orders totalling about 0·6 million GRT need to be placed if the Plan target of 4 million GRT is to be achieved. The total cost is estimated at Rs. 173 crores, of which an expenditure of Rs. 82 crores would arise within the Plan period.

78. Ship acquisition is a continuous process. By way of advance action the Ministry of Transport and Shipping has proposed placing within this Plan period advance orders for another 0·88 million GRT, mainly for bulk carriers. The cost is estimated at Rs. 215 crores with the outgo during the Plan period of Rs. 19·41 crores.

79. For acquiring four overseas tankers and two coastal tankers, negotiations are in progress with the World Bank for a loan of about Rs. 46·80 crores. This makes up 80 per cent of the price of the ships. If the loan materialises, it will be provided to the shipping companies through the Development Fund.

80. Taking all this into account, an additional outlay of Rs. 74·27 crores has been proposed by the Ministry. It is arrived at as follows :

TABLE 12 : *Requirement of Additional Plan Outlay for Shipping*

sl. no.	item	(Rs. crores)	sl. no.	item	(Rs. crores)
(0)	(1)	(2)	(0)	(1)	(2)
(A)	likely receipts		(B)	likely expenditure	
1	closing balance with SDFC as on 31-8-71	3·82	1	loan commitment made by SDFC till 1-9-71	99·89
2	amount to be received by SDFC during 1-9-71-31-3-74 from Shipping Companies as loan repayment	31·75	2	anticipated commitments of SDFC in respect of acquisitions approved by Govt. between 1-4-71 and 31-8-71	19·35
3	balance amount to be released to SDFC by Govt. out of existing plan provision of Rs. 125 crores	66·50	3	anticipated commitments of SDFC for acquisition of 0·6 million GRT to reach plan target .	81·99
4	credit on account of anticipated World Bank Loan	46·80	4	anticipated commitments of SDFC for another 0·88 million GRT to be ordered in the Fourth Plan as part of advance action for ship acquisition in the Fifth Plan	19·41
5	total (A)	148·87	5	closing balance required on 31-3-74	2·50
6	total net additional requirements of SDFC during Fourth Plan (B)-(A)	74·27	6	total (B)	223·14

NOTE : The requirement of Rs. 74·27 crores is on the assumption that World Bank loan of Rs. 46·80 crores, currently under negotiations for acquisition of 6 tankers of 0·2 million GRT would be available.

Inland Water Transport

81. The Plan includes a provision of Rs. 9 crores in the Central sector for development of inland water transport. The main schemes are investment of Rs. 4·5 crores in the Central Inland Water Transport Corporation and loans of Rs. 4 crores to State Governments for their schemes. Smaller schemes relate to the Central technical organisation, facilities at Pandu and Jogigopa ports and river conservancy and training.

82. A Committee has recently gone into the working of the Central Inland Water Transport Corporation. The Corporation has been operating at a loss. In 1970-71 it is estimated at Rs. 141 lakhs.

83. Against the provision of Rs. 4 crores for oan assistance to States for their schemes, the Ministry recently suggested a programme costing Rs. 6·73 crores, the expenditure in the Plan period being restricted to Rs. 4·31 crores. The programme was formulated on the basis of recommendations of the Inland Water Transport Committee headed by Shri B. Bhagwati. The progress of expenditure on Centrally sponsored schemes has been as follows :

TABLE 13 : *Outlay and Expenditure on Inland Water Transport—Centrally Sponsored Schemes*

year	(Rs. crores)
(1)	(2)
Fourth Plan (outlay)	4·00
1969-70 (expenditure) . . .	0·30
1970-71 (expenditure) . . .	0·12
1971-72 (anticipated expenditure) .	0·47

The expenditure during 1969-72 is likely to be less than Rs. 1 crore, mainly because the scheme have been sanctioned recently.

Transport Policy and Coordination

84. The Committee on Transport Policy and Coordination in its report submitted in 1966 made a comprehensive review of the problems of transport policy and coordination. The policy recommendations made by the Committee were taken into account in making inter-sectoral allocations in the Fourth Plan. Some aspects of transport development have been examined in further detail in subsequent reports such as the report of the Road Transport Taxation Enquiry Committee, the Major Ports Commission, the Inland Water Transport Committee etc. With the increasing demands on the transportation system and growth of different modes of transport, investment planning, pricing policies and other connected decisions vital to the transport sector will now need to be made with a view to securing greater degree of coordination among different modes of transport. It is intended to review the findings of the past studies so as to ensure better coordination and establish effective institutions to achieve policy objectives in the transport sector as part of the advance action for the Fifth Five Year Plan.

Civil Air Transport

85. The Plan provides Rs. 202 crores in the Central sector for the development of civil air transport and mateorology. Progress of expenditure is shown in table 14.

TABLE 14 : *Outlay and Expenditure on Civil Air Transport*

(Rs. crores)

sl. no.	programme	Fourth Plan outlay	actual expenditure		1971-72 estimate	1969-72 cols. (3+4+5)
			1969-70	1970-71		
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Civil Aviation Department	70·00	8·18	9·31	9·01	26·50
2	Subsidy to HAL for aircraft sold to Indian Airlines	2·00	1·61	—	—	1·61
3	Air India	60·00	9·31	7·60	17·51	34·42
4	Indian Airlines	55·0	9·57	10·62	14·65	34·84
5	Indian Meteorological Department	15·0	0·50	0·58	1·69	2·77
6	*total*	**202·0**	**29·17**	**28·11**	**42·86**	**100·14**

Civil Aviation Department

86. Expenditure on the programmes of the Civil Aviation Department is given in table 15.

TABLE 15 : *Outlay and Expenditure on Civil Aviation Department*

(Rs. crores)

sl. no.	scheme	Fourth Plan outlay	actual expenditure		1971-72 estimated	expenditure actual + committed 1969-72	revised Fourth Plan now proposed by Ministry
			1969-70	1970-71			
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	works at aerodromes	45·68	4·00	5·13	7·43	16·56	45·52 +1·26[1]
2	aeronautical communication services	17·20	3·96	3·84	1·25	9·05	15·94
3	air routes and aerodrome equipment	6·02	0·14	0·21	0·28	0·63	8·25
4	training and education equipment	0·70	0·06	0·03	0·02	0·11	0·70
5	research and development equipment	0·40	0·03	0·10	0·03	0·16	0·40
6	*total*	**70·00**	**8·18**	**9·31**	**9·01**	**26·50**	**72·07**

[1]Proposed to be utilised for communication and other development works at domestic airports.

87. Work on aerodromes includes development works costing Rs. 39·59 crores at the four International airports of Bombay, Calcutta, Delhi and Madras and development of domestic airports and construction of new airports. Some modifications are now needed in the outlays for international and domestic airports, as indicated in table 16.

TABLE 16 : *Outlay and Expenditure on International and Domestic Aerodromes*

(Rs. crores)

sl. no.	scheme	Fourth Plan outlay (original)	anticipated expenditure 1969-72	Fourth Plan outlay as now proposed	difference between (2) and (4)
(0)	(1)	(2)	(3)	(4)	(5)
1	continued works	3·00	4·40	6·22	3·22
2	international aerodromes	2·00	2.82	3·90	1·90
3	domestic aerodromes	1·00	1·58	2·32	1·32
4	new schemes	42·68	10·55	39·30	(—) 3.38
5	international aerodromes	35·68	9·10	32·30	(—) 3·38
6	domestic aerodromes	7·00	1·45	7·00	—
7	*total*	**45.68**	**14.95**	**45·52**	(—) **0.16**

The outlay for continuing schemes is to be increased from Rs. 3 crores to Rs. 6·22 crores, on account of delays in completing work and consequent increase in costs.

88. A Task Force has been set up by the Ministry to review monthly progress and speed up implementation. Out of the outlay of Rs. 30 crores to be spent in the next two years, Rs. 10 crores are earmarked for land acquisition for extension of Palam Airport.

89. The Plan provision for air routes and aerodrome equipment is proposed to be increased from Rs. 6·02 crores to Rs. 8·25 crores. The major increase is for crash fire tenders. The requirements have been revised from 25 to 28 under continuing schemes and from 49 to 52 for new schemes.

90. Rs. 2 crores had been provided on *ad hoc* basis to subsidise the cost of aircraft sold by HAL to Indian Airlines. Negotiations between the two undertakings indicate that the subsidy amount would come to Rs. 3·71 crores. It is proposed by the Ministry to enhance the Plan outlay by Rs. 1.71 crores.

Air India

91. The Plan provides an outlay of Rs. 60 crores for Air India. The estimated expenditure in the first three years amounts to Rs. 34.42 crores. Air India has indicated that their expenditure is likely to be Rs 67.16 crores—that is, higher by Rs. 7·16 crores than the Plan provision. The details are :

TABLE 17 : *Likely Excess Expenditure by Air India*

sl. no.	item	(Rs. crores)
(0)	(1)	(2)
1	net additional loan repayment/rupee expenditure on aircraft project	3·06
2	spill over of expenditure from Third Plan to Fourth Plan in regard to committed Projects	3·40
3	escalation in costs of some of the projects	0·70
4	*total*	**7·16**

The excess expenditure has been necessitated mainly on account of advancement of delivery of the 747 Jumbo aircraft from April 1973 to April 1972.

92. It was originally envisaged that Air India would finance its Plan outlay of Rs. 60 crores entirely from its internal resources except that it would require Rs. 15 crores from Government to maintain its debt-equity ratio. Air India has now suggested that it should be exempted from the liability to reinvest Rs. 10 crores in Government securities and given an additional capital allocation of Rs. 20 crores to meet their deficit. Thus additional assistance of Rs. 20 crores has been proposed. This includes the excess requirement of Rs. 7·16 crores.

93. The Corporation had made certain projections of its capacity and revenue in the Fourth Plan period, anticipating the acquisition of the Jumbo Jets. These projections had to be revised downward. The growth of traffic on Air India, as projected now and as envisaged earlier is compared below :

TABLE 18 : *Growth of Traffic on Air India*

(millions)

year	tonne kilometres	
	original targets	revised targets
(1)	(2)	(3)
1971-72	682·8	626·6
1972-73	1025·2	836·6
1973-74	1042·0	904·5

The earlier estimates were based on a total fleet of four Boeing 747 aircraft and nine Boeing 707 aircraft. The revised estimates are based on a fleet of four 747 and six 707 aircraft. A part of the surplus Boeing 707 aircraft are proposed to be given to a charter company which Air India will put into operation in 1972-73. The balance one is being leased to Indian Airlines from January 1 1972.

94. A Working Group is being asked in conjunction with the Ministry and the two Corporations to study the economies of their working. This will make it possible to take a comprehensive view.

Indian Airlines

95. The Plan provides Rs. 55 crores for Indian Airlines including Rs. 28·37 crores for continuing schemes and Rs. 26·63 crores for new schemes. The expenditure during the first three years is likely to be Rs. 34·84 crores.

96. Indian Airlines ordered for seven Boeing 737 in January 1970. These have been received according to schedule and put into operation. The Corporation had placed an order for ten more HS-748s with a view to replacing Dakotas and augmenting capacity on the regional sectors. There is some delay in the delivery of these aircraft by HAL. Two will be delivered in 1971-72 and the remaining eight in 1972-73.

97. Preliminary study by Indian Airlines shows that the growth in traffic on trunk and regional routes is expected to be higher than was anticipated. While the capacity of Indian Airlines was expected to increase from 208 million tonne-kilometres in 1968-69 to 392 million TKM in 1973-74, the study reveals that the capacity requirement in 1973-74 would be 464 million TKM. The assumption is that Jet aircraft would operate at 75 per cent load factor and the turbo prop aircraft at 65 per cent load factor.

98. The fleet composition of Indian Airlines is expected to change as indicated in table 19.

TABLE 19 : *Fleet Composition of Indian Airlines*

sl. no.	item	1970-71	1971-72	1972-73	1973-74
(0)	(1)	(2)	(3)	(4)	(5)
1	Boeing 737	6	7	7	7
2	Caravelle	7	7	7	7
3	HS-748	14	16	24	24
4	Fokker	11	12	12	12
5	Viscount	14 (9 operations)	14 (6 operations)	—	—
6	Dakotas	21 (8 operations)	21 (4 operations)	—	—

99. The capacity generated by these aircraft would be approximately 360 million TKM. It is anticipated that there will be a shortfall of 104 million TKM in 1973-74.

100. Indian Airlines have entered into an agreement for the purchase of one HS-748 simulator and one Boeing 737 simulator at a total cost not exceeding Rs. 2·54 crores. The two simulators are expected to be delivered in 1972-73. The Plan outlay will need to be increased by Rs. 3·05 crores on this account.

Meteorological Department

101. Against the Plan outlay of Rs. 15 crores for the India Meteorological Department, the expenditure during the first three years amounts to Rs. 2·77 crores. The shortfall has primarily been in procurement of equipment which was to be received from the World Meteorological Organisation under its voluntary assistance programme or was to be procured from foreign and Indian sources.

102. Agreements have been signed with WMO in May 1971. Part of the equipment is expected to be received in 1971-72 and the remaining items over the next two years. The shortfall on account of non-receipt of this equipment is expected to be made up during the Plan period.

103. Procurement of other equipment has been delayed by administrative formalities and late release of foreign exchange. Credit facilities or free foreign exchange has since been made available for all major equipment. Special action is being taken for procuring the scientific computer and the S-band cyclone warning radars.

104. A factor contributing to the shortfall has been the delay by the Overseas Communications Service in providing telecommunication links and broadcast facilities. This, in turn, was caused by the delay in commissioning of the satellite earth station at Arvi. With the start of the Arvi Station, implementation of these links has commenced in August 1971.

105. Proposals made by the Meteorological Department for a revised programme within the approved Plan outlay of Rs. 15 crores have been accepted. The provision for a meteorological telecommunication organisation is being reduced from Rs. 6·90 crores to Rs. 5·15 crores. With a re-orientation of the scheme, the objectives can be achieved at a reduced cost by using indigenous equipment and facilities instead of importing them. The saving is proposed to be utilised for other important schemes for agricultural meteorology and hydrology. They had been proposed but could not be included earlier for want of funds.

Tourism

106. A provision of Rs. 14·23 crores was made for programmes of the Department of Tourism and of Rs. 10.77 crores for India Tourism Development Corporation. Table 20 shows the progress of expenditure and the outlay now suggested.

TABLE 20 : *Outlay and Expenditure on Tourism*

(Rs. crores)

sl. no.	item	Fourth Plan	actual expenditure 1969-71 (2 years)	likely expenditure 1971-72	likely expenditure 1969-72
(0)	(1)	(2)	(3)	(4)	(5)
1	Central Department of Tourism	14·23	3·08	3·49	6·57
2	India Tourism Development Corporation	12·77[1]	2·52	3·00	5·52

[1]Includes Rs. 2 crores for Ashoka and Janpath Hotels which was agreed to subsequent to the formulation of the Plan.

107. The additional outlay asked for by the Ministry in regard to the Hotel Development Loan Fund is Rs. 9 crores for which the original Plan outlay was Rs. 5 crores. To meet the traffic likely to come to India during 1973-74, total requirements are assessed at 15,000 rooms; not more than 12,000 rooms are at present in sight. The target for 1978-79 of one million tourists would require 30,000 rooms. To bridge the growth gap, about 2,000 new rooms would have to be added each year, involving an annual investment of about Rs. 23 crores.

108. At the commencement of the Fourth Plan, 8912 rooms were available. With an investment of Rs. 21.76 crores on twenty-two hotel projects, 2143 more rooms would be added. The Hotel Development Board have approved loans totalling Rs. 8·95 crores. The actual disbursement this year is expected to exceed Rs. 4 crores. Eleven more applications for loans totalling Rs. 4·41 crores have been received. Disbursements totalling Rs. 2·5 crores have been proposed for 1972-73 and upto Rs. 6 crores during 1973-74. An additional allocation of Rs. 9 crores will be required during the Plan period.

109. The other item for which an increase in outlay has been sought by the Ministry is publicity. In 1971-72, Rs. 36 lakhs have been provided outside the Plan for publicity schemes and a like amount earmarked for 1972-73. To provide the minimum publicity requirements in connection with the expected tourist traffic and to attract additional traffic, an allocation of Rs. 1·5 crores for 1972-74 is being considered.

110. The Plan programme of the India Tourism Development Corporation has been re-appraised. The expenditure would be limited to the existing ceiling of Rs. 12·77 crores. The total cost of the programmes is expected to be Rs. 13·37 crores and a small balance will spill over into the Fifth Plan. The excess is spread over construction of tourist cottages at Goa, expansion of Hotel Ashoka at Bangalore and renovation and expansion of travellers' lodges. Progress has not been according to schedule, mainly on account of inadequate staff and preparation. The Corporation hopes to make good the shortfalls in the next two years.

111. Profiting from this experience, the Corporation as well as allied organisations will take up advance action for the Fifth Plan. Their proposals will indicate alternatives so that choices can be made with regard to *inter se* priorities.

Communications

112. The Plan provides for an outlay of Rs. 520 crores for the development of communications including Posts and Telegraphs. During 1969-71, the actual expenditure has amounted to Rs. 125·91 crores. Inclusive of the 1971-72 Budget provision of Rs. 99·83 crores, the expenditure in the first three years is anticipated at Rs. 225·74 crores or about 43 per cent of the Plan outlay.

113. Implementation has been behind schedule on certain key programmes like Telecommunications, which require sophisticated equipment. The reason is shortfalls in timely delivery of material and equipment from producers like the Hindustan Cables and Indian Telephone Industries. In order to reach the Plan targets, reassessment of availability of material and equipment from

indigenous sources is necessary, as also a marked step up in implementation.

114. Expenditure on major programmes is indicated in table 21.

TABLE 21 : *Outlay and Expenditure on Communications*

(Rs. crores)

sl. no.	item	Fourth Plan outlay	actual expenditure 1969-71	plan provision 1971-72	expenditure in 1969-72	
					total col. (3+4)	col. (5) as percentage of col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Post and Telegraphs	492·25	118·87	94·00	212·87	43
2	postal services	26·00	11·05	5·73	16·78	65
3	telecommunications	466·25	107·82	88·27	196·09	42
4	Indian Telephone Industries Ltd.	12·96	1·18	3·04	4·22	33
5	Hindustan Teleprinters Ltd.	1·75	0·30	0·43	0·73	42
6	Overseas Communications Service	12·04	5·40	2·20	7·60	63
7	Wireless Planning and Coordination	1·00	0·16	0·16	0·32	32
8	*total*	**520·00**	**125·91**	**99·83**	**225·74**	**43**

115. The Ministry of Communications has conducted an appraisal and sought an additional Plan allocation of Rs. 22·51 crores for implementing the telecommunications programmes. Also it is proposed to reduce the Plan outlay for Hindustan Teleprinters from Rs. 1·75 crores to Rs. 1·60 crores.

Postal Services

116. The Fourth Plan provided an outlay of Rs. 26.00 crores for the development of postal services. The programme included :

(a) Construction of postal buildings with an outlay of Rs. 17·32 crores;

(b) Opening of new post offices, mostly in rural areas;

(c) Expansion of the mail motor fleet; and

(d) Construction of R.M.S. vans.

117. Subsequent to the formulation of the Plan, the policy regarding opening of new post offices, which have been incurring losses, was revised on the recommendations of the Postal Tariff Enquiry Committee. The original Plan target of 30,700 new post offices has been scaled down to 16,700 post offices. Against the target of 6680 post offices for the first two years, the Department has opened 6505 post offices. The shortfall of 175 will be made up during the Plan period. The policy of opening post offices in the 'very backward' areas in border and hilly districts have been further reviewed. Relaxations have been made on the minimum guaranteed revenue with a view to opening an adequate number of post offices in such areas. The Plan outlay of Rs. 1·89 crores for opening new post offices and upgrading of the existing post offices is expected to be fully utilised, as also the provision for postal buildings.

Telecommunications

118. Progress on major programmes of telecommunications is indicated in table 22.

TABLE 22 : *Targets and Achievements for Telecommunications*

sl. no.	item	unit	Fourth Plan target		1969-70		1970-71		1969-71		1971-72
			original	revised	target revised	achievement	target revised	achievement	total col (6) + col (8)	col (9) as % of col. (3)	target
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	additional telephone connections	thousand	760	700	100	102	110	118	220	29	130
2	additional trunk auto exchange (TAX)	lines	17300	8900	—	3000	—	—	3000	17	—
3	additional coaxial cable systems	route kms.	7000	7507	722	722	507	507	1229	18	1134
4	microwave system	route kms.	12000	12050	—	—	1300	695	695	6	1485
5	long distance public call offices	nos.	2000	2000	350	385	400	423	808	40	400
6	telegraph offices	nos.	2400	2400	400	418	500	350	768	32	500

119. The revised physical targets for major programmes of telecommunications have been shown in column 4 above. In financial terms, the Plan requirements are proposed by the Ministry to be revised upwards marginally, from Rs. 466·25 crores to Rs. 488·76 crores.

120. At the beginning of the Plan the number of telephones was about 1·1 million. An addition of 7,60,000 telephone connections during the Plan period was envisaged and the revised target is 7,00,000 additional telephones. The annual targets for the first two years have been exceeded. It is expected that about 3,50,000 telephone connections will have been provided during the first three years.

121. There has been a substantial shortfall in the programmes for expansion of trunk automatic exchanges, the coaxial cable system and the microwave system. There has been continuing shortage of material and equipment from the two main sources of supply, namely Indian Telephone Industries and Hindustan Cables. The actual supplies from Indian Telephone Industries against the Plan targets have been low during the first two years. In the supply of microwave systems, the absence of important accessories as antennae, waveguides and microwave testing instruments has affected the works programme to a considerable extent. Steps have been taken to improve the supply of components and accessories, including imports where necessary.

122. The actual supplies of cables from Hindustan Cables in 1970-71 were significantly below the target, which had itself been revised and reduced. For dry core cables, the actual supply was 4.95 lakh conductor-kilometres against the revised estimate of 5.50 lakh conductor-kilometres for 1970-71. The actual supply of coaxial cables was only 986 tube-kilometres as against the revised estimate of 1500 tube-kilometres. The 1971-72 supply of dry core cables is expected to be less than what were supplied last year. Imports under the third World Bank loan and the CIDA loan will improve supplies of dry core cables but coaxial cables will continue to be in short supply. Deficiencies in material supplies from the private sector have also adversely affected the Telecommunications Plan. Among them are stores and equipment like switching board cables, meters, testing instrument, power plant and microwave towers.

123. Foreign exchange assistance has now been secured, mainly from the World Bank, for import of the critical items of stores and equipment. The fourth Telecommunications loan for \$78 million from the World Bank has been negotiated recently. Measures are being considered for increasing indigenous production required for telecommunications programme.

124. Towards the Plan outlay of Rs. 492.25 crores for Posts and Telegraphs programme, the Department was expected to contribute Rs. 289 crores from its internal resources. The internal resources are likely to add up to Rs. 129 crores during the first three years of the Plan, somewhat lower than anticipated. The estimates of internal resources for the Plan period have been reviewed and are expected to be higher at Rs. 306·00 crores. The excess of Rs. 17.00 crores will meet the bulk of the additional outlay of Rs. 22·51 crores.

Indian Telephone Industries

125. There has been a shortfall in the production of Indian Telephone Industries mainly in the crossbar division during 1969-71 on account of shortage of critical imported materials and components. With the release of foreign exchange, production has started picking up.

126. Indian Telephone Industries has set up an ancillary unit near Srinagar for manufacture of textile braided cords and alarm fuses. It produced 63,323 textile braided cords in 1970-71. In the second phase, it is proposed to manufacture additional items like transmitter mouth pieces, ear pieces, finger dial and dial cords.

127. At the new Transmission factory at Naini, construction work is complete. Production, initially through assembly of components manufactured at Bangalore, has commenced. Expenditure on the new telephone instrument factory—also at Naini, was sanctioned in August 1970 and will spill over to the Fifth Plan. The factory will attain its optimum production capacity of 5 lakh telephones in the eighth year. Production is likely to commence during 1973-74 with a capacity of 130,000 telephones.

128. With a view to meeting the growing demand for crossbar switching equipment, approval in principle has been given to the setting up of a factory with an annual capacity of 300,000 lines. The estimated capital cost is Rs. 16·36 crores, with a foreign exchange components of Rs. 3.94 crores. The project report is under preparation and the location is under examination.

Hindustan Teleprinters

129. The Plan outlay for the projects of Hindustan Teleprinters is proposed to be reduced from Rs. 1.75 crores to Rs. 1.60 crores. The capital expenditure for HTL's projects is being met by the company from internal resources. There has been a shortfall in production during 1970-71 on account of labour trouble.

Overseas Communications Service

130. A provision of Rs. 12.04 crores has been made for the programmes of the Overseas Communications Service. The Arvi satellite project has been commissioned in March 1971 for commercial operation. For a second satellite earth station near Dehra Dun, preliminary work on clearance of the site has been started. The project is estimated to cost Rs. 6.78 crores, with a foreign exchange component of Rs. 2.18 crores. It is proposed to complete it by the end of 1974 for commercial operations, but basic facilities will

be provided early in 1974 for experiments by the Department of Atomic Energy and NASA in educational TV.

Advance action for the Fifth Plan

131. It is necessary to take up preparatory action for the Fifth Plan, particularly by initiating studies and preparing project reports. Development of telecommunications and indigenous supply of materials and equipment need to be examined well in advance as they are long gestation projects.

Broadcasting

132. The Fourth Plan included a provision of Rs. 40 crores for development of Broadcasting and Television. The total cost of the programmes to be undertaken during the Plan period was estimated then at Rs. 45 crores, with a spill-over of Rs. 5 crores beyond 1973-74.

133. The programme for extension of internal broadcasting was drawn up with a view to covering nearly 80 per cent of the population in States and Union Territories by medium wave broadcast by the end of the Plan. For external services provision was made to complete the two super-power medium wave transmitters at Calcutta and Rajkot and to establish two new 250 KW short-wave transmitters at Aligarh.

134. The programme for television envisaged the strengthening of the existing facilities at Delhi and extension of television to five new centres—Bombay (with relay facilities at Poona), Calcutta, Kanpur-Lucknow, Madras and Srinagar.

Progress of Expenditure in First Three Years

135. Expenditure in 1969-70 was Rs. 1·86 crores; it increased to Rs. 3.37 crores in 1970-71; in the current year 1971-72 it is expected to be Rs. 5·77 crores (against the Annual Plan provision of Rs. 6. 39 crores). In the first three years, the total expenditure would be of the order of Rs. 11 crores, 27·5 per cent of the Plan outlay.

136. Of the schemes under implementation, some had been commenced before the Plan period. They were estimated to require Rs. 15 crores out of the original provision of Rs. 40 crores. Apart from the new schemes included at the time the Fourth Plan was formulated, there have subsequently been the following major additions :

(a) Base production units, for satellite communication, at an estimated cost of Rs. 1·26 crores;

(b) Opening of a Television institute at Poona at an estimated cost of Rs. 1·93 crores;

(c) Installation of 100 KW transmitter at Visakhapatnam at an estimated cost of Rs. 0·72 crores; and

(d) Additional 10 KW transmitter at Agartala at an estimated cost of Rs. 6 lakhs.

137. For 1972-73, a provision for Rs. 8·29 crores has been sought. Appraisal at this stage shows that the expenditure on the continuing and new schemes included in the Plan may not exceed Rs. 17 crores during 1973-74.

138. The reasons for the slow pace of expenditure as well as the expectation of substantial step up in the remaining years are inter connected and are mentioned below. They also point to the areas requiring attention from now for smoother implementation during the Fifth Plan;

(a) Almost every project involves acquisition of sites within the cities for the studios and in the vicinity of such urban areas for the transmission stations. There have been significant delays in this regard, partly because land acquisition proceedings are taken up only after the project as a whole is cleared. Procedures need to be devised to permit anticipatory action to commence land acquisition as soon as project is accepted in principle and the site is firmly located, without awaiting the detailed examination and clearance of the project estimates as a whole. This could lead to economies also because cost of land has been increasing in urban areas;

(b) To this extent, it should be possible to start earlier than at present on the detailed designing of the building and the total lead time after final sanction of the project can be reduced.

(c) The main supplier of equipment is Bharat Electronics, Bangalore. There have been slippages in their delivery schedules. The procedures for watching progress of manufacture need to be streamlined so that, where delays seem inescapable, their effect is taken into account well in time.

(d) BEL has a usual lead time of two years up to delivery. It commences on production planning only after release of foreign exchange is assured for the essential components and raw materials, such release is not available until the particular project is sanctioned. It should be possible to release foreign exchange at a more steady pace against a broad assessment of the minimal requirement of further equipment during the next seven years of this and Fifth Plans.

139. Delays in land acquisition, building design and construction, and in equipment supply have often come in succession. This pinpoints the need for more integrated managerial control on the part of the implementing organisation. This would among other things help contro cost.

140 Particularly in the Television programme, there have been substantial increases in the revised cost estimates. Only a part of this can be attributed to general cost escalation of land, equipment and construction. In formulation of progra-

mmes for the Fifth Plan, more accurate estimate will be necessary.

141. After a reviewing of the progress and taking into account the gestation periods, particularly of Television schemes, the Ministry has recently sent preposals for some new schemes for inclusion in the Plan which, together with the outlay on schemes already approved, would amount to Rs. 68·6 crores. It has proposed to phase the new schemes in such manner that the expenditure during the Fourth Plan of the revised proposals as a whole would be limited to the present outlay of Rs. 40 crores. The spill-over into the Fifth Plan would be Rs. 28 crores. To the extent these fresh proposals get accommodated for partial expenditure during this Plan, there will be some reduction in the gap of Rs. 5 crores anticipated between present Plan outlay and the likely expenditure on the approved schemes.

ANNEXURE I

Growth of Freight Traffic on the Railways

(million tonnes)

sl. no.	item	1969-70 actuals	1970-71 estimate	1970-71 actual	1971-72 estimate	1973-74 original estimate	1973-74 revised estimate
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	steel industry						
1	coal for washeries	6·2	7·0	5·3	6·0	12·0	7·5
2	coal to steel plants	12·6	13·1	12·2	12·4	15·0	13·5
3	other steel raw materials	16·3	18·5	16·3	16·4	27·7	21·0
4	finished products	7·1	6·8	6·5	7·0	10·0	8·0
	other coal traffic						
5	railway coal	18·0	17·0	16·0	16·0	16·0	15·0
6	other users	34·3	37·4	30·8	33·6	41·4	42·0
7	export iron ore	8·8	11·5	9·8	12·0	16·0	16·0
8	cement	10·7	11·5	11·1	12·0	12·6	13·0
	general goods						
9	foodgrains	15·1	14·0	14·9	15·4	16·0	16·0
10	fertilisers	4·6	4·4	4·7	5·2	9·4	7·0
11	mineral oils	8·8	10·8	9·0	9·6	12·0	12·0
12	other goods	49·4	48·8	48·0	48·0	58·6	52·0
13	railway material	16·1	16·0	14·4	14·4	18·0	18·0
14	*total*	**207·9**	**217·1**	**199·0**	**208·0**	**264·7**	**240·5**
	of which :						
15	on steel industry	42·2	45·4	40·3	41·8	64·7	50·0
16	coal traffic (including to washeries and to steel plants)	71·0	74·8	64·3	68·0	84·4	77·5

ANNEXURE II

Outlay and Expenditure for different Ports and Projects

(Rs. crores)

Sl. no.	name of the port/project	original plan (1969-74): total estimated cost during plan formulation	original plan: expenditure before 31-3-69	original plan: ports contribution during Fourth Plan	original plan: plan provision (central contribution)	original plan: total Fourth Plan outlay col. (4+5)	revised plan (1969-74): total cost as estimated now	revised plan: ports' contribution estimated now during Fourth Plan	revised plan: plan provision (central contribution)	revised plan: total Fourth Plan outlay col. (8+9)
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Calcutta	6·61	0·47	5·86	—	5·86	6·30	4·39	—	4·39
2	Haldia	58·83	19·23	—	40·00	40·00	70·00	—	50·00	50·00
3	Bhagirathi-Hooghly river training works	10·83	—	—	8·00	8·00	10·83	—	5·00	5·00
4	Madras	28·98	9·57	6·84	14·00	20·84	57·17	10·00	30·00	40·00
5	Cochin	30·08	2·37	4·00	13·89	17·89	·23	4·00	21·84	25·84
6	Visakhapatnam (inner harbour)	32·53	10·95	16·65	—	16·65	34·19	16·86	—	16·86
7	Visakhapatnam (outer harbour project)	36·97	0·16	14·50	20·50	35·00	49·81	—	40·00	40·00
8	Kandla	11·79	4·34	1·00	8·45	9·45	18·69	1·00	8·00	9·00
9	Mormugao	32·48	0·70	3·00	19·00	22·00	42·16	7·00	32·72	39·70
10	Paradip	20·29	3·87	—	14·00	14·00	20·50	2·50	17·47	19·97
11	Mangalore	21·81	5·89	—	16·00	16·00	24·29	—	14·00	14·00
12	Tuticorin	21·76	9·70	—	17·00	17·00	32·49	—	22·00	22·00
13	Central Dredging organisation	9·00	—	—	9·00	9·00	10·01	1·60	8·414	10·01
14	*total (excluding Bombay)*	321·96	67·25	51·85	179·84	231·69	421·67	47·35	249·44	296·79
15	Bombay	72·26	38·34	48·14	—	48·14	145·19	27·49	—	27·49
16	*total*	394·22	105·59	99·99	179·84[1]	279·83	566·86	74·84	249·44	324·28

[1]Expenditure in the Fourth Plan was to be limited to Rs. 160 crores.

CHAPTER 19

EDUCATION AND MANPOWER

I. EDUCATION

BROADLY speaking, the Fourth Plan aims at making progress towards carrying out the Constitutional Directive of free and compulsory education for the age-group 6-14 years. At the secondary and higher stages of education, the Plans lays more emphasis on consolidation and diversification so as to meet the diverse needs of trained manpower of the requisite standard. In keeping with these objectives, the Plan stresses the expansion of facilities for elemntary education, particularly for backward areas and communities as well as for girls. The target envisaged in the Plan is to raise the enrolment in the age-group 6-14 from 67·76 million at the commencement of the Plan to 87·02 million at the end of the Plan. Emphasis has been given to programmes of qualitative improvement, particularly relating to the improvement of teacher education and the expansion and improvement of science education at all stages. At the higher levels of education, the main goals of achievement are to raise the standards of post-graduate education and research, develop Indian languages and encourage book production, especially quality tex books. In technical education, its consolidation and diversification, especially of polytechnic education, a closer link with the needs of industry and orientation towards self-employment has been envisaged in the Plan. In addition, the Plan aims at streamlining the planning, implementing and evaluating machinery at all levels and increasing the use of part-time and correspondence courses. It is also proposed to relate educational programmes increasingly to the social and economic objectives of the Plan. To achieve these objectives the outlay in the Plan was fixed at **Rs. 824.24 crores —Rs. 701.07 crores for** General Education and Rs. 123·17 crores for Technical Education. This marked a considerable increase over the Plan expenciture of Rs. 588·7 crores in the Third Plan.

Table 1 gives the targets of enrolment and anticipated achievement at different stages of General Education.

TABLE 1 : *Enrolment —Targets and Achievements*

(in million)

Sl. no.		Fourth Plan targets (additional)	1969-70 target	1969-70 achievement	1970-71 target	1970-71 likely achievement	1971-72 target	1969-72 cols. (4+6+7)	col. (8) as percentage of col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	classes I-V (6-11 years)	13·80	2·17	2·22	3·09	2·77	2·64	7·63	55
2	classes VI—VIII (11-14 years)	5·46	0·94	0·79	1·41	0·84	0·97	2·60	48
3	classes IX—XI (14-17 years)	3·27	0·53	0·45	0·73	0·68	0·69	1·82	56
4 5	university education (arts, science and commerce)	1·08	0·17	0·17	0·20	0·22	0·17	0·56	52

Table 1 above is based on information recevied from States and Union Territories. These figures are, in most cases, based not on the acutal enumeration of children enrolled in schools but on the best estimates made by the State Departments of Education after taking into account the number of new schools opened, the number of additional teachers appointed and the past trends in enrolment. In some cases, the States repeat the targets and show them as achievements. However, it would appear that there will be considerable shortfalls in enrolments to classes VI-VIII. In classes I-V, the enrolement of girls is likely to fall short of the target. The enrolment in these classes is likely to increase by 13·80 million children during the Plan pericd. A further addition of 900,000 children may take place as a result of the appointment of 30,000 teachers sanctioned under the Central scheme for the educated unemployed.

3. Only 37·7 per cent and 42·3 per cent of the Plan outlays on Elementary and Secondary Education respectively will have been spent by the end of the third year of the Plan. In spite of the low investments, achievement in terms or enrolments, 55 per cent, 48 per cent and 56 per cent of the Fourth Plan targets at primary, middle

and secondary stages as shown in Table 1—appears to be somewhat unreaslistic and requires a more detailed examination. The enrolment figures are tentative. Secondly, when the scheme for additional enrolments are formulated, some provision is normally made for school buildings, furniture and equipment. It is possible that while the enrolments have materialised, no expenditure has been incurred on building more class-rooms or improving the physical facilities. Thirdly, the number of teachers appointed is, in most States, not commensurate with the additional enrolments. This may lead to a worsening of the teacher-pupil ratios and increase in wastage and stagnation. It may be useful to study this problem in depth by undertaking sample studies in selected areas and investigating whether low investments, particularly in Elementary Education, have led to a fall in the standards of instruction in schools.

4. Table 2 gives the progress of Plan expenditure on Education during the first three years of the Fourth Plan.

TABLE 2 : *Plan Expenditure on Education*

(Rs. crores)

sl. no.	item	1969-74 Fourth Plan outlay	1969-70 actual expenditure	1970-71 likely expenditure	1969-71 likely expenditure cols. (3+4)	col. 5 as percentage of col. 2	1971-72 outlay	col. 7 as percentage of col. 2	1969-72 likely expenditure (cols. (5+7)	col. 9 as percentage of col. 2
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	general education	701.07	64.38	103.86	166.24	23.9	132.56	18.9	300.80	42.9
2.	technical education	123·17	21·12	23·31	44·43	36·1	25·18	20·4	69·61	56·5
3.	*total*	**824·24**	**85·50**	**127·17**	**212·67**	**25·8**	**157·74**	**19·1**	**370·41**	**44·9**

Plan expenditure during the first two years was slow, particularly on General Education. Considerable improvement will be registered in 1971-72, if the Plan outlay for that year is fully utilised. With the present trends, the Plan expenditure in 1972-73 and 1973-74 may rise to about 22 per cent and 25 per cent of the total outlay in the Fourth Plan and the total Plan expenditure on Education is likely to be about Rs. 760 crores or about 91 per cent of the Plan outlay.

5. Annexure I gives the progress of Plan expenditure on Education under various sub-heads. The two sectors which have suffered most are Elementary Education and Teacher Education.

6. It will also be seen from Annexure II, that there has been a comparatively larger shortfall in the Plan expenditure in the State sector. This is in some cases due to the shortfall in the States' own resources, resulting in smaller Annual Plan outlays, and also due to the higher priority given by them to other sectors such as irrigation and power. The States which account for major shortfalls are Andhra Pradesh, Bihar, Himachal Pradesh, Madhya Pradesh, Punjab and Tamil Nadu. It will be seen from Annexure V that the outlays on Elementary Education, even though earmarked, have not been fully utilised. Under Technical Education also, the State sector shows a large shortfall, shared largely by Bihar, Madhya Pradesh, Mysore and Punjab.

7. For the Central and Centrally sponsored schemes, adequate outlays were, on the whole, provided in the Annual Plans and the utilisation was also comparatively fuller. The shortfalls in this sector were mainly due to delays in the preparation and implementation of the schemes, particularly during the first year. In the Central sector, the schemes under General Education which have made slow progress are the production of literature for use at the university level, pilot projects and the Nehru Museum and Library. Under Technical Education, more than 67 per cent of the Plan outlay in the Central Sector will have been utilised by the end of 1971-72. Even so, some schemes such as the development of post-graduate courses and research, quality improvement programmes and the establishment of two new institutes of management have made slow progress.

Social Education

8. The low growth rate of literacy revealed by the 1971 Census—29 per cent against 24 per cent in 1971—is a matter of concern. Illiteracy is especially high in rural areas and among the female population. The number of illiterates due to the growth of population has been increasing. Illiteracy is a serious handicap to the vast net-work of extension agencies that exist and will need to be developed if the small man is to be helped at his place of work. Adult education is a cheaper and quicker way of removing illiteracy than elementary education but only if the adult is properly motivated. It is on the motivational plane largely that we have failed. The present programmes are largely confined to voluntary agencies and are in the nature of isolated efforts. The only significant programme is the Farmers' Functional Literacy Programme aiming at developing literacy as a tool for increasing agricultural production in the areas selected for introduction of high yielding varieties of seeds. Eighty districts are likely to be covered by the end of the current year against the target of 100 districts in the Fourth Plan. When this pro-

gramme is evaluated it is likely to yield valuable data which should enable the stepping up of the programme and its extension to all other major occupational groups. Another line of action which is urgently required is that the various Ministries and Departments of Government should appropriate literacy as an effective tool of communication and build it as an integral part of their programmes. It is only when the literacy effort becomes so wide-spread as to draw in its net voluntary agencies as well that a nation-wide impact can be prodcued.

Elementary Education

9. The Statewise progress of enrolment in classes I-V and VI-VIII, as given in Annexure III and IV suggests that at the primary stage (classes I-V) the progress of enrolment during the first three years of the Plan will be particularly slow in Assam Mysore and Punjab . In Assam, the annual enrolment targets have been kept low in relation to the Fourth Plan targets. In 1969-70, significant shortfalts occurred in Haryana, Kerala, Madhya Pradesh, Mysore, Orissa, Punjab and Tamil Nadu, while in 1970-71, the shortfalls were prominent in Mysore and Punjab. At the middle stage, the States showing slow progress are Mysore, Punjab, Madhya Pradesh, Orissa and Uttar Pradesh. In most cases, the shortfalls are due to insufficient financial allocation and to their inadequate utilisation. The mechanism of earmarking outlays for Elementary Education has not worked well so far and some States divert funds from this sector for one resaon or another.

10. Facilities of education at the primary stage (classes I-V) are available to over 95 per cent of the rural population. Considerable expansion of facilities is, however, needed at the middle stage (classes VI-VIII). It was envisaged that the States would prepare detailed district plans to ensure that facilities for universal enrolment at this stage are made available progressively, particularly in backward areas. No progress has been made in this regard. There has been no appreciable step-up in the expenditure on schemes for encouraging the enrolment of girls or children of backward communities. The coverage under the mid-day meals schemes were 11 million pupils at the commencement of the Plan. While some States have increased the coverage. Bihar has discontinued the scheme with the result that the all-India coverage remains at 11 million pupils. No appreciable progress was made in the construction of additional class-rooms or in the provision of equipment. Out of every 100 children enrolled in class I, only about 40 continue their studies in class IV. The rate of wastage and stagnation has remained more or less stationery since Independence. Economic conditions of the poorer sections of the population are to a large extent responsible for this heavy rate of drop-outs; but there are other contributing factors which can be removed by a comprehensive programme of school improvement. It was expected that some steps would be taken during the Fourth Plan to reduce this wastage. However, no effective measures have been taken in most States. As for the quality of elementary education, the only noteworthy achievement is the strengthening of science edauction in selected pilot schemes in almost all States and Union Territories. Some good work has been done to publish quality text-books. But the progress in setting up three printing presses for text books in the Central sector has been behind schedule.

11. In order to make up for the deficiencies of the first three years, it will be necessary.

(*a*) to earmark higher outlays for Elementary Education consistent with the minimum requirements of other sectors of Education to ensure adequate funds for appointment of additional teachers and other contingent expenditure and not to allow diversion of funds earmarked for Elementary Education;

(*b*) to prepare district plans to ensure proper allocation of resources for the backward areas or groups which require more attention;

(*c*) to undertake provision of physical facilities and other improvements with the assistance of the local community; and

(*d*) to strengthen the administrative and inspecting machinery, particularly at the district level, so as to ensur effective utilisation of funds.

Secondary Education

12. While the Plan target of additional enrolment of 3·27 million children in classes IX—XI may be fully achieved, the vocationalisation of secondary education and introduction of work experience programmes as well as schemes relating to the improvement of physical facilities in schools have not made satisfactory progress on account of constraint of resources and also to some extent the absence of properly tried out programmes. The Ministry of Education and Social Welfare has undertaken in association with the State Governments, a project on an experimental basis in four selected districts which aims at providing work experience and vocational bias as so to link education with the local manpower needs. The programme will be expanded after the results of the pilot projects are known.

13. In the last two years of the Plan, the stress should be on the improvement of science education and strengthening of vocational guidance services. Although no large scale programme of vocationalisation is possible during the Fourth Plan, States should carry out survey's on occupational education and training on the lines conducted in Osmanabad and the Haveli Taluka of Poona district so that these programmes could be taken up in the Fifth Plan.

Higher Education

14. There has been rapid expansion of facilities for higher education. The number of students in

arts, science and commerce, rose from 1·69 million in 1968-69 to 2·08 million in 1970-71 The corresponding increase in science courses was from 0·68 million to 0·75 million. At this rate, the enrolment estimated of 2·27 million set for the Fourth Plan are likely to be exceeded. Facilities for non-formal education have been expanded. Nine universities—Andhra, Delhi, Himachal, Madurai, Meerut, Mysore, Punjab, Punjabi and Rajasthan—have introduced education through correspondence courses but the courses available are mainly for under graduate education and in the humanities. In organising these courses, the regional requirements need to be kept in view so that facilities could be more extensively utilised and the overhead costs reduced.

15. The University Grants Commission has been providing assistance for consolidation and improvement of facilities for higher education, Increasing grants were given for expansion and improvement of post-graduate education and research, development of centres of advanced study, extension of library and laboratory facilities, appointment of staff, extension of hostel facilities and student welfare programmes. Grants were given for the expansion and development of affiliated college. But the coverage under this scheme is not very large.

16. In the Fourth Plan, it was stated that proposals for setting up new universities would be carefully examined by the University Grants Commission and the Ministry of Education and Social Welfare. During this period . 9 new universities have been set up, bringing the total number to 94. In view of the huge overhead costs of setting up of new universities, it is necessary to adopt the utmost caution. Instead university centres may be set up in large cities to provide facilities for post-graduate education and researh. These centres may be established within a complex of colleges with sizeable student population and may have a nucleus of unit versity professors for teaching and research guidance. They should provide library and laboratory facilities of university standard.

17. The University Grants Commission Plan included about Rs. 3 crores for special schemes for science education like short courses in applied sciences and development of instrumentation workshops. The progress has been negligible These programmes are of importance for promotion of science education and need to be implemented on a priority basis.

Technical Education

18. The main emphasis in Technical Education is on improving quality and standards and modifying technical education to suit the needs of industry more efficiently, Stress was, therefore, laid on restructuring the curricula of degree and diploma course, short-term and long-term training of teachers including practical training in industry post-degree practical training of students, introduction of cooperative or sandwich courses in close collaboration with industry, organisation of short-term refresher courses or serving personnel from industry and training in industrial engineering. Apart from the scheme of apprenticeship training and training in industrial engineering, these programmes have not registered the scheduled progress and their implementation will need to be accelerated. The Indian Institutes of Technology have been developed as centres of excellence for technological education and research and it is proposed to expand their facilities in areas suiting the industrial and other needs of the country. It has been decided to set up an Institute of Management at Mysore. The Polytechinc Reorganisation Committee has submitted its report and action will need to be initiated to implement its main recommendations regarding the involvement of industry in the planning and development of ploytechnic education.

19. The progress of scheme of technical education has been slow. This is primarily because States have not been making adequate provision for programmes of qualitative improvement like training of teachers, sandwich courses, restructuring of courses at the diploma level and provision of laboratory equipment. The progress of these schemes would need to be accelerated if a huge shortfall in the expenditure on technical education programmes in the State sector is to be avoided.

20. An appraisal of the outlays proivded for schemes of technical education under the Ministry of Education and Social Welfare has revealed that additional outlays would be required for programmes like the Regional Engineering College, Institutes of Technology, the programme of apprenticeship training and National Institutes for Training in Inudstrial Engineering Further, because of the slow progress of schemes, shortfalls are expected under programmes like Central grants to non-Government institutions, quality improvement schmes, Institutes of Management and post-graduaee courses and research. The uneven progress has been made in case of different schemes· The total additional on lay required for technical education will be Rs. 15 crores, which could be adjusted against the total Plan of the Ministry of Education and Social Welfare.

Teacher Education

21. There have been heavy shortfalls in expenditure in this sector. There is considerable unemployment among trained teachers in many States. The in-take in training institutions has been reduced States like Maharashtra and Mysore have taken advantage of this and increased the period of training from one year to two years. However, there has been no appreciable effort at utilising the spare training capacity by stepping up programmes of in-service education. Improvement in quality of teacher education has not received serious attention. The Regional Colleges of Education continue to organise correspondence courses for secondary teachers. The University Grants Commission has started a programme of strengthening departments of education in the universities and secondary train-

ing colleges. The programme needs to be intensified.

22. In the remaining period of the Plan, emphasis should shift to improvement of the quality of teacher education and to in-service training, particularly in the teaching of science and new mathematics. In both these subjects, teachers will need reorientation with regard to content and methodology. The National Council of Educational Research and Training (NCERT) should effect closer coordination with similar organisations at the State level. At the Centre, the Council should work in collaboration with the University Grants Commission for the strengthening of teacher education at the secondary stage. Reorganisation of the Regional Colleges, as suggested by the Review Committee should be completed before the close of the Plan.

Council of Educational Research and Training

23. The Council has achieved fair success in the programme for the improvement of school science education by the revision of curricula, preparation of text-books and supply of science kits to schools. Science equipment has been supplied to training institutions in States to enable them to organise in-service training courses for teachers. These efforts will prove fruitful only when State and district level organisations are able to organise in-service training programmes to acquaint teachers with the new ideas and techniques in science education and the use of text-books and other teaching materials supplied by the National Council of Educational Research and Training. The Council's work in the preparation of text-books and teaching aids in other subjects has been satisfactory. The Review Committee had suggested far-reaching changes in the set-up and in research and training programmes of the departments of the National Institute of Education of NCERT. These changes are being effected progressively.

Scholarships

24. Scholarships are an important means of equalising opportunities and helping meritorious and poor students. There is a multiplicity of organisations administering scholarships and fellowships programmes. The Ministry of Education and Social Welfare, University Grants Commission, State Governments, Universities and Colleges administer the scholarship programmes besides the Indian Council of Agricultural Research, Indian Council of Medical Research and the Atomic Energy Commission. Under the Ministry of Education and Social Welfare, an amount of Rs. 14·73 crores has been provided while under the University Grants Commission schemes of senior research fellowships and junior fellowships, Rs. 5·75 crores have been provided in the Fourth Plan. The progress of expenditure, however, has not been satisfactory. It is likely to be Rs. 6·24 crores under the Ministry of Education and Social Welfare schemes and Rs. 1·36 crores under the University Grants Commission schemes. To some extent, these shortfalls are the result of cumbersome procedures. The implementation of these schemes needs to be stepped up. An important scheme has been recently started for assisting talented children from rural areas at the secondary stage. The scheme is in the nature of a pilot project to assist weaker sections of the community. It has yet to gather speed. The State Governments and universities have a large variety of scholarships and free studentships. The programme of scholarships needs stepping up. The procedures of selection, sanction and release of scholarships to students need to be streamlined. A suitable machinery for coordinating the work of various scholarship awarding agencies will need serious consideration.

25. Government has been providing assistance to the non-Hindi speaking States for the appointment of Hindi teachers in elementary and secondary schools. The Central Institute of Indian Languages has been set up at Mysore for assisting and consolidating the development of Indian languages and to bring about their essential unity through scientific study and inter-linguistic research. Four regional language centres have been set up to provide intensive training in Indian languages to teachers of secondary schools. The programme of book production has failed to make any significant progress. There has been considerable delay in gearing up the administrative machinery in States. The progress was held up on account of the delay in the appointment of translators and authors to take up the book promotion programme. Recently, some progress has been made towards implementing the scheme, but it is unlikely that the targets set out for the Plan will be achieved in full.

Cultural Programmes

26. The Planning Commission has approved reorganisation and strengthening of the Archaeological Survey of India. Not much progress has, however, been made with this scheme. In order to step up the programmes of exploration, excavation and conservation of monuments, it is necessary to streamline the administrative machinery of the Survey. There has been considerable delay in undertaking extension to the buildings of the National Archives of India and the National Museum. The programmes of library development, particularly the Delhi Public Library, have also not gone ahead according to schedule.

Employment

27. Very little has been done to give employment orientation to the education system. A few pilot projects have been taken up to test various ideas on the vocationalisation of secondary education. Vocational guidance has been provided on a limited scale. One or two universities have started vocational courses. Employment bureaux have been set up in universities. A few management courses have been provided to encourage self-employment among unemployed

engineers. The programme of practical training for diploma and degree holders in engineering has been expanded and the supervisory machinery strengthened. The whole question, however, needs to be gone into in depth and a phased programme drawn up for intensified implementation. It is proposed to do this in the context of the preparation for the Fifth Plan.

Youth

28. The National Youth Development Board has formulated schemes for the welfare of the student and non-student youth. The scheme for the welfare of the non-student youth has not made much progress. Effective and implementable programmes have yet to be tried out in this pioneering field.

Conclusion

29. The following conclusions emerge from the preceeding paragraphs :

(1) To achieve the physical targets and other improvement programmes envisaged in the Plan, it will be necessary to make larger allocations for Education particularly for Elementary Education in the last two years of the Plan. This will be particularly neecessary in the State sector where the progress of Plan expenditure has been slow.

(2) States should be requested to formulate district plans for expansion and improvement of education particularly at the school stage. Education of girls and children of backward communities should receive the highest priority. In Secondary Education, stress should be laid on the teaching of science and mathematics and on providing effective guidance services. In Teacher Education, the emphasis should shift to improvement of quality and in-service education.

(3) To prevent overcrowding in colleges and universities, the coverage and scope of correspondence courses should be increased. The unit of planning should be the region so that there is no proliferation of uneconomic units.

(4) Instead of new universities, university centres should be opened.

(5) Special schemes for science education like short-term courses and development of instrumentation workshops should be vigorously implemented.

(6) Provisions for scholarships need to be stepped up, procedures streamlined and the question of setting up a suitable machinery for co-ordinating the work of the various scholarship awarding agencies should be considered.

(7) Implementation of the schemes of linking education with employment needs to be stepped up.

(8) The Farmers' Functional Literacy Programmes needs to be evaluated.

(9) Ministries and Departments of Government should make literacy as an integral part of their programme.

(10) The programme of book production needs to be stepped up.

(11) The scheme for re-organisation and strengthening of the Archaeological Survey of India needs immediate implementation.

(12) Pilot Projects in regard to programmes for non-student youths should be carefully designed, implemented and evaluated, so that the work in this important field can be expanded on sound lines.

II. Manpower

30. In the field of manpower policy the main objective of the Fourth Plan was to match supply with demand, to upgrade the quality of technical and professional manpower, to link output of educational institutions to requirements in different sectors of the economy and to mitigate regional disparities or sectoral imbalances.

31. In view of unemployment among engineers, admissions to engineering institutions were reduced in 1968. During the first three years of the Fourth Plan, this cut-back in admission has been retained. In spite of this, unemployment among engineers has grown, but the rate of increase has fallen. There is some surplus of agricultural graduates. In order to correct the imbalance between rural and urban areas in the disribution of medical manpower, necessary administrative steps have been taken. Rural postings are being made more attractive, and medical graduates are being required to work in the rural areas for a specific period.

Engineering Manpower

32. Facilities for engineering education expanded rapidly during the first three Plans. The intake capacity for degree courses in engineering increased from about 4,000 in 1951 to about 25,000 in 1965-66. Over the same period, the capacity for diploma courses rose from 5,900 students to 48,000. This expansion had been planned on certain expectations of growth in real income and investment, which were not realised. As a result, signs of excess supply of engineers both at the degree and at the diploma level began to manifest themselves by the end of third Plan. The situation was further aggravated by the severe setbacks to the economy in the two subsquent years. It also became apparent that the long-term targets of growth visualised in the Third Plan, to which the admissions had been linked, would not be feasible. The number of unemployed engineers continued to increase at

an alarming rate, as can be seen from the figures of registration with the Employment Exchanges:

TABLE 3 : *Registration of Engineers with Employment Exchanges*

year	degree	diploma	total
(1)	(2)	(3)	(4)
1965	3426	11342[1]	14768
1966	4335	18618[1]	22953
1967	6951	28290	35241
1968	11026	39547	50573
1969	13101	44733	57834
1970	16466	47350	63816

[1]Estimated.

33. There has been a steep rise in the engineer job-seekers from 1965 to 1968. But, after 1968, the rate of increase in the number of job-seekers has been slower. The situation varies considerably from State to State as also between graduate engineers and diploma holders. While the number of engineering graduates on the live registers still continues to increase steadily, the rise in the number of diploma-holder since 1968 is not as significant.

34. In response to these factors, the intake capacity was pegged down at around the 1965-66 levels for some time, and later reduced substantially. Actual admission declined even more. In 1968-69, admissions to degree courses were only 17,500 (compared to 25,000 in 1965-66) and admissions to diploma courses stood at 26,500 (against 48,000 three years earlier) The level of admissions has been maintained at these lower levels.

35. This cut-back in new admissions is not likely to make a significant impact on the additions to the stock of engineers during the Fourth Plan, especially among degree holders. On the basis of actual admissions, the total stock of engineers is estimated to increase by 190,000 in the course of the Fourth Plan, and the total stock 1973-74 is placed at 460,000.

36. In 1968, the Central Government initiated measures to augment employment opportunities for engineers. Additional financial assistance has been provided by the Central Government for some schemes. These measures include: (i) acceleration of preparatory work on power, irrigation and flood control projects to be included in future Plans; (ii) expansion of the training-in-industry scheme of the Ministry of Education; (iii) expansion of training programmes on the operation and maintenance of thermal power stations; (iv) increased financial assistance by nationalised banks and financial institutions to unemployed engineers to enable them to set up small-scale industries, and (v) enforcement of the provision requiring approved contractors to employ qualified engineers.

37. Forecasting future requirements of engineers is beset with complexities. A recent study on "Employment Outlook for Engineers, 1969-79" projects the likely growth of demand for engineers on the basis of an analysis of data on engineering employment and on growth in national income during the period 1955-64. Assuming that the present employment pattern will not change greatly, the report has estimated that the demand for engineers would rise to 384,000 by the end of the Fourth Plan. An alternate estimate based on recent trends in outturn of engineers and live register data of the employment exchanges suggests that the demand for engineers by the end of the Plan period may be between 400,000 and 420,000. This is still considerably less than the estimated supply of 460,000 engineers in 1973-74. However, the incidence of unemployment relating to the total stock would be falling, and the situation may be expected to improve materially in the Fifth Plan, provided the current targets of long-term growth are achieved. Also a review of enrolment to engineering institutions is being made in the light of recent developments.

III. AGRICULTURAL MANPOWER

38. The developments taking place in the field of agriculture have emphasised the importance of trained manpower in agriculture. Facilities for agricultural education at the graduate level have expanded rapidly since 1951. The number of agricultural colleges increased from 19 in 1951 to 73 in 1969 and the intake capacity increased from 1,060 to 8,600. The annual out-turn of agricultural students with post-graduate degrees has also increased from 151 in 1951 to 1,632-in 1961. The additional supply during the Fourth Plan has been estimated at 29,000 agricultural graduates and 6,000 post-graduates.

39. There is no proposal to establish new agricultural colleges. However, four new agricultural universities have been set up in Assam, Maharashtra, Bihar and Haryana during 1969-70, in addition to the nine in existence. Two more universities, in Kerala and Tamil Nadu, may be established soon.

40. The demand for agricultural graduates and post-graduates for the Fourth Plan has been estimated on the basis of requirements at the block, district, State and Central levels as well as in educational and research institutions. The additional requirements for the public sector have been assessed as 16,400 agricultural graduates, including 4,400 post-graduates. The requirements of the private sector are not known.

41. It would appear that on the whole the out-turn in the Fifth Plan will be in excess of requirements. However, the problem of surplus graduates appears to be serious mainly in Uttar Pradesh which accounts for about one-third of the supply of agricultural graduates in the country. In other States, there may be only marginal surplus or deficit.

42. There is evidence of increasing unemployment among agricultural graduates. The number

construction work at the sea-wall of the Institute. Out of the total provision originally made, it is expected that there will be a saving of Rs. 57 lakhs. This will be off-set by the proposal to establish a major computer facility at the TIFR which is expected to cost approximately Rs. 280 lakhs.

(ii) *Saha Institute of Nuclear Physics*.—Against the total provision of Rs. 110 lakhs, Rs. 40 lakhs was intended for a new building and equipments and Rs. 70 lakhs for continuing R & D Work. There has been delay in reaching agreement with the West Bengal Government and consequently construction work on the building will be taken up only in the last two years of the Plan. While the building will be completed within the Plan period, there will be a shortfall of expenditure on equipments as well as on the R & D work. A saving of Rs. 50 lakhs in the Plan provision is accordingly anticipated.

(iii) *Physical Research Laboratory*.—The Plan provision of Rs. 116 lakhs included Rs. 56 lakhs for normal R & D activities and Rs. 60 lakhs for capital items including buildings, quarters and a computer. The cost of the computer has increased from Rs. 36 lakhs anticipated earlier to Rs. 44 lakhs. In addition, the building for the Physical Research Laboratory has had to be expanded largely arising out of the major increase in the Physical Research Laboratory's responsibilities in connection with the space research programme. These two together require an additional provision of Rs. 18 lakhs. It is also now proposed to start a small group, on Plasma Physics and a provision of Rs. 15 lakhs is sought during the Plan for this purpose. The total additional provision required for the Plan for the Physical Research Laboratory would thus be Rs. 33 lakhs.

(iv) *Tata Memorial Centre*.—The Plan provision of Rs. 171 lakhs included Rs. 63 lakhs for R & D activities and Rs. 108 lakhs for capital items. Expenditure on the R & D activities is progressing satisfactorily. In the provision relating to the Radiation Medicine Centre for the BARC, a combined building is proposed to be put up for the Radiation Medicine Centre and for the expansion of the Tata Memorial Centre. The Plan provision will be utilised fully on the construction of the building and the installation of equipment in the new premises. Some delay is anticipated in the construction of the staff quarters. This saving will, however, be needed to augment the available provision for the construction of the Hospital building.

6. Thus, the anticipated expenditure during the Fourth Plan under aided institutions is Rs. 7·75 crores.

7. A Reactor Research Centre at Kalpakkam was one of the new schemes under the Fourth Plan envisaging an investment of Rs. 15 crores. This project has been given high priority. The Centre will be responsible for the development of all aspects of fast reactors and such other reactor systems as may be assigned to it. The first phase of the development programme includes (a) the design, construction and operation of a prototype fast reactor, (b) the construction and operation of a pulsed fast reactor and (c) the building up of the infrastructure for R & D related to these and associated activities. The Department has now shown a requirement of Rs. 25 crores for the Fourth Plan consisting of Rs. 11 crores for the Fast Breeder Test Reactor; Rs. 6 crores for Housing and Rs. 8 crores for other facilities. During the first two years the prepatatory work for the project report was taken up and studies were carried out in collaboration with C.E.A. France. The project report has now been completed and the Department hopes to spend Rs. 22.02 crores during the remaining years of the Fourth Plan, since the expenditure is on a number of facilities.

8. A Variable Energy Cyclotron is being set up in Calcutta by the BARC. This project involves the construction of a 224 cm. variable energy cyclotron giving 60 MeV protons and 65 MeV electrons and 130 MeV alphas. It will also provide beam transport and other research facilities in the nuclear field. This would be a national facility for advanced work in nuclear physics and for the controlled direct irradiation of biological and agricultural products. The main magnet frame is expected to be completed by the end of 1971-72 and the project is scheduled to be completed by the end of the Fourth Plan. Earlier the Plan provision for this item was Rs. 518 lakhs. Some escalation has occurred in the cost of the project and the department has now indicated a plan provision of Rs. 618 lakhs representing an increase of Rs. 100 lakhs.

9. A Radio Telescope Station has been set up at Ootacamund through the agency of TIFR. The 530 m long cylindrical radio telescope which was commisioned last year is now used for studies in radio astronomy. A long baseline interferometer is being added to this telescope which will provide useful data on the two dimensional structure of distant radio sources. Because of this the Fourth Plan provision has been augmented by Rs. 8 lakhs.

Space Research Programmes

10. At the time of the formulation of the Fourth Plan, the Department desired Rs. 31 crores for space research projects. A provision of Rs. 15 crores (including spill-over expenditure of Rs. 2·47 crores) under the Plan and Rs. 16 crores as non-plan expenditure were earmarked.

CHAPTER 20

SCIENCE AND TECHNOLOGY

RESEARCH and Development (R & D) activities are carried out under the auspices of various Departments of Government and certain other agencies—Government and non-Government. Except in the case of R & D activities pertaining to Department of Atomic Energy, Council of Scientific and Industrial Research and Scientific Surveys and Societies, the R & D plan outlays are part of the allocation for the associated major activities as for instance in the fields of agriculture, university education, communication, medical, care meteorology, geology, industrial production, etc. R & D also is an important activity of the Ministry of Defence. The Fourth Plan outlay for R & D under the Central Sector for agriculture, university education and health, was of the order of Rs. 87 crores. The Fourth Plan allocation for Atomic Energy, Scientific and Industrial Research and Scientific Surveys/Development Division was Rs. 140.26 crores. Annexure I to IV give the progress of expenditure in the Department of Atomic Energy, CSIR and the Scientific Surveys and Societies under the Department of Science and Technology.

DEPARTMENT OF ATOMIC ENERGY (R AND D)

Atomic Energy Programmes

2. The atomic energy programmes provided for the development of technologies based on indigenous resources and production of special materials, fuels and equipment with a view to progressively increasing the component of indigenous expertise and materials in nuclear power projects. The setting up of a *Reactor Research Centre* including a prototype *Fast breeder Reactor* along with its associated facilities at Kalpakkam is intended towards the development of cheap nuclear power by 1980, based on indigenous resources. The establishment of a *Variable Energy Cyclotron at Calcutta*, to provide up to date facilities for research in the field of nuclear physics and isotope production, and a Radio *Telescope Station* at Ootacamund were important programmes. R & D work in the field of *Space research* included development of rockets, propellants, satellite launchers, control and guidance systems for rockets and satellite and ground support facilities. A new launching site on the east coast for launching larger rockets and satellites had been proposed. R & D work was also envisaged on an experimental synchronous satellite and related ground systems. Several aided institutions under the Department were to have added facilities to support the programmes outlined above through basic and applied research programmes.

3. Revenue schemes of Bhabha Atomic Research Centre (BARC) were estimated at Rs. 6.61 crores including work on import substitution, operation of new projects and maintenance of building. After a review of the work in 1970, a diversion of savings of Rs. 1.75 crores from this head to housing for scientific and technical personnel at Trombay was agreed to, as it has been possible for the Department to develop technologies for import substitution without much additional outlay and savings in main tenance expenditure.

4. The *new projects of BARC* are for the building up of *Irradiation Facilities, Radiation Medicine Centre, Pulsed Fast Reactor, Central Workshop Expansion and Low Level Counting Laboratory.* The Fourth Plan allocation for these projects was Rs. 3.06 crores. The project report on "Irradiation facilities" has been delayed while obtaining various inter-ministerial clearances and the report is expected to be ready by March 1972. The activities of Radiation Medicine Centre are proposed to be expanded and a new building is to be constructed at the Tata Memorial Centre at a cost of Rs. 52 lakhs. The delay so far has been in the construction of the building. The cost of the Pulsed Fast Reactor has now been included under the Reactor Research Centre, Kalpakkam, of which it will be a unit. As there had been delay in the installation of new equipment and development of new techniques, the entire provision of Rs. 61 lakhs for the Central Workshop expansion could not be utilised so far but it is expected to be fully utilised by the end of the Plan. Thus, under new projects the Department has indicated a revised provision of Rs. 2.65 crores.

5. The Fourth Plan allocations for the aided institutions, *viz.*, Tata Institute of Fundamental Research (TIFR), Saha Institute of Nuclear Physics (SINP), Physical Research Laboratory (PRL) and Tata Memorial Centre (TMC) was Rs. 5.67 crores.

(*i*) *Tata Institute of Fundamental Research.*—The Plan provision of Rs. 170 lakhs includes Rs. 54 lakhs for normal R &D expenditure and Rs. 116 lakhs for buildings for the TIFR, Balloon production facilities, equipments for new projects and for a National Computer Centre. The Balloon production facility has been completed at a cost of Rs. 12 lakhs and Rs. 12 lakhs had to be spent on certain

ANNEXURE V

Plan Outlay and Expenditure under Elementary Education

(Rs. lakhs)

sl. no.	state	Fourth Plan outlay	1969-70 outlay	1969-70 actual expenditure	1970-71 outlay	1970-71 anticipated expenditure	1971-72 outlay	1969-72 expenditure col. (4+6+7)	col. (8) as percentage of col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*states*	**22025**	**1573·00**	**1430·09**	**2478·66**	**2364·96**	**4112·46**	**7907·15**	36
2	Andhra Pradesh	1300	75·00	n.a.	60·00	57·50	100·00	157·50	—
3	Assam	854	66·00	65·16	118·96	97·03	141·00	303·19	36
4	Bihar	2532	120·00	84·87	286·26	286·77	484·00	855·64	34
5	Gujarat	901	46·00	46·86	65·70	136·39	211·00	394·25	44
6	Haryana	900	70·00	53·14	121·00	118·33	142·49	313·90	35
7	Jammu and Kashmir	206	13·00	4·57	35·00	25·60	45·00	75·17	36
8	Kerala	646	60·00	125·76	100·00	126·46	130·50	382·72	59
9	Madhya Pradesh	1025	36·00	22·22	100·00	41·90	220·00	284·12	28
10	Maharashtra	1442	105·00	99·78	259·00	225·33	491·00	816·11	57
11	Mysore	582	72·00	56·25	100·00	85·00	112·00	253·25	44
12	Nagaland	225	10·00	18·45	33·68	28·86	34·00	81·31	36
13	Orissa	671	37·00	21·73	71·56	71·04	122·00	214·77	32
14	Punjab	1347	70·00	47·19	136·00	138·85	246·00	402·64	30
15	Rajasthan	750	48·00	35·71	106·50	90·38	170·00	296·09	39
16	Tamil Nadu	2470	170·00	200·09	200·00	204·14	384·07[1]	788·30	32
17	Uttar Pradesh	4070	377·00	382·66	445·00	445·00	700·00	1527·66	38
18	West Bengal	2104	198·00	187·36	240·00	158·89	350·00	696·25	33
19	Meghalaya		n.a.	7·69	—	27·49	29·40	64·58	—
20	*union territories*	**1429·16**	**102·28**	**105·08**	**211·93**	**162·18**	**288·70**	**555·96**	39
21	Andaman and Nicobar Islands	45·92	7·00	21·65	8·00	12·14	10·00	43·79	95
22	Chandigarh	19·00	4·00	2·23	4·00	4·22	4·30	10·75	57
23	Dadra and Nagar Haveli	20·00	3·50	3·69	2·72	4·35	3·36	11·40	57
24	Delhi	387·00	21·22	19·16	77·12	34·21	82·88	136·25	35
25	Goa, Daman and Diu	84·00	7·69	7·69	23·00	14·67	20·00	42·36	50
26	Himachal Pradesh	340·00	15·75	15·75	24·00	29·05	70·84	115·64	34
27	Laccadive, Minicoy and Amindivi Islands	10·46	0·84	0·51	1·77	1·52	2·03	4·33	41
28	Manipur	200·00	4·31	1·74	24·45	24·84	30·65	57·23	29
29	N.E.F.A.	105·08	20·00	20·98	13·23	16·22	18·72	55·92	53
30	Pondicherry	83·50	10·75	7·07	14·21	10·45	17·27	34·79	42
31	Tripura	134·20	7·22	4·61	19·43	10·51	28·38	43·50	32
32	*total*	23454·16	1675·28	1535·17	2690·59	2527·14	4401·16	8463·47	36

[1]Vide Draft Plan 1971-72.

ANNEXURE IV

Enrolment in Middle Classes VI-VIII

(Thousands)

sl. no.	state/union territory	position 1968-69	additional enrolment					col. (7) as percentage of col. (3)
			1969-74 targets	1969-70 achievement	1970-71 achievement	1971-72 targets	1969-72 likely achievement	
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	*states*	**11745·2**	**5275·5**	**756·4**	**807·6**	**938·6**	**2502·6**	**47**
2	Andhra Pradesh	526	240	48	48[1]	48	144	60
3	Assam	317	136	21	23	25	69	51
4	Bihar	821	413	69[1]	75[1]	83	227	55
5	Gujarat	727	275	55	55	55	165	60
6	Haryana	308	92[2]	24	18	18	60	65
7	Jammu and Kashmir	117	30	6	6	6	18	65
8	Kerala	984	264	39	46	55	140	53
9	Madhya Pradesh	699	250[2]	20	30	60	110	44
10	Maharashtra	1463	411	94	80	65	239	58
11	Mysore	647	891	42	60	80	182	20
12	Nagaland	17·2	10	2	2	2	6	60
13	Orissa	*305*	*415*	40	50[1]	*100*	*190*	*46*
14	Punjab	427	181[2]	16	27	36	79	44
15	Rajasthan	432	224	43	43	44	130	58
16	Tamil Nadu	1215	600	84	110[1]	120	314	52
17	Uttar Pradesh	1727	433	81	54	61	196	45
18	West Bengal	990	400	67	78	78	223	56
19	Meghalaya	23·0	12·5[1]	5·4	2·6	2·6	10·6	85
20	*union territories*	442·79	185·62	29·79	35·39	34·71	99·89	54
21	Andaman and Nicobar Islands	3	1·7	0·2	0·2	0·2	0·6	35
22	Chandigarh	10·0	3·5[1]	1·0	0·4	0·8	2·2	63
23	Dadra and Nagar Haveli	0·88	1·22	0·10	0·13	0·13	0·36	30
24	Delhi	205	71	9	12	11	32	45
25	Goa, Daman and Diu	30	8	2·1	3	3	8·1	101
26	Himachal Pradesh	112	55	11	11	11	33	60
27	Laccadive, Minicoy and Aminidive Islands	0·9	0·4	0·09	0·16	0·08	0·33	83
28	Manipur	28	10	2	2	2	6	60
29	N.E.F.A.	3	1·8	0·3[1]	0·3	0·3	0·9	50
30	Pondicherry	14	6	2	1·2	1·2[2]	4·4	73
31	Tripura	36	27	2	5	5	12	44
32	*total*	**12187·98**	**5461·12**	**786·19**	**842·99**	**973·31**	**2602·49**	**48**

[1]Estimated.

[2]Working Group Report 1971-72.

ANNEXURE III

Enrolment in Primary Classes I-V

(thousands)

sl. no.	state/union territory	position 1968-69	1969-74 (targets)	additional enrolment 1969-70 (achievement)	1970-71 (achievement)	1971-72 (targets)	1969-72 (likely actuals)	col. (7) as percentage of col. (3)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	*states*	**53742·4**	**13402**	**2158·3**	**2699**	**2560**	**7417·3**	**55**
2	Andhra Pradesh	3839	1360	272[1]	272[1]	272	816	60
3	Assam	1490	453	26	45	37	108	24
4	Bihar	4444	1502	275[1]	290[1]	300	865	58
5	Gujarat	2988	750[2]	150	150	150	450	60
6	Haryana	855	430	7	165[1]	86	258	60
7	Jammu and Kashmir	331	115	21	23	23	67	58
8	Kerala	3219	288	46	56	54	156	54
9	Madhya Pradesh	2992	1250	34	180	310	524	42
10	Maharashtra	5610	1552	430	393	226	1049	79
11	Mysore	3279	1077	47	124	150	321	30
12	Nagaland	67	14[1]	3	3[1]	3[1]	9	64
13	Orissa	1899	740	75	100[1]	190	365	49
14	Punjab	1362	503	20	49	102	171	34
15	Rajasthan	2013	480	97	95	95	287	60
16	Tamil Nadu	4918	750	84	130	150	364	49
17	Uttar Pradesh	9935	1153[3]	365	418	196	979	85
18	West Bengal	4367	1000	203	203	213	619	62
19	Meghalaya	134·4	15	3·3	3	3	9·3	62
20	*union territories*	**1378**	399·9	**63·3**	**70·8**	**75·7**	**209·7**	**52**
21	Andaman and Nicobar Islands	10	5	1·2	2	2	5·2	104
22	Chandigarh	22	7·2[3]	2·5	0·9	1·6	5·0	69
23	Dadra and Nagar Haveli	7	2·1	0·3	0·2	0·3	0·7	34
24	Delhi	448	166	28	32[1]	32[1]	92	55
25	Goa, Daman and Diu	110	20·4	3·9	4	3	10·9	53
26	Himachal Pradesh	378	115	17	15	20	52	45
27	Laccadive, Minicoy and Amindive Islands	5	0·9	0·2	0·2	0·2	0·6	67
28	Manipur	171	20	2	4[1]	4	10	50
29	N.E.F.A.	20	8·3	1·2	1·5[1]	1·6	4·3	52
30	Pondicherry	54	8	3	2[2]	2	7	88
31	Tripura	153	47	4	9	9	22	47
32	*total*	**55120·4**	**13801·9**	**2221·6**	**2769·8**	**2635·7**	**7627·0**	**55**

[1]Estimated.

[2]Working Group Report 1971-72.

[3]Draft Plan 1971-72.

ANNEXURE I

Progress of Expenditure under Education

(Rs. crores)

sl. no.	sub-head	1969-74 Fourth Plan	1969-70 budget	1969-70 expenditure	1970-71 budget	1970-71 likely expenditure	1971-72 outlay	1969-72 cols. (4+6+7)	col. (8) has percentage of col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	elementary education	234·74	16·79	16·46	26·19	26·23	45·78	88·47	37·7
2	secondary education	118·32	11·00	9·27	17·13	17·62	23·20	50·09	42·3
3	university education	183·52	24·61	23·61	32·78	33·79	35·70	93·10	50·7
4	teacher training	21·17	2·25	1·59	1·88	2·59	2·70	6·88	32·5
5	social education	8·30	1·00	0·58	1·06	1·19	1·56	3·33	40·6
6	cultural programmes	12·49	1·62	1·26	3·07	2·51	2·80	6·57	52·6
7	other programmes	118·75	16·84	11·61	16·87	19·24	22·69	53·54	45·1
8	*general education*	**697·29**	**74·11**	**64·38**	**98·98**	**103·17**	**134·43**	**301·98**	**42·9**
		(701·07)			**(98·69)**	**(103·86)**	**(132·56)**	**(300·60)**	
9	*technical education*	**123·17**	**22·84**	**21·12**	24·44	**23·31**	**25·18**	**69·61**	56·5
10	*total*	**824·24**	96·95	**85·50**	**123·13**	**127·17**	**157·74**	370·21	44·9

NOTE: The figures in parenthesis are the latest figures, the Sub-head-wise break up of these figures is, however, not available.

ANNEXURE II

Progress of Expenditure under Education—Centre and States

(Rs. crores)

sl. no.	Head	Fourth Plan	1969-70 budget	1969-70 expendiditure	1970-71 budget	1970-71 likely expenditure	1971-72 outlay	1969-72 col. (4+6+7)	col. (8) as percentage of col. (2)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	general education								
1	centre	204·00	25·65	21·08	34·50	34·54	36·83	92·45	45·3
2	states	497·07	48·46	43·30	64·19	69·32	95·73	208·35	41·9
3	total	701·07	74·11	64·38	98·69	103·86	132·56	300·80	42·9
	technical education								
4	centre	67·00	14·72	15·06	15·43	14·68	15·56	45·30	67·6
5	states	56·17	8·12	6·06	9·01	8·63	9·62	24·31	43·3
6	total	123·17	22·84	21·12	24·44	23·31	25·18	69·61	56·5
	total education								
7	centre	271·00	40·37	36·14	49·93	49·22	52·39	137·75	50·8
8	states	553·24	56·58	49·36	73·20	77·95	105·35	232·66	42·1
9	total	824·24	96·95	85·50	123·13	127·17	157·74	370·41	44·9

305 institutions with an annual out-turn of 7,000. During the Plan, training facilities will be expanded to meet the needs of the intensified family planning programme. The additional demand for ANMs during the Plan period has been estimated to be 34,000. About 30,000 nurses are expected to qualify from the existing institutions during the Plan period. To meet the additional requirements, 25 new training schools are proposed to be established. In addition, the admission capacity is proposed to be expanded. So far, 14 new schools have been opened and 440 additional seats provided in the existing schools. While there may not be any over-all shortage or surplus at the end of the Plan, there will be marginal imbalances in some States and shortages in some others. Only in Bihar, Orissa and Uttar Pradesh there is likely to be a serious shortage.

of agricultural graduates on registers of employment exchanges have been as below :

TABLE 4 : *Registration of Agricultural Graduates with Employment Exchanges.*

year	number on the live register
(1)	(2)
1967	2844
1968	4000
1969	5646
1970	7153

The problem of surpluses may have to be tackled in each State separately in view of the lack of inter-State mobility among agricultural graduates. To augment employment opportunities for agricultural graduates and engineers, the Ministry of Agriculture proposes to set up agro-service centres. A sum of Rs. 50 lakhs has been allocated for this purpose out of the amount sanctioned for relieving unemployment of educated persons.

IV. VETERINARY PERSONNEL

43. In 1951, there were 9 veterinary colleges with an annual admission capacity of 434. On the eve of the Fourth Plan, 20 institutions were in existence with an annual capacity of 1,425. During the first three Plan periods, 14 post-graduate courses were started with an admission capacity of about 300.

44. It is estimated that about 5,000 graduates and 1,200 post-graduates would come out of these institutions during the Fourth Plan period. The requirements of the public sector are estimated at about 5,200 veterinary graduates, including 600 post-graduates. There is no information on the private sector requirements. No severe shortage or surplus of veterinary graduates is expected during the Plan period.

V. MEDICAL MANPOWER

45. *Doctors.*—Facilities for medical education have expanded rapidly during the three Plan periods. The number of medical colleges increased from 30 in 1950 to 93 on the eve of the Fourth Plan and the admission capacity from 2,675 to 11, 700. The estimated stock of doctors at the beginning of the Fourth Plan was 1,02,000, indicating a doctor-population ratio of approximately 1 to 5,000. The stock is expected to increase to 1,38,000 doctors by the end of the Plan, improving the doctor population ratio to 1 to 4,300. There are naturally marked variations in the doctor-population ratio from State to State.

46. Although there has been a significant increase in the stock of doctors during the past twenty years, the distribution of doctors between rural and urban areas continues to be highly uneven. An estimate made in 1965-66 indicates that about 67 per cent of the doctors are concentrated in urban areas and only 33 per cent are in the rural areas, though the latter accounts for nearly 80 per cent of the population. The non-availability of lady doctors in rural areas and for family planning programmes remains an acute problem.

47. The requirements of medical personnel have been estimated on the basis of Plan programmes and accepted staffing patterns. It is estimated that about 26,000 doctors, including 7,500 post-graduates, are required for the public sector during the Plan period. It has also been assessed that the private sector would absorb about 13,000 doctors.

48. It is proposed to start ten more medical colleges, bringing the total number of medical colleges to 103 by the end of the Fourth Plan, with an annual admission capacity of 13,000. So far, two medical colleges have been established taking the annual admissions to about 11,850. The net additions to the stock during the Plan period is estimated to be 36,000. The additions may be slightly lower if the present level of migration of doctors to foreign countries continues unchanged.

49. As against the additional requirements of about 26,000 doctors in the public sector, the net additional supply is estimated to be 36,000. It is estimated that not more than 45 per cent of the stock of active doctors is in service in the public sector. A survey is being carried out to ascertain the existing and future requirements of the medical cadres in States and their recruitment experience. If the difficulty in meeting the public sector requirements persists, measures like compulsory service and acceleration of medical courses may have to be considered.

50. *Nurses.*—Training facilities for nurses have expanded considerably. There are at present 253 institutions with an annual intake capacity of 6,000. The estimated stock of nurses on the eve of the Fourth Plan was about 61,000. There are no schemes to establish new training institutions but the existing admission capacity is likely to be expanded. As a result, the stock of nurses is expected to increase to 88,000 by the end of the Plan.

51. The Health Survey and Planning Committee has recommended a norm of three nurses for one doctor to assist the doctors in performing their duties efficiently. But the present stock of nurses gives an unsatisfactory doctor-nurse ratio of 1.7 to 1. The requirement of nurses for the public sector by the end of the Plan has been estimated at 71,000. As against this estimate of demand, the stock of nurses is likely to increase to 88,000. If the requirements of the private sector are taken into consideration, there may not be any overall shortage or surplus of nurses by the end of the Plan. As with other medical personnel, there will be regional imbalances with surpluses in some States and shortage in others. In Andhra Pradesh and Tamil Nadu, there is a significant surplus of nurses while in Rajsthan and Bihar there is an acute shortage.

52. *Auxiliary Nurse Mid-Wives (ANM)s*—Facilities for training of ANMs are available in

The new projects envisaged at the beginning of the Fourth Plan pertain to the *expansion of* the Experimental Satellite Communication Earth Station (*ESCES*) including Satellite Instructional TV Experiment, *expansion* of facilities at Thumba Equatorial Rocket Launching Station (*TERLS*), setting up of Space Science and Technology Centre (*SSTC*) (including rocket development), *Rocket Propellant Plant* and a *Rocket Fabrication Facility* at *Sriharikota Range* including a rocket sled facility The Plan outlay for the new schemes was envisaged as Rs. 12·55 crores.

11. The Department of Atomic Energy and National Aeronautics and Space Administration (NASA) of the United States have entered into an agreement in September 1969 for conducting joint experiments for the broadcast of *instructional TV programmes from a satellite.* The experiment is now scheduled to be held in 1974-75; under this agreement, the Department has to provide services for the management of hardware, R & D facilities and workshop and administration. The Department has also to construct the necessary civil work including the earth stations required for this purpose. These works are in progress. As regards the *ESCES*, the first phase of the project has been completed and the station is operational. The scope and the facilities available at the station is being enlarged in order to enable it to participate in the DAE-NASA Instructional Television Experiments.

12. The *TERLS* is fully operational. The work of upgrading the station has been taken up. The first phase of the SSTC which provides basic facilities for all R & D work in some areas of rocket technology has now been completed. The Centre is entrusted with the responsibility of developing indigenous capability for launching a scientific satellite weighing about 30 kgs in a near circular orbit at a height of 400 km by 1974. For this purpose, the various facilities at the Centre are being augmented and new facilities created.

13. The *Rocket Propellant Plant* based on Indian efforts and assisted by technical know-how provided by the French Government, was commissioned in February 1969. The existing facilities are being augmented to provide for the manufacture of different types and larger sizes of propellant grains. The expansion programme is expected to be completed by 1972-73.

14. The *Rocket Fabrication Facility* was commissioned in January 1971. The first phase of the programme which provides for facilities to manufacture indigenously developed rockets upto 400 mm diameter is operational. Facilities at the plant include a fibre-glass shop and a strip winding shop for manufacture of rocket motors by special techniques. The second phase of the programme envisages upgrading the facilities to undertake the manufacture of rockets of larger diameter. This facility will enable the manufacture of the Centaure, Rohini and Menaka rockets.

15. *Sriharikota Range* is a launching facility being commissioned on the East Coast at Sriharikota about 60 kms north of Madras. The first phase of work in the range is progressing satisfactorily. This includes setting up of a sounding rocket launching pad, a vehicle preparation-room, an instrumentation room for housing ground support to telemetry and tracking equipment, a 50 KW diesel generator and service facilities. The second phase of the programme is to put up other ground support facilities for range operations to carry out flight tests of indigenous rockets as also tracking and test facilities. These two phases of the programme are expected to be completed by the end of 1972. In the third phase of the programme, the facilities will be built up to the stage of satellite-launching. These facilities are expected to be made available by the middle of 1974.

Other Schemes

16. The Fourth Plan proposals also envisage an investment of Rs. 9 crores on housing, Rs. 1·3 crores for *Atomic Minerals Division* and Rs. 50 lakhs for *Electronics Committee schemes.* The housing schemes are proceeding according to schedule. The progress of expenditure under Atomic Minerals Division has been satisfactory. However, the DAE has now anticipated substantial increase in its activity to locate atomic minerals needed for the future nuclear programme. Hence a revised provision of Rs. 200 lakhs has been indicated under this head. The provision of Rs. 50 lakhs included under the Electronics Committee Schemes in the Plan is now treated as non-Plan outlay.

Fresh programmes during the Fourth Plan period

17. A new project viz., 100 *MW Research Reactor at BARC* at a cost of Rs. 25 crores has been included for the purpose of development work on Thermal Reactors. An outlay of Rs. 217 lakhs has been proposed during the Fourth Plan period. In the successive stages of development of the nuclear research programmes, this is an important one envisaging the building up of a facility with a large element of indigenous design and know-how content.

18. In addition to the range, the Indian Space Research Organisation has decided to establish the following units also at Sriharikota:

(i) *Solid Propellant Space Booster Plant.*—to provide R & D facilities relating to propellant production and allied systems for satellite launching programmes.

(ii) *Static Test and Evaluation Complex.*—for carring out static test of allied motors of varying capacities needed for satellite launch programme.

Anticipated provision at the end of the Plan.—

19. The increase and decrease in the various provisions compared to the provision made earlier in the Fourth Plan are given below :

(Rs. lakhs)

sl. no.	item	Fourth Plan allocation increase	Fourth Plan allocation decrease
0)	(1)	(2)	(3)
1	bhabha atomic research centre		
2	revenue schemes . .	—	261 ·24
3	new projects . .	44,00	
4	new projects envisaged		
5	subsequent to plan formulation . . .	217 ·00	
6	space research		
7	revenue schemes . .	2976 ·00	
8	new projects . .	437 ·78	
9	new projects envisaged subsequent to plan formulation	365 ·00	
10	aided institutions . .	208 ·00	
11	atomic minerals division	70 ·00	
12	variable energy cyclotron	100 ·00	
13	reactor research centre	1000 ·00	
14	radio telescope station .	8 ·00	
15	gulmarg eaboratory .	3 ·00	
	electronics committee schemes	—	50 ·00
	total .	5428 ·78	311 ·24
	net increase	Rs. 5117 ·54	

20. It will be seen from the data presented in Annexure I that in so far as the Plan schemes are concerned, there has been satisfactory progress except in regard to Reactor Research Centre, Kalpakkam which has been given a high priority by the Planning Commission. Certain structural and administrative changes have been effected in progressing the scheme and it is expected that the tempo will soon pick up and the targets set for the Fourth Plan period are likely to be achieved Since the life of the present Research Reactors at Trombay is running out, it is necessary that steps are taken to establish a new reactor research facility (100 MW) with increased capacity for R & D work relating to nuclear research programme. Apart from above, the new Schemes expansion of ESCES, TERLS and SSTC; Rocket Propellant Plant; Rocket fabrication Facility; Solid Propellant Space Booster Plant and Static Test and Evaluation Complex at the Sriharikota Range—are essential for developing indigenous capability for the launching of synchronous satellite by 1980. The details of the schemes are under examination.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)

21. In the beginning of the Fourth Plan, it was observed that the infrastructure in the form of technical manpower, buildings and equipments for carrying out industrial research programmes had been built up in several fields like chemicals, electronics, drugs, pharmaceuticals, instruments metallurgy, coal and fuels etc. However, greater attention was required to orient the R & D programmes of the National Laboratories to meet the requirements of the users , viz., the industries in the public or private sectors. The need for identifying projects demanding priority and the development of essential technologies was also felt Elimination of duplication of work of different laboratories as also dovetailing the work of the regional laboratories with those of the national laboratories needed attention.

22. The national laboratories formulated the Fourth Plan proposals after discussions with user Ministries and industries and these were examined by a working Group of 11 expert committees. The proposals were considered by the Planning Commission and supported in January 1969. The CSIR in May 1969 deferred detailed consideration of the proposals , while the Vice-President, CSIR, set up a Committee under the Chairmanship of Member (Industry), Planning Commission, to provide continuous thinking and guidelines to national laboratories in planning their future programmes. This Committee set up three sub-groups in the field of instruments, chemicals and steel and finalised the recommendations by direct consultation with the Directors of national laboratories and concerned industries. The CSIR at its meeting held in September, 1970 approved the programmes already started under the fourth plan but decided to set up a Planning Committee to look into fresh projects. In view of the decision of the Government to set up the National Committee on Science and Technology (NCST), the CSIR has since decided that this aspect need not be pursued further. As a result, after about three years of the Fourth Plan are over, final picture in respect of project-wise allocation for all the Fourth Plan schemes of CSIR is yet not clear.

23. The Fourth Plan outlay for the CSIR group of laboratories was estimated as Rs. 50 crores which is primarily for supporting and supplementing the R & D work in the various national laboratories. As a result of the annual plan discussion during 1970, an attempt has been made by the laboratories to isolate some areas of major projects and pilot plants investment for an effective follow-up. Attempts are also being made to ensure that the schemes of CSIR during the Fourth Plan are fully oriented to impart a thrust in certain priority areas which will have a direct impact on the socio-economic objectives of the national plan.

Progress and Shortfalls

24. New pilot plants were installed for (i) continuous etching and forming of aluminium foils for use as anode in electrolytic capacitors, anodic phosphating, manganese dioxide (25kg/day) and aminoguanidine bicarbonate (40kg/day) at CECRI , Karaikudi (ii) continuous fluid bed carbonization (100kg/hr.), at CFRI, Dhanbad, (iii) production of silicon carbide (3 tonnes of product per charge) at RRL, Hyderabad, (iv) Production of Cetol E-Additive for improving the Cetane number of diesel fuels (100 kg/day) at IIP, Dehra Dun and (v) manufacture of bloated

clay aggregate (800 kg/hr) at CBRI, Roorkee. Schemes for setting up a creep testing facility and a hydrometallurgical unit for nickel and other nonferrous metals at NML have been taken up.

25. Various steps for the preparation of polycrystalline silicon (100 grms per day) by the tetraiodide process have been standardised. A laboratory model of the single-channel transistorised TV Receiver (with 12" tube) has been developed.

26. The pilot plant, designed for development work for preparing organic chemicals in bulk in general and to utilise the by-products from petrochemical industry in particular, has been used to optimize the conditions for production of monochlorobenzene. The process for production of electrolytic manganese has been released for commercial exploitation.

27. Bench scale studies for recovery of nickel from laterite ores have been completed on Sukhinda nickel ores and a preliminary feasibility report has been prepared. The civil works in connection with various sheds, foundations for equipment, electrical sub-station, furnace oil storage tanks, stores, laboratory and office building have been completed for the project on production of magnesium by the thermal process.

28. Work on improvement in rice milling techniques for improved yield and better quality was continued. It was established that by adding a paddy separator to a huller type mill, the yield of rice can be in r a ed by 3 to 4 %. Edible grade cotton seed flour and protein concentrates have been developed.

29. Based on the studies conducted with a 12 kg/day plant, a scheme for producing 250kg/-day of magnesium metal by electrolytic process has been taken up and for this purpose, production of anhydrous cell-feed (starting from magnesite and hydrochloric acid) has been established. An improved spray-drier (cap. 60-70 kg. per ton) with accessories has been erected and evaluated. About 500 kg. of magnesium has been produced in the course of 6-7 weeks.

30. Work on the utilisation of slaughter house and tannery by-products was continued. Further work on hide meal as a source of protein is being pursued. A 1,000 litres cap. solar distillation plant for desalination and a 5,000 litres capacity dehumidification plant were operated.

31. The construction of furnaces and erection of equipment for a pilot plant for making radiation shielding glass windows was completed and production of small windows required by the BARC was taken up, in 1970; glass windows valued at about Rs. 2 lakhs were manufactured and supplied from the plant.

32. Steps are being taken to coordinate the work of the national laboratories in the fields of material sciences, fabrication of machines and components, instruments and electronics, with similar efforts by other R & D agencies. Projects aiming at export promotion and import substitution have been given a higher priority, and for that purpose the necessary close liaison is maintained with the Ministries concerned : steps are also being taken to review the progress at periodical intervals in consultation with the Ministry of Foreign Trade and DGTD with the aim of highlighting new problems and dissemination of know-how developed in the laboratories. For weeding out projects which are no more relevant to current socio-economic objectives or which have served the objective envisaged earlier, and to redeploy resources progressively to develop new technologies required for development of industry, Coordination Councils of the laboratories, in related spheres of work, have been set up. This would help in shedding of non-priority work and avoiding duplication, and would give impetus and lead to fuller utilisation of limited resources through collaboration work and appointment of task forces.

33. The CSIR had set apart about Rs. 250 lakhs for new regional laboratories and other projects but no expenditure has been incurred so far. A Committee set up by the CSIR to study the question of setting up new regional laboratories is yet to finalise its report. Further the role of existing regional laboratories also requires reorientation. They could concentrate their efforts on identifying the problems of the industries in the region and solve the same, taking into consideration the expertise built up and already available within the country. They can also help fresh entrepreneurs in formulating and setting up production units for various essential items based on locally available raw materials.

34. Some of the bottlenecks experienced by the national laboratories in implementing the programmes are stated to be the inordinate delays in (i) import of equipment and components not available indigenously, (ii) civil works and (iii) recruitment of personnel. In several instances risk is involved in development of know-how and technological forecasting; scientific challenges can, however, be taken up only in an atmosphere of flexibility and freedom, In order that laboratories can go ahead speedily to complete a committed programme, a number of structural changes and decentralisation of certain functions are envisaged by CSIR as per recommendation of the Sarkar Committee.

35. With regard to major development tasks and pilot plant work which should be taken up in association with the industry or with prior commitment by the user agencies, the CSIR organised a get-together with the industry to isolate specific projects which are ready for utilisation by the industry. Some of the processes are under negotiations for exploitation of the know-how by the industry concerned. Also projects mentioned by the industry are being taken up by the CSIR laboratories and task forces are being set up for this purpose. After successful transfer of technology, further continuation o

work on the pilot plant would mainly be carried out at the instance of industry.

36. With regard to the need for a suitable machinery to functionally associate and commit the facilities set up by CSIR with public sector production agencies and prospective entrepreneurs, the CSIR has undertaken a survey of public sector enterprises and the national laboratories with regard to existing collaboration between them and the facilities which could be utilised for R. & D. and for the solution of the problems in public sector industries.

37. To help quick translation of the results of research into production, self-sustained semi-commercial units (even under the laboratory control) could be considered. CSIR is considering the engineering, chemical engineering and design engineering facilities available at some of its laboratories like NCL., RRL. (Hyderabad), NAL and CMERI with a view to convert them as major design engineering units for specific industries and also to act as internal consultants to CSIR; and NRDC. and external consultants to the industry both in the public and private sectors.

38. The recurring expenditure on some major projects and pilot plants in existence for many years and which form common facilities for a continuing type of work is being met from the plan allocation. For example, facilities like high temperature carbonisation experimental plant, low medium temperature carbonisation of non-and weakly caking coals, fixed bed gasification of coal and coal washing unit at CFRI; mineral benefication plant and refractory pilot plant at N M L; reconditioning of mercury are rectifier and glass technology unit of NPL; are meant for testing, demonstration and trial purposes. In such cases only additional facilities of capital nature should be covered from the plan allocations. Rest of the expenditure for running the existing facilities could come under non-plan head. With regard to expenditure on major projects and pilot plant of a continuing nature, steps are being taken by CSIR in consultation with the Planning Commission to ensure that plan allocations are not utilised for work of continuing nature.

39. A close look is being taken to define the CSIR capabilities for meeting the needs of Defence, imports and of the industry. This exercise will soon be completed listing the available technology fully baked and partly baked, the facilities, pilot plants, equipment, personnel that are available for bench, pilot, semi-commercial production; alternative processes and products for items that may be in short supply; processes *to avoid* wastage and conserved materials, processes for better utilisation of byproducts. Once the tasks are clearly identified, CSIR proposes to set up Task Forces bringing in the best of the brains from CSIR, universities, IITs, industry, giving them the full authority and responsibility to deliver the goods in time.

'The spin off' arising out of the work of some of the laboratories could be exploited by the industry or other user agencies fruitfully and to meet immediate needs of the country as for example, work on materials and machines by the NAL; work of NPL in the field of electronic components and the preparation of alloys by NML etc.

Department of Science and Technology

41. The Fourth Plan proposals were drawn up in detail with the expert advice of seven Working Groups : the break-up of yearwise expenditure to be incurred under recurring or capital categories comprising of the necessary equipment, manpower and buildings required against each project was indicated. This was done to ensure that the plan programmes do not suffer as in the previous three plans.

Survey of India

42. The programmes of Survey of India consisted of continuing schemes for the hydel projects and completion of the Centres for Survey Training and Map Production and Indian Photo Interpretation Institute. The new schemes pertained to the augmentation of facilities and modernisation of procedures for map production and cartography, survey programme for inrrigation and power projects and mineral exploration and raising of two geodetic units. Raising of one Circle Office, 8 field Parties and 3 Drawing Offices has been completed and some survey projects pertaining to Hydel units have been undertaken. However, the construction programme for the office and residential accommodation for the Circle at Chandigarh is completely out of gear. Though the main buildings have now been completed, the construction programme for the Centre for Survey Training and Map Production was behind schedule. The building programme of Indian Photo Interpretation Institute is nearing completion, and entire staff for training centre and training programme are in position recently. The proposals for modernisation of cartographic procedures, facilities for map production and cartography, survey for irrigation, power projects and mineral exploration, raising of geodetic units have been only sanctioned very recently. Strengthening of Surveyor General's Office is in the initial stages of examination. As against a provision of Rs. 1300 lakhs, the Survey of India has spent about Rs. 254 lakhs in the first two years and it is unlikely that more than Rs. 6 crores will be spent during the Plan.

Botanical Survey of India

43. The Fourth Plan programme envisaged studying of the flora in several areas of the country and building up/supplementing the infrastructure towards this end in the form of Regional Circles, Botanical Gardens, and Research Scholarships. Due to non-availability of accommodation at Port Blair, the Regional Circle has been temporarily set up at Coimbatore and the infrastructure

in the form of manpower and equipment are yet to be built up. The Arid Zone Circle at Jodhpur has been sanctioned in principle only recently. The scheme for setting up of Botanic Gardens at Delhi is still under examination. The 10 scholarships sanctioned by the Government for using the services of research scholars for revision of the flora of India projects have not been utilized. Several posts sanctioned even for continuing schemes are remaining unfilled and most of the posts for sanctioned schemes have been filled on "ad hoc" basis pending regularisation. The new building for Central National Herbarium has been handed over and building programmes pertaining to the Western Circle and Southern Circle are still in the preliminary stages of the sanction. As against a provision of Rs 162 lakhs, a sum of Rs. 38000 has been spent in the first two years, Considering that the most of the schemes of the Fourth Plan, both continuing and new, are at the very preliminary stages of initiation, it is doubtful if even half the target as envisaged earlier, could be completed by the end of the Plan.

Zoological Survey of India

44. The Fourth Plan schemes envisage the consolidation and strengthening of the existing scientific and technical sections in different areas slike Entomology Division, Lower Chordata Divi sion, Rodents/Primates and Insectivore Mammals, as also expansion of workshop and training facilities, maintenance of zoological galleries and setting up Information and Documentation Division. The Plan also envisages intensive faunistic surveys and ecological studies by the Regional Stations, exploration of Andaman and Nicobar Islands, Establishment of Marine Biological Station at Madras and shifting of Marine Survey Division from the Headquarters and erection of buildings for the Headquarters (at Calcutta), Eastern Regional Station Wing (Shillong) and Northern Regional Station (Dehradun). Setting up of two new scientific sections, viz., Isoptera and Apterygota Sections in Entomology, field surveys for studies of animal population dynamics in Madhya Pradesh and Maharashtra States, studies and collection of invertebrate fossils in Tamil Nadu, setting up of taxidermy and museum sub-sections in the Zoological Galleries of Indian Museums, establishment of the Information Documentation Division, exploratory work in the Andaman and Nicobar Islands by field parties (between February 1969 and June 1971) are some of the achievements. The shifting of the Marine Survey Division is underway but the building programmes are still at initial stages. The strengthening of the Regional Stations as also the provision of the required staff and positioning them are not progressing satisfactorily. The total commitment so far in the first two years is Rs. 5·97 lakhs against a provision of Rs. 118 lakhs. Considering the poor progress on the new schemes including the building programme, the expansion programmes of the Zoological Survey of India during the Plan are not likely to conform to the schedule envisaged.

Anthropological Survey of India

45. The Plan schemes envisage consolidation and strengthening of the existing Division at the Headquarters and the Regional Stations. The new schemes envisaged the opening of North Western Station, Museum of Man, Six Zonal Museums and Fellowships/Collaborative Research schemes. The North Western Station has been opened and some of the projects like ethonographic survey of Scheduled Tribes. impact of industrialisation on the life of tribes, culture contact and personality change, study of tribal linguistics, etc., are progressing, However, the progress on the new schemes is practically negligible. Since the capital outlay in the form of building programme is only a fraction of the total Plan investment, the progress by this organisation in the Plan scheme is very meagre.

National Atlas Organisation

46. The Fourth Plan schemes envisaged strengthening of the organisation, bringing out a Tourist Atlas of India, establishing of field research units for the Southern and Northern Circles, bringing out a Handy Reference Atlas of the World and establishing a Photo-Interpretation Unit. During the course of the Annual Plan discussions three new schemes, viz. bringing out Forest Resources Atlas, Water Resources Atlas and Agricultural Resources Atlas were added to the Plan. The total Plan provision was initially Rs. 25 lakhs which was subsequently raised to Rs. 46·86 lakhs. The preparation of the Tourist Atlas of India is still at the stage of collection of required information. While two field research units have been set up for geo-economic study in the North and South, only some preliminary field data collection work has been done. There has been no progress on the preparation of the Resources Atlas and establishment of the Photo Interpretation Unit. Considering that all the new schemes are yet to get off the mark and the slow progress of continuing schemes, the commitment of the Fourth Plan targets is very doubtful.

National Research Development Corporation

47. The main function of the Corporation is to develop and exploit the patented and unpatented inventions of the research laboratories and institutions under the Government, semi-Government organisations and private inventors. Besides continuing work on the existing five developmental prjects (namely, Phthalic Anhydride, Lightning Arresters, Built-in-Lubrication, ABS San Plastics, and Fat Liquors and Syntans), three new projects, viz., aleuritic acid from lac, citric acid from sugar molasses and sugar cane juice, and hygristors were sanctioned and the work has started. Many other projects costing over four crores of rupees are now under the consideration of the Corporation. These projects include manufacture of Rennet from Fistulated Calves, Potassium chloride from Distillary Wastes, Sponge iron and Titanium Dioxide, Potasium Dichromate, melted fibres, artificial diamonds, production

of clad metals etc. The know-how available with the national laboratories and technological institutes has to be fully utilised. To bridge this gap, the NRDC could work more effectively as a liaison body between development and investment centres at State, level at one end and national laboratories and technological institutes at the other end. As against Rs. 2 crores provided, the commitment so far in the first two years is about Rs. 14 lakhs. There is considerable scope for vigorously increasing the tempo of NRDC in sponsoring development projects and providing risk finance for promising projects.

Scientific Societies

48. The Indian Association for the Cultivation of Science conducts fundamental research in various disciplines like physics, chemistry, organic chemistry, inorganic chemistry. The Bose Institute carries out investigations on physics and bio-physics, chemistry and bio-chemistry, botany pure and applied, microbiology and animal physiology. The Maharashtra Association for the Cultivation of Science conducts fundamental research in plant pathology, botany, cytogenetics and plant breeding, animal breeding, zoology, entomology, microbiology and palaeobotany. The Birbal Sahni Institute of Palaeobotany undertakes research in palaeozoic Palaeobotany, mesozoic palaeobotany, quarternary Palaeobotany and oil palaeonology. These laboratories have expanded and proliferated in all directions and have programmes of research in several disciplines of science without adequate resources, facilities and trained researchers. Most of these laboratories are getting a large percentage of their funds from the Government. It is essential that they have adequate standards of good management, efficiency, accountability and that objectives of their work both long-term and short-term, are linked with that of other R&D efforts in the country.

49. The scheme of 'Scientific Research and Research Training' was envisaged at an estimate of Rs. 1 crore during the plan period (to be operated by the Indian National Science Academy) to render support to an outstandingscientist or group of scientists for projects or for institutions for research in any subject or in a multi-disciplinary area, irrespective of existing administrative channels or institutional affiliations. It was intended to be different from the normal type of fellowships, scholarships, etc. given by CSIR; UGC; DAE; etc. Though the scheme has been in operation for the last two years and 53 projects amounting to Rs. 6·669 lakhs were approved, the original objectives of the scheme are still to be realised.

Agricultural Research

50. Under the All-India coordinated research projects, considerable progress has been recorded in respect of several crops, more particularly wheat, rice, and cotton. However, there are certain high priority sectors where research schemes have yet to pick up momentum. For instance, for research on dry land farming, Fourth Plan provision is Rs. 148 lakhs but the utilisation in the first two years has been only of the order of Rs. 8 lakhs. The slow rate of implementation of research schemes resulted from a number of reasons. In some cases, the formulation of the details of the new schemes had not been taken in hand sufficiently in advance. A number of schemes also ran into difficulties relating to organisational matters particularly tying up the arrangements with the State Governments and the agricultural universities involved in coordinated research projects. A major inhibiting factor has been time-lag in recruitment of personnel required for various schemes. Some of the research schemes, such as the coordinated research projects on pulses were subjected to revision more than once even before the schemes were taken up for implementation. If the pace of implementation is to pick up in the second half of the Fourth Plan period, these problems will have to be resolved and the necessary arrangements streamlined

51. As a result of mid-term appraisal, additional outlays have been provided for enlarging the scope of All India Coordinated Research Projects on Cotton and Oilseeds. Provision has also been made on selective basis for strengthening certain research institutes such as Central Soil Salinity Institute, Grassland and Fodder Institute and Jute Agricultural Research Institute. In pursuance of the recommendations made by the Panel on Irrigated Farming set up by the Planning Commission, new schemes of research particularly concerning humid agriculture have also been included in the Plan. Another significant addition to the Plan relates to establishment of suitable stations for taking care of research requirements of the North Eastern Region more particularly Meghalaya, Manipur, Tripura, NEFA and Nagaland.

Animal Husbandry Research

52. In all there are 25 research schemes under animal husbandry including the two central institutes, viz. Indian Veterinary Research Institute, Izatnagar and the Central Sheep and Wool Research Institute, Malpura. Out of 18 new research projects proposed in the Fourth Plan, as many as 17 could not take off the ground in the first year and four could not be taken up even during the second year as well. There is thus a pressing need for concentrated attention being given to research schemes of animal husbandry in the second half of the Plan.

Dairy Research

53. The research programme consists of the expansion of the National Diary Research Institute at Karnal, and the implementation of four All India Coordinated Research Project in dairying The progress under the Central Institute is satisfactory but the All India Coordinated Research Projects are lagging behind. None of these research projects were initiated in the first year.

It is necessary that in the second half of the Plan, increased stress is laid on accelerating the pace of implementation of these schemes.

Fisheries Research

54. Under fisheries research, the Fourth Plan envisages the expansion and strengthening of three Fisheries Research Institutes, namely, Central Inland Fisheries Research Institute, Barrackpore, Central Marine Fisheries Research Institute, Mandapam and Central Fisheries Technological Research Institute, Ernakulam. It has been observed that the utilistation of plan funds earmarked for these institutes has been poor. Besides there are seven All-India Coordinated Research Projects included in the Fourth Plan based on multi-disciplinary approach for effective utilisation of available resources to tackle the various important problems facing the fishing industry. These objectives are not likely to be achieved as there has been no progress under these schemes. None of the projects has taken off the ground in the first two years of the Plan.

Forest Research

55. The progress of expenditure under the central programme of forest research has been particularly unsatisfactory. The capability under the programmes of forest research will have to be specially strengthened as this is of special importance for an adequate break-through in the forestry sector.

HEALTH AND FAMILY PLANNING

56. The Council had in the beginning of the Third Five-Year Plan five permanent Research Institutes/Centres. In the last few years, two more institutes, viz. the National Institute of Occupational Health and the Institute for Research in Reproduction has also been established. A Tissue Culture Registry has also been established. It is also proposed to establish a Cancer Research Institute.

57. The number of research projects received by the Council for financial support during 1969-70, was 685; for 1970-71, 789; for 1971-72, 909; and the Council has received 1,0?7 proposals for financial assistance for 1972-73. The researches undertaken by the Council were broadly in the fields of clinical sciences, clinical epdemiology and communicable diseases, basic medical sciences, reproductive biology, fertilility control, maternal health, paediatrics, etc. One of the significant contributions made during last 2 years has been in the field of virus diseases; Virus Research Units in medical colleges in different parts of the country have been created. Research in the effective methods of development of the various categories of the health personnel to provide the health needs and health-care demands of the society is in progress. National research projects on a collaborative basis in different parts of the country have been undertaken especially in the field of Blindness, Epilepsy, Diabetes, Oral Cancer, Breast and Cervical Cancer, Noise Suivey, Peptic Ulcer, Rubella and Rheumatic Heart Disease. Units for the study of man and envionment are being set up, e. g. Air Polilution Research Units, Agricultural Health Research Unit, Industrial Toxicology Research Unit, etc. Occupational Hazards and diseases of farm workers are being studied. The Council has launched a project to assess in the field, the efficacy and practicability of genetic methods, in the control of some important disease carrying mosquitoes. The building and land occupied by the Virus Research Centre, Poona, have been acquired. The present building and land housing the Tuberculosis Chemotherapy Centre, Madras, are being acquired by the Council to construct a new extension block for the Centre for expanding the programme of research in tuberculosis and chest diseases.

Research under Family Planning

58. Research in the field of reproductive biology and tertility control has been given a place of key importance in the Fourth Five-Year Plan under the Family Planning Programme. Research work under the Family Planning Programme are carried out at the Indian Council of Medical Research (ICMR), Central Drug Research Institute (CDRI). Central Council for Research in Indian Medicine and Homoeopathy. Demographic Training and Research Centre (DTR) and the National Institute of Family Planning (NIFP). Under the (ICMR) 44 schemes were taken up at several medical colleges and institutes during 1969-70 and 50 schemes were undertaken in the year 1970-71. These cover reproductive and fertility control. Out of these, six schemes were completed in 1969-70 and 23 in 1970-71.

59. At the (CDRI) concerted attention is paid to chemical, bio-mechanical and physiological aspects of the anti-fertility problem. Study on IUCDs is an important part of the project. The Institute has developed an oral contraceptive which has shown cent per cent contraceptive effect in variety of animals when given orally. Clinical trials are now being under-taken on this oral contraceptive.

60. Under the Central Council for Research in Indian Medicine and Homoeopathy, 10 Family Planning Research Units (IMS) were sanctioned by the Department of Family Planning. 8 writs are at present functioning. In addition, 3 new units for chemical and pharmacological studies of oral contraceptives have already been established by the Council.

61. The DTC has undertaken studies in fertility in family planning as well as field surveys to obtain additional information on the various aspects of the Indian fertility. At the NIFP about 29 demographic studies in 1969-70 and about 53 studies are in progress during 1970-71.

VI. EDUCATION

National Council of Educational Research and Training

62. The Council has achieved a fair amount of success in the programme for the improvement of school science education by the revision of curricula, the preparation of text-books and the supply of science kits to schools. Science equipments have been supplied to training institutions in the States to enable them to organise in-service training courses for teachers in schools. These efforts will, however, prove fruitful only when State and district level organisations are able to organise properly in service training programmes to acquaint teachers with the new ideas and techniques in science education and the use of text-books and other teaching materials supplied by the National Council of Educational Research and Training. The Review Committee had suggested changes in the set-up and the functioning of the various departments of National Institute of Education of The National Council of Educational Research and Training. These changes are being effected progressively.

University Grants Commission

63. There are a number of schemes for the development of universities which include the expansion and improvement of research facilities. It is, however, difficult to identify the research component from overall schemes. The total amount provided for post-graduate education and research under the University Grants Commission in the Fourth Plan is Rs. 30 crores. The University Grants Commission has also included Rs. 3 crores for special schemes for science education like short-courses in applied sciences, development of instrumentation, workshops etc. However, the progress under these schemes has not been satisfactory. These programmes are of considerable importance for the promotion of science education and will need to be implemented on a priority basis for the remaining years of the Fourth Plan.

64. An amount of Rs. 8 crores was earmarked in the Fourth Plan for the development of 30 advanced centres. 27 more centres have been recommended for development. Some of them might qualify for consideration as centres of advanced study.

Research and Development under Public Sector

65. Subsequent to the finalisation of the Fourth Plan, it was decided to incorporate the Central Engineering Design Bureau as separate company under the Department of Steel. A decision was also taken to set up the Steel Research and Development Board to initiate and direct R. & D. activities for the steel industry. Necessary provision for this purpose is being made in the Plan.

66. Recognising the need for a well-directed programme of action for the rapid development of the electronic industry, Government have recently constituted the Electronics Commission with a wide range of functions and powers. The Commission is currently engaged in drawing up a long term programme of development for the electronic industry in close consultation with major user Ministries and sectors. An intensified programme of research and development as a basic ingredient to this science based industry has also been undertaken under the guidance of the Commission.

67. In many fields substantial progress has been made in the development of design and engineering facilities within the country. The detailed design and engineering for the new steel plants and expansion of Bokaro and Bhilai are being undertaken in the country Similarly, the major public sector projects in the petroleum and petrochemical fields, in fertilizers, non-ferrous metals, iron ore etc. are also being undertaken through domestic consultants. It has also been decided that even where assistance from foreign consultancy firms is considered necessary, the primary consultant should be an Indian consultant.

68. The amount of Rs. 2 crores provided in the Plan for financing pilot plant studies on processes developed in National Laboratories has not been so far utilised. Administrative arrangements to identify suitable areas requiring developmental work and founding such activities need to be evolved.

Conclusion

69. According to the Annual Report on Science and Technology 1970-71 brought out by the Committee on Science and Technology (CoST) the total expenditure for Scientific Research and Development under Central, State and private sectors in the country, has increased from about Rs. 29 crores in 1958-59 to about Rs. 173 crores in 1970-71. In terms of G. N.P., it has increased from 0.23 per cent to 0.48 per cent and it is expected to rise to about 0.6 per cent at the end of he Fourth Plan. About 92 per cent of the expenditure of R. & D. is incurred directly and/or supported by public sector in one way or the other while the share of the private sector is of the order of 8 per cent only. Even in the public sector, four organisations (CSIR, DAE, Defence R. & D. and ICAR) accounted for 59 per cent of total expenditure in R. & D. under the Central Sector in 1970-71. The scientific and technical manpower employed on R.& D. has increased from about 21,000 in 1958-59 to about 95,000 in 1970-71. The imbalances in R.&D. inputs in certain sectors such as health, irrigation, power, geology, university research have also been brought out in the Report.

70. The broad strategy to be followed in our scientific and technological development has to be closely related in terms of relative priorities for allocation of resources to the national socio-economic development plans. This strategy is necessarily a function of the stage of growth of a

particular country, its scientific and technological resources, both of man-power and equipment, and its management capability in the implementation of the policies evolved. The focus at this stage in our scientific and technological policies should be on:

(*i*) An intensive application of appropriate scientific and technical inputs into key sectors, e. g. steel, oil, heavy machinery etc., where heavy investments have already been made by the country.

(*ii*) Integrative planning in key sectors for the development of the entire chain from innovation to application. This would span across the planning of appropriate technical education and man-power, basic research in Universities, applied research in Laboratories, pilot plant work, design engineering, commercial production and marketing.

(*iii*) Development of indigenous research and development efforts through structural changes in the organisation of R & D in the country and by creating appropriate controls against the random and indiscriminate import of technology.

(*iv*) Redirection of resources into areas of new technology and those requiring an inter-disciplinary approach. These areas include research on new materials, utilisation of waste materials, earth sciences, ecology, environmental pollution, concentration and utilisation of plant and animal resources etc.

(*v*) Emphasis on the development of long term technological alternatives in a number of areas where scientific and technological break-throughs are possible. Studies need to be commenced for the possible scientific and technological inputs in the development plans for the next 5 to 15 years in the areas of marine resources, urbanisation, mass transit, low-cost housing, communication technology etc.

(*vi*) Development of communication links between the various centres of scientific and technological research and development in the country so that a more consistent use is made of the research and development being done in the separate units. This is perhaps even more applicable in the case of defence on the one side and Science and Technology on the other and such a link can be a catalyst in speeding up the process of economic growth.

71. As the first step in the process of developing Science and Technology plan in the country Government of India have reconstituted the COST under the new designation 'National Committee on Science and Technology.' It is the highest level body which will advise and assist the Government on all matters involving science and technology. The mandate of the committee includes:

(*a*) Preparation and continuous updating of national scientific and technological plans, both Five-Year Plans and as Perspective Plans. This would have to be carried out in close association with the Planning Commission and be intimately related in terms of relative priorities of allocations and resources to the national socio-economic development plans;

(*b*) Arranging for a periodical discussion of the draft plan and other major issues of Science Policy by a fairly large representative section of scientists, educationists, industrialists and policy makers;

(*c*) The pattern of development of scientific and technological research including inter-sectoral resources allocation and measures needed for correcting imbalances that may arise;

(*d*) The pattern of development for further utilisation of nation's scientific and technological resources; in particular, on mesures for striking a balance between domestic capabilities and foreign assistance;

(*e*) Co-operation and communication between Government, semi-Government and non-Government scientific and technological institutions and professional bodies in the country;

(*f*) International scientific and technological matters.

72. A national committee on human environment has been set up for studies on pollution, ecology and environmental, balance, as a precursor to the proposed U. N. Conference. Work on a comprehensive review of the information available in respect of the country's main natural resources and identification of the principal gaps in the surveys required and further measures needed in relation to specific immediate and long range objectives in the development of land, water, mineral and forest resources has commenced. Task forces will take stock of the present activities regarding the survey of natural resources and identify the gaps in it in relation to programmes of planned development, formulate coordinated programmes for surveys of natural resources in relation to plans for 5 and 15 years development indicating the inputs in terms of man-power, equipment and finance. On the basis of these studies in the areas of coal and lignite, atomic minerals, minerals, marine survey, oil, aerial surveys, ground water, surface water, forest, land and soils etc., it will be possible to formulate both long-term and short-term plans for the exploration and exploitation of natural resources.

ANNEXURE I

Outlay and Expenditure of Department of Atomic Energy

(Rs. lakhs)

sl. no.	item	allocation in Fourth Plan	revised estimates for Fourth Plan now proposed	actuals 1969-71	revised estimates 1971-72	total 1969-72	balance for 1972-74 according to Fourth Plan allocations	balance for 1972-74 according to revised estimates now proposed
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	*Bhabha Atomic Research Centre*	**1557·24**	**1557·00**	**440·02**	**271·47**	**711·49**	**845·75**	**845·51**
2	spillover projects	590·00	590·00	300·12	172·91	473·03	116·97	116·97
3	new projects including revenue schemes	967·24	750·00	139·90	96·56	236·46	730·78	513·54
4	new projects subsequent to plan formulation	—	217·00	—	2·00	2·00	2·00[1]	215·00
5	*Space Research Projects*	**1502·00**	**5280·78**	**378·83**	**776·00**	**1154·83**	**347·17**	**4125·95**
6	spillover projects	247·00	247·00	111·15	97·00	208·15	38·85	38·85
7	revenue schemes	247·00	3223·00	63·15	340·00	403·15	156·15[1]	2819·85
8	new projects	1008·00	1445·78	204·53	324·00	528·53	479·47	917·25
9	new projects subsequent to plan formulation	—	365·00	—	15·00	15·00	15·00[1]	350·00
10	Housing	900·00	900·00	338·81	154·94	493·75	406·25	406·25
11	Aided institutions	567·00	775·00	120·76	122·84	243·60	323·40	531·40
12	Atomic minerals division	130·00	200·00	33·54	35·56	69·10	60·90	130·90
13	Reactor research centre	1500·00	2500·00	86·25	211·58	297·83	1202·17	2202·17
14	Radio telescope station	24·00	32·00	18·02	5·50	23·52	0·48	8·48
15	Variable energy cyclotron	518·00	618·00	135·88	161·61	297·49	220·51	320·51
16	Gulmarg laboratory	—	3·00	1·34	1·62	2·96	2·96[1]	0·04
17	Electronics Committee schemes	50·00	—	—	—	—	50·00	—
18	*total*	**6748·24**	**11865·78**	**1553·45**	**1741·12**	**3294·57**	**3453·67**	**8571·21**

[1]Over spent.

ANNEXURE II

Outlay and Expenditure of Council of Scientific and Industrial Research

(Rs. lakhs)

item	Fourth plan outlay 1969-74	1969-71 expenditure	1971-72 Outlay	total 1969-72	balance 1972-74
(1)	(2)	(3)	(4)	(5)	(6)
Council of Scientific and Industrial Research	5000	1300	854	2154	2846

ANNEXURE III

Outlay and Expenditure of Department of Science and Technology

Scientific Surveys and Development Division

(Rs. lakhs)

sl. no.	item	allocation in Fourth Plan	actuals 1969-71	revised estimates 1971-72	total 1969-72	balance 1972-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Survey of India	1300 ·00	254 ·63	175 ·65	430 ·28	869 ·72
2	Botanical Survey of India	162 ·00	0 ·38	18 ·08	18 ·46	143 ·54
3	Zoological Survey of India	118 ·27	5 ·97	25 ·24	31 ·21	87 ·06
4	Anthropological Survey of India	87 ·12	4 ·94	10 ·48	15 ·42	71 ·70
5	National Atlas Organisation	25 ·00 (46 ·87)[2]	1 ·60	5 ·34	6 ·94	18 ·06 (39 ·93)[2]
6	National Research Development Corporation	200 ·00	13 ·23	2 ·22	15 ·45	184 ·55
7	Scientific Societies and Institutions	385 ·65	48 ·41	57 ·69	106 ·10	279 ·55
8	*total*	**2278 ·04**[1]	**329 ·16**	**294 ·70**	**623 ·86**	**1654 ·18**

[1]Out of this a saving of about Rs. 11 crores is anticipated.

[2]Figures in brackets indicates the revised estimates.

ANNEXURE IV

Outlay and Expenditure on Science and Technology

(Rs. lakhs)

sl. no.	item	allocation in Fourth Plan	actuals 1969-71	revised estimates 1971-72	total 1969-72	balance 1972-74
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Department of Atomic Energy	6748 ·24[2]	1553 ·45	1741 ·12	3294 ·57	3455 ·67[3]
2	Council of Scientific and Industrial Research	5000 ·00	1300 ·00	854 ·00	2154 ·00	2846 ·00
3	Department of Science and Technology	2278 ·04[1]	329 ·16	294 ·70	623 ·86	1654 ·18
4	*total*	**14026 ·28**	**3182 ·61**	**2889 ·82**	**6072 ·43**	**7953 ·85**

[1]Out of this a saving of about Rs. 11 crores is anticipated.

[2]The Department has now shown a revised requirement of Rs. 11865 ·78 lakhs.

[3]Against this the Department has shown requirement of Rs. 8571 ·21 lakhs.

CHAPTER 21

HEALTH AND FAMILY PLANNING

1. HEALTH

OVER twenty years of planned development considerable progress had been made in health programmes and some striking results achieved. The number of hospital beds increased from 113,000 in 1956-57 to 255,700 in 1968-69. The number of medical colleges which stood at 30 in 1956-57 increased to 93 by 1968-69. The admission capacity of medical colleges increased nearly five times from an intake of 2500 in 1950-51 to 11,500 in 1968-69. The doctor population ratio has improved from 1:6100 in 1961 to 1:5150 in 1968. Measures for the eradication of malaria and smallpox and control of the tuberculosis, laprosy and filaria have resulted in a marked decline in their incidence. The expectation of life at birth has gone up from 32 years in 1950-51 to 53 in 1968-69.

2. The Fourth-Plan programmes have been set within the frame of long-term targets suggested by the Health Survey and Planning Committee of 1961. The objective is to provide an effective base for health services in the rural areas by strengthening the primary health centres. They are expected to undertake preventive and curative health services and take over the maintenance of communicable diseases control programmes like malaria, smallpox and trachoma. It is proposed to establish 508 primary health centres during Fourth Plan, so that there is at least one primary health centre in each block. Emphasis will be on the establishments of an effective machinery for the speedy construction of buildings and improving of primary health centres by providing staff, drugs and equipment. Ten new medical colleges will be opened. The annual admission will increase to about 13,000 by 1974 and this will improve the doctor-population ratio to 1:4300 by 1974. During 1969-74 it is intended to add 25,900 hospital beds. The emphasis is on better health care facilities in sub-divisional and district hospitals through the provision of specialists services. By the end of the Fourth Plan there will be 30 units in the attack phase and 93·35 units in the consolidation phase of the National Malaria Eradication Programme. The production capacity of freeze dried smallpox vaccine in four institutes will be increased so that the country becomes self-sufficient.

3. Annual Plan discussions of the Central schemes have brought out that details in respect of most of the schemes have not been fully spelt out. Sometimes, even the objectives to be achieved through the implementation of these schemes have not been clearly defined. To fulfil the Plan objectives, the details of all individuals schemes have been worked out in their financial and physical terms at a series of meetings in the Planning Commission. A complete review of the progress made in the first two years of the Plan as well as the details of programme to be taken up in the remaining three years have been assessed. It is proposed to accommodate some important new schemes from the savings anticipated as a result of this review.

4. Plan schemes envisaged expansion of the Central Research Institute, Kasauli for increase production of sera and vaccines including triple vaccine for diptheria, pertusis and tetanus to meet the needs of the country and also build up reserve capacity to meet emergencies. The scheme has not made any progress. The Central Government Health Service Scheme was extended to Allahabad, Calcutta, Madras and Nagpur. For providing initiative and support for control of communicable diseases, it was planed to develop the Institute of Communicable Diseases as a national organisation. It has not been possible to implement the proposal in the absence of financial clearance of the scheme. On the basis of recommendations of the Committee of Economic Secretaries, the Central Drugs Standards Control Organisation has assumed the responsibility for control over manufacture of drugs and quality control through systematic testing of samples of drugs manufactured and imported. Outlay has been revised so that this additional task can be taken up.

5. The control of communicable diseases has been categorised during the Fourh Plan as a Centrally Sponsored Scheme with 100 per cent, Central assistance for development. As for malaria the programme has not made progress according to expectation, still 41% of the population is in the attack and consolidation phases. There have been delays in the supply of insecticides, anti-malarial drugs an replacement of vehicles. Adequate spray coverage could not be achieved. There has been lack of supervision at various levels and many States could not fill up the supervisory posts. There has also been development among mosquitoes of resistance to insecticides. The target of phasing of malaria eradication units will not be achieved as there still will be 70 units in

the attack phase and 88·25 units in the consolidation phase by the end of the Plan.

6. Although the incidence of smallpox recorded in 1971-72 is the lowest since the commencement of the eradication programme in 1962, a State-wise analysis of the progress of the programme shows that, much remains to be done for accomplishing the task of primary vaccination. The surveillance component of the programme has not been built up to the desired extent. There is considerable backlog in primary vaccination and delay in the reporting of cases. The country is not yet self-sufficient in freeze-dried smallpox vaccine. Under the tuberculosis control programme out of a target of 60 district TB centres and 330 TB isolation beds, only 35 district TB centres have so far been established. Out of 300 million people endemic to leprosy, a population of 82 million only has been covered by the control programme and 9.19 lakhs leprosy patients have been recorded for treatment out of the total estimated number of 25 lakh cases.

7. As the progress of the national malaria eradication programme has not been as expected, basic health services could be provided only to about 2500 to 3000 primary health centre as against the original target of 2800 to 3500 by the end of the Plan. Most of the States have not yet seriously taken up the idea of providing basic health services, specially since the expansion expenditure would become the liability of States at the end of the Plan.

8. Against the Plan target of upgrading 50 departments in medical colleges, 40 departments have already been sanctioned or established.

9. The reasons for shortfalls in implementation of Centrally sponsored programmes are:

(i) Delay in communicating the allocations by the Government of India towards the individual health schemes;

(ii) Absence of a codified compendium outlining the pattern of assistance for the Centrally Sponsored Schemes; (This has now been prepared and circulated to State Governments).

(iii) The time lag in the line of communication. Technical officers have to obtain approval of the State Secretariat prior to furnishing information and this makes for avoidable delays.

10. There are 266 community development blocks still without a primary health centre. Of the 5127 primary health centres functioning in the country, 175 are without doctors. There are 2757 PHCs which have been assisted by UNICEF. As for progress in construction work, there are buildings put up so far for 60 per cent of the primary health centres, 55 percent of the medical officers, 30 per cent of the lady health visitors or public health nurses and one fourth of the auxiliary nurse mid-wives. Against the Plan target of 25,900 hospital beds, it is estimated that 10,500 beds have been established. As most of the beds are located in urban areas, an imbalance in basic health and medical care facilities has accurred between rural and urban areas. The nurse bed ratio is low in all States and unsatisfactory in Bihar, Kerala, Orissa and Rajasthan. The recommended norm is one nurse for five beds in general hospitals and one for three beds in teaching hospitals. At the district and sub-divisional levels referral services have not made perceptible advance.

11. Priority has been given to primary health centres, medical care facilities in the rural area and improving nursing services in the hospital. Guidelines have been provided to State Government for implementation and the above programmes have been given the necessary emphasis in the Annual Plan discussions.

Outlays and Expenditure

12. Out of an allocation of Rs. 433·53 crores for health programmes, an outlay of Rs. 53·50 crores is meant for the Central schemes. Rs. 176·50 crores for Centrally sponsored schemes and Rs. 203·53 crores for the schemes in States and Union Territories. An outlay of Rs. 118·71 crores was approved for the health programmes for the first two years of the Plan. As against this, the anticipated expenditure is Rs. 102·04 crores. The shortfall in expenditure was larger in the first year. In the second year, it was concentrated in the Central and Cntrally sponsored sectors. During 1971-72, Rs. 72.06 crores have been allocated, nearly 17 per cent of the Plan outlay. Table 1 gives the financial details, figures in brackets indicate the amount as a percentage of the Fourth Plan Outlay :

TABLE 1: *Outlay and Expenditure on Health* (Rs. crores)

sl. no.			1969-70		1970-71		1971-72
		Fourth Plan	approved outlay	actual expd.	approved outlay	anticipated expdn.	budget
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	centre	53·50	6·36	4·21 (7·87)	7·41	6·61 (12·36)	9·56 (17·27)
2	centrally sponsored	176·50	22·77	19·27 (10·92)	25·37	19·67 (11·15)	27·37 (15·51)
3	states/union territories	203·63	26·18	21·04 (10·33)	20·62	31·24 (15·34)	35·13 (17·26)
4	*total*	**433·53**	**55·31**	**44·52 (10·26)**	**63·40**	**57·52 (13·27)**	**72·06 (16·66)**

II. Family Planning

13. The Family Planning programme has been given a place of key importance in the Fourth Plan. In his address to Parliament on March 23, 1971 the President said that the results of the 1971 census come as a reminder that the Family Planning programme has to be pushed forward with greater vigour. He also stated that it will succeed only if it becomes a mass movement.

14. The importance of maintaining a balance between population growth and material resources has been recognised since the inception of planning. The important role given to this programme can be assessed from the impressive allocation of Rs. 315 crores for the Fourth Plan period. The objective by the end of the Plan is to reduce the birth rate from 39 per thousand in 1968 to 32 per thousand in 1973-74.

15. With the creation of a separate Department of Family Planning in 1966, Government's efforts have been directed towards building up an extensive and complex infra-structure necessary for the provision of the fully integrated family planning and maternal and child health services. These efforts have met with considerable success. It has to be admitted that there have been shortfalls in the placement of necessary infra-structure. But considering the large scale nature of the operation, this was to be expected. Greater efforts are called for towards getting the infra-structure in position.

Shortfalls in the Achievements of Physical Targets

16. The Family Planning programme adopts a cafeteria approach : the potential acceptors are free to choose any one of the methods available for birth control. The chief methods adopted are sterilisation (male and female), IUCD and conventional contraceptives (mainly condoms). Table 2 gives the performance of the programme over the past five years.

Table 2 : *Selected Targets and Achievements*

(millions)

year	sterilisation			IUCD			conventional contraceptives user
	target	achievement	percentage	target	achievement	percent age	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1966-67 . . .	1·25	0·89	71·2	4·16	0·91	21·0	0·46
1967-68 . . .	1·54	1·84	119·5	2·00	8·67	33·5	0.48
1968-69 . . .	3·16	1·66	52·5	2·11	0·48	22·7	0·96
1969-70 . . .	3·24	1·42	43·8	1·62	0·46	28·4	1·49
1970-71 . . .	2·60	1·28	49·2	0·90	0·46	51·1	2·06

17. Performance under sterilisation as well as IUCD has been going down. Since the inception of the programme, a total of 9·0 million sterilisation operations have been performed up to July 1971, giving a rate of 16·3 per thousand population. While Maharashtra, Tamil Nadu and Kerala have maintained a leading position in sterilisation, States like Bihar (8·8), Uttar Pradesh (8·1), Rajasthan (8·0) and Assam (5·4) have recorded a below all-India average number of sterilisations per thousand population. Andhra Pradesh, Assam and Orissa have shown better performance in 1970-71. The declining trend in the sterilisation programme seems to have been arrested during the current year as the overall performance shows an increase of 7·5 per cent during April to July 1971 compared to the corresponding period last year.

18. The IUCD programme also shows a downward trend. A total number of 3·9 million insertions have been done since the inception of the programme up to July 1971, giving a rate of 7·1 per thousand population. The performance under IUCD has been particularly unsatisfactory in Tamil Nadu (3·7), Bihar (3·6) and Andhra Pradesh (3·6). The declining trend is unfortunate as this is acknowledged to be an effective and safe method. The experience of the past few years has brought out clearly the side effects on the acceptors, and it is necessary to take the effective measures to reinstate the programme. Greater emphasis will have to be laidon training the doctors screening of all the cases and regular follow-up measures.

19. Under the programme for the advocacy of conventional contraceptives, condoms (Nirodh) have played a major role. The distribution of Nirodh has improved during the past two years but steps have not been taken to ascertain the number of regular users. The estimated number of outlets selling Nirodh has risen to over 2 lakhs and the primary sale of Nirodh since the launching of the programme is over 120 million pieces Condoms provide a cheap and effective method of birth control, and this method needs to be made more popular through better education and distribution. In fact the solution to the population problem may well lie in the use of condoms and not in the permanent methods like sterilisation. This factor has to be recognised

and effective steps have to be taken to improve the sale and use of condoms. At the same time it should be ensured that correct statistics are collected from the field through a systematic survey of the regular users. The role of condoms in our pouulation control programme can be better appreciated under our conditions where 5·5 million new couples enter the reporductive age group every year. It is among these new entrants into the reproductive age group that the condom has to be made popular.

Role of Voluntary Agencies

20. A wide awareness about family planning has been created through mass media and extensive education. But a new direction to these activities is called for if the continuing large gap between awareness and practice is to be bridged. The approach should shift from presenting the need for family planning merely in terms of population explosion. Attempt needs to be made to show in what way the programme helps the individual. This means relating family planning to the requirements of health, education of children, better nutrition and better care of women. It is recognised that family planning should form part of the total welfare package for the individual and his family. It is essential, therefore, that this message is propagated through agencies which identify themselves with such development and welfare. This calls for a greater involvement of the Panchayati Raj institutions as well as social welfare institutions and voluntary organisations such as Mahila Samitis. These agencies can be used with advantage for carrying on the motivational campaign which includes mass media and extension work. In the cities there is a definite need to involve trade unions. The need for removing a major weakness in the programme, namely that of inadequate motivation, requires to be emphasised. Government agencies, working on their own, would not succeed in an appreciable manner in creating the necessary climate of acceptance, especially in the rural areas. Perhaps the only solution is the involvement of voluntary agencies in an active manner.

21. The crucial role of population education has to be recognised. There should be a purposive campaign in educating the young and old alike on the importance of small family norm. A gradual but widening exposure to the basis facts of life, along with the creation of a mounting awareness for limiting the family size, should be endorsed as a healthy *modus operandi*. The importance of introducing the subjects of population growth and control in the curricula for entire school stage cannot be over-emphasised.

22. An important event during the current year has been the impressive success of a massive family planning camp at Eranakulum in Kerala. This camp set a new trend and provides a useful guideline for our family planning programme. Over 62,000 vasectomy operations were conducted over a period of 31 days in an efficient and successful manner. In the context of the sagging performance of the programme, this success requires to be properly studied and, wherever possible, used as a model for the country. There is demand from States for holding similar camps. This trend may perhaps go against the policy of providing family planning services as part of the health services through an elaborately constructed infra-structure. But in view of the urgency of the problem facing us, it might be necessary to adopt the camp approach as well.

23. Another point for consideration relates to making a selective approach. Each year in India, 22 million children are born to nearly 100 million reproductive couples on the average. Of these, 13 million are first, second and third order produce and the remaining 9 million are fourth and fifth order produce. If all the couples restrict the number of children to 3, nearly 9 million births will not take place in the year. This will have a decisive impact on our goal of reducing the birth rate to 25 per thousand. It would be useful to concentrate efforts on the couples having more than 3 children and on the 5·5 million couples who enter the reproductive age group every year.

24. Future approach to the programme should be made on the lines of a movement. It should become a programme not confined to the efforts of medical personnel or the Family Planning departments alone, but involving with the entire governmental machinery, social organisations and publicity media in all their forms and activities.

25. It is in this light that the financial provisions and expenditure have to be viewed. It has been a matter for concern that there are considerable shortfalls in expenditure and a disturbing increase in the cost per acceptor. Table 3 brings out the non-utilisation of the allocated funds:

TABLE 3 : *Outlay and Expenditure for Family Planning Programmes*

(Rs. crores)

year	outlay	percentage in comparison to previous year	expenditure	percentage of utilisation
(1)	(2)	(3)	(4)	(5)
1966-67	15·00	25·0	13·38	89·2
1967-68	33·40	122·6	22·00	65·9
1968-69	37·00	10·7	28·00	75·7
1969-70	42·00	13·5	38·68	92·1
1970-71	52·00	23·8	45·00	87·3

26. Although expenditure has been mounting since the beginning of the Fourth Five Year Plan, physical performance has not kept pace with it. Capital expenditure on construction activities and vehicles has grown since 1969-70, but the number of equivalent sterilisations has been going down.

27. The average expenditure per thousand population during 1970-71 works out at Rs. 802.36 as against Rs. 602·75 during 1969-70. This expenditure per thousand was the highest in Andhra Pradesh (Rs. 1147·55) and the lowest in Assam (Rs. 285·45). The average expenditure per equivalent sterilisation was the highest, in Rajasthan (Rs. 655·30) and the lowest in Maharashtra (Rs. 147·65). Average expenditure in 1970-71 was higher by 112 per cent per equivalent sterilisation as compared to 1968-69 and higher by 39 per cent over the 1969-70 average. The high expenditure per equivalent sterilisation during 1969-70 and 1970-71 was mainly due to the priority given to the construction programme in some States, where 30 to 40 per cent of the total expenditure went towards construction and supply of vehicles. The increase in average expenditure also owes itself to the fall in the total number of equivalent sterilisation and the considerable increase in expenditure on staff. The rising trend of expenditure per equivalent sterilisation needs to be looked into by all working for the programme. It also demands better performance on various schemes and a review of their working. Those schemes which are not proving useful can be modified or even given up.

ANNEXURE I

Statement of Outlays and Expenditure of Central and Centrally Sponsored Schemes—Health Programmes

(Rs. crores)

sl. no. item	Fourth Plan outlay	1969-70 budget	1969-70 expend.	1970-71 budget	1970-71 expend.	1969-71 budget	1969-71 expend.	1971-72 budget
(0) (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 central	53·50	6·36 (11·89)	4·21[1] (7·87)	7·41 (13·85)	6·61 (12·36)	13·77 (8·74)	10·82 (20·23)	9·56 (17·27)
2 centrally sponsored	176·50	22·77 (12·90)	19·27 (10·92)	25·37 (14·37)	19·67 (11·14)	48·14 (27·7)	38·94 (22·06)	27·3 (15·51)
3 *total*	**230·00**	**29·13 (12·67)**	**23·48 (10·21)**	**32·78 (14·25)**	**26·28 (11·43)**	**61·91 (26·92)**	**49·76 (21·63)**	**36·93 (16·06)**

[1] Excluding capital expenditure which is reflected in the demand for grants for the Ministry of WH and UD.

NOTE: Figures in brackets indicate the percentage to total Plan outlay.

ANNEXURE II

Centrally Sponsored Schemes—Health Programmes

(Rs. lakhs)

sl.no.	scheme	earlier proposed	now suggested	savings col. (2-3)
(0)	(1)	(2)	(3)	(4)
1	post-graduate medical education	500	540	(—)40
2	training of occupational therapists etc.	23·71	23·71	—
3	malaria	7000	8944	(—)1944
4	urban malaria	220	375	(—)155
5	smallpox	1600	1600	—
6	T.B.	2250	1804	446
7	V.D.	102	76	26
8	leprosy	512	801	(—)289
9	filaria	550	488	62
10	trachoma	94·80	195	100·20
11	cholera	200·00	200	—
12	strengthening of primary health centres with basic services	4398	1900	2498
13	pilot project for mental health	50	50	—
14	ISM higher education	150	150	—
15	*total*	**17650·51**	**17146·71**	**503·80**

32—62P.C./72

ANNEXURE III

Central Schemes—Health Programme—Continued Schemes

(Rs. lakhs)

sl. no.	name of scheme	approved Fourth plan outlay	outlay as now suggested	savings col. (2-3)
(0)	(1)	(2)	(3)	(4)
	control of communicable diseases :			
1	small-pox	**37·93**	**28·24**	**9·69**
2	expansion of headquarter organisation.	7·24	7·24	—
3	national small-pox reference centre.	30·69	21·00	9·69
4	tuberculosis.	**51·25**	**46·25**	**5·00**
5	N.T.I. Bangalore.	25·00	25·00	—
6	expansion of BCG laboratory, Guindy.	21·25	21·25	—
7	health education in T.B.	5·00	—	5·00
8	veneral diseases	**12·00**	**7·00**	**5·00**
9	strengthening of VD centre Safdarjang Hospital, New Delhi.	5·00	5·00	—
10	provision for health and sex education material.	5·00	nil	5·00
11	stipends to trainees.	2·00	2·00	—
12	leprosy:	**30·31**	**23·65**	**6·66**
13	expansion of CLTRI, Chingleput.	4·83	19·97	(—)15·14
14	establishment of 2 teams to carry out the crash programme.	9·90	—	9·90
15	BCG programme.	10·58	—	10·58
16	health education programme.	1·32	—	1·32
17	establishment of assessment team.	3·68	3·68	—
18	filaria.	**6·05**	**6·05**	—
19	central survey team (one)	3·44	3·44	—
20	strengthening of headquarter Unit.	2·61	2·61	—
21	cholera:	**34·36**	**7·00**	**27·39**
22	central cholera control organisation.	5·00	2·00	3·00
23	central cholera reference laboratory	5·00	5·00	—
24	supply of material health education	5·00	—	5·00
25	supply of disinfactant.	19·36	—	19·36
	education, training and research			
26	Under-graduate Medical Education.	**275·00**	**335·00**	**(—)60·00**
27	assistance to private medical colleges.	50·00	50·00	—
28	National Medical Library, Delhi.	50·00	65·00	(—)15·00
29	L. H. M. C. and Hospital, New Delhi	125·00	170·00	(—)45·00
30	Kalavati Saran Children Hospital, New Delhi.	50·00	50·00	—
31	post-graduate medical education.	**1015·91**	**1185·29**	**(—)169·38**
32	establishment of regional workshop.	10·00	10·00	—
33	A.I.I. of Medical Sciences, New Delhi.	250·00	333·00	(—)83·00
34	Dr. R. P. Opthalmic Centre.	50·00	74·00	(—)24·00
35	Post-Graduate Medical Institute Chandigarh.	230·00	249·46	(—)19·46
36	JIMPER, Pondicherry.	250·00	250·00	—
37	stipend to post-graduate students.	100·00	125·00	(—)25·00
38	V. P. Chest Institute, Delhi.	65·91	74·83	(—) 8·92
39	A.I.I. of Mental Health, Bangalore.	60·00	69·00	(—)9·00
40	medical research.	**1100·00**	**1100·00**	—
41	nursing education	**100·00**	**94·00**	**6·00**
42	establishment of permanent building for college of nursing.	84·00	84·00	—
43	hostel for L. H. R. School, Delhi.	4·00	4·00	—
44	scholarship for Post-basic courses and P. G. Courses.	2·00	2·00	—
45	post-basic courses in 2 private institutions.	10·00	4·00	6·0
46	training	**53·71**	**53·71**	—
47	medical librarian.	1·00	1·00	—
48	NIHAE	52·71	52·71	—
49	*medical care*:	**1379·02**	**1131·76**	**247·26**
50	expansion of Willingdon Hospital.	51·16	81·50	30·34
51	expansion of Safdarjang Hospital.	95·13	95·13	—
52	establishment of rural hospital.	100·00	—	100·00
53	H. M. D. Ranchi.	24·91	24·91	—

ANNEXURE III—Contd.

(0)	(1)	(2)	(3)	(4)
54	extension of CGHS to Bombay.	221 ·00	160 ·00	61 ·00
55	extension of CGHS to Calcutta and other cities.	295 ·00	200 ·00	95 ·00
56	extension of CGHS to Allahabad.	63 ·00	63 ·00	—
57	B.T. Centres in vulnerable zones.	42 ·60	—	42 ·60
58	grants to voluntary organisations.	300 ·00	300 ·00	—
59	foreign exchange for the maintenance of plasma plants.	4 ·00	—	4 ·00
60	establishment of rehabilitation centre.	59 ·00	59 ·00	—
61	A.I.I. of physical Medicine and Rehabilitation, Bombay.	48 ·22	48 ·22	—
62	All India institute of Hearing and Speech Therapy, Mysore	43 ·00	43 ·00	—
63	C.N.C.R.C., Calcutta.	20 ·00	40 ·00	(—)20 ·00
64	Cancer Centre, Madras	10 ·00	15 ·00	(—)5 ·00
65	*other programmes.*	**434 ·80**	**289 ·73**	**145 ·07**
66	health education	30 ·00	37 ·50	(—)7 ·50
67	goitre.	40 ·00	32 ·00	8 ·00
	nutrition			
68	feasibility test of vitamins and minerals fortification of sample food.	3 ·50	2 ·50	1 ·00
69	pilot project on intensified communication and extension through state nutrition bureau.	3 ·30	3 ·30	—
	development of central Institutes.			
70	CRI Kasauli.	73 ·08	50 ·45	22 ·63
71	separate research wing of CRI Kasauli.	116 ·92	50 ·00	66 ·92
72	rural health research training centre, Najafgarh.	10 ·00	7 ·60	2 ·4
73	A.I.I. of Hygiene and Public Health, Calcutta.	31 ·00	23 ·38	7 ·62
74	NICD Delhi	108 ·00	64 ·00	44 ·00
75	Neurovirulance testing centre at NICD	19 ·00	19 ·00	—
76	*drugs*	**100 ·00**	**170 ·00**	**(—)70 ·00**
77	establishment of Zonal offices.			
78	expansion at the headquarters.	35 ·00	32 ·00	3 ·00
79	chemical trials of New drugs and publication prescriber's journal			
80	setting up of central biological laboratory, Chandigarh.	—	(+) 16 ·00	(—) 16 ·00
81	expansion of the central drugs laboratory including schemes for training of drug analysis.	25 ·00	54 ·50	(—) 29 ·50
82	establishment of the Central Indian Pharmacopoeia Laboratory. Ghaziabad.	25 ·00	65 ·50	(—) 40 ·50
83	central measure over Ayurvedia and Unani Drugs and Insecticides and poisons.	7 ·00	—	7 ·00
84	training of drugs inspectors.	8 ·00	2 ·00	6 ·00
85	*P.F.A.*	**61 ·15**	**42 ·15**	**19 ·00**
86	strengthening of central food laboratory.	5 ·00	5 ·00	—
87	Creation of food research standardisation centre, Ghaziabad.	26 ·00	16 ·00	10 00
88	training of public analysts and training of food inspectors.	4 ·15	4 ·15	—
89	publicity of PFA.	9 ·00	—	9 ·00
90	strenthening of Central Head-quarters Unit & Regional Organisations.	17 ·00	17 ·00	—
91	health intelligence	**25 ·00**	**25. 00**	—
92	continution of training programme at the existing Centres, Calcutta, Vellore and Nagpur.	4 ·89	4 ·89	—
93	opening of new centres of training one each at Nagpur and vellore types.	2 ·69	2 ·69	—
94	morbidity survey and health economics.	15 ·00	15 ·00	—
	expansion of CBHI			
95	manpower cell.	1 ·15	1 ·15	—
96	methods and special Studies Unit.	1 ·27	1 ·27	—
97	ISM including homoeopathy.	**633 ·00**	**633 ·00**	—
98	post-graduate education, upgrading of the deptt. for post-graduate training and expansion of post-graduate institutions.	90 ·00	76 ·50	13 ·50
99	refresher course for teachers.	3 ·00	2 ·60	0 ·40
100	pharmacopoeia laboratory, Ghaziabad.	15 ·00	3 ·60	11 ·40
101	orientation training for drugs inspectors.	2 ·00	1 ·30	0 ·70
102	central council of indian medicine.	15 ·00	13 ·70	1 ·30
103	strengthening of advisorate in ISM	15 ·00	2 ·50	12 ·50
104	stipends and scholarships to trainees in teaching institutions.	17 ·00	—	17 ·00
105	grant-in-aid to voluntary organisations for upgrading of under-graduate colleges	100 ·00	57 ·00	43 ·00
106	nature cure.	15 ·00	17 ·50	(—) 2 ·50
107	Homoeopathy under-graduate education.	100 ·00	58 ·30	41 ·70
108	central council for research in indian medicine and homoeopathy.	260 ·00	400 ·00	(—) 140 ·00
109	literary research institute, Jhansi.	—	—	
110	pharmacopoeial committee on ISM and homoeopathy.	1 ·00	—	1 ·00
111	*total*	**5349 ·49**	**5189 ·83**	**159 ·66**

CHAPTER 22

REGIONAL DEVELOPMENT, HOUSING AND WATER SUPPLY

IN the field of urban development and housing, Government has a limited role. It consists in extending assistance to selected sections of the community and to specific programmes like slum clearance and improvement. In the West Bengal Plan for the integrated development of the Calcutta Metropolitan region, there is provision to improve water supply, sewerage and drainage, roads, slum clearance and housing. The urban housing programmes seek to subsidise housing schemes for industrial workers and economically weaker sections. Owing to lack of resources and high unit costs, Government's efforts are directed towards keeping land values under check, providing financial aid to cooperative and private housing schemes and lowering construction costs through research and supply of material for cheap building. The bulk of investment on housing comes from the private sector, and its contribution is expected to rise to Rs. 2140 crores during the Fourth Plan from an estimated investment of Rs. 1400 crores in the Third Plan.

I. HOUSING

2. Of the seven programmes in the Central Sector with a total outlay of Rs. 48.6 crores (Annexure II gives progress of expenditure) the major schemes relate to office and residential accommodation for Central Government employees at an outlay of Rs. 30 crores and the setting up of the Housing and Urban Development Corporation. The target is 13,000 dwelling units for Government employees. Of these, 10,000 units are for those drawing a salary of less than Rs. 500 a month. So far 5,760 quarters have been taken up. Shortage of steel and slack coal for burning bricks has slowed down the progress and a shortfall of at least 10 per cent achievement is expected.

3. The Housing and Urban Development Corporation was registered as a private limited company in 1970-71 and started functioning in 1971-72. A provision of Rs. 10 crores was made as contribution towards equity capital. The Corporation is expected to build up a revolving fund of the order of about Rs. 200 crores from Government allocations, borrowings from financial institutions like the Life Insurance Corporation, Unit Trust and the market. In turn, it would lend money to State Government, Housing Boards and housing and urban authorities for financing projects promising a quick turnover. The Corporation has not been able to make much progress in building up the fund. On the average, the funds raised by the Corporation may not exceed Rs. 20 crores a year. It may become necessary to augment its resources as there is considerable demand from States and Housing Boards for financial assistance. Two projects—one from Gujarat and the other from Maharashtra and involving a loan of Rs. 6 crores—have been sanctioned. Another set of projects from the Tamil Nadu Housing Board, Delhi Development Authority and the Mysore Housing Board, involving loans of Rs. 11 crores, is under scrutiny.

4. The Cellular Concrete Plant, being set up by the Tamil Nadu Government with a loan from the Centre, has made progress. The cost has gone up from the original estimate of Rs. 2·6 crores to Rs. 3·2 crores.

5. In 1970-71, the plantation labour housing scheme was transferred from the State sector to the Centre, and the pattern of financial assistance liberalised by raising the subsidy from 25 per cent to 37-1/2 per cent. Loans cover one half of the approved cost and the plantation owner has to bear only 12-1/2 per cent of the total cost. Implementation of the scheme has been satisfactory.

6. Progress on the dock labour housing scheme has been slow. Against a provision of Rs. 2·5 crores, Rs. 55 lakhs is likely to be spent in the first three years. The pattern of financial assistance has been liberalised by raising the subsidy from 20 to 25 per cent and the loan content from 35 to 50 per cent. This reduces the share contribution of Dock Labour Boards from 45 to 25 percent. Dock Labour Boards in large metropolitan cities like Bombay, nevertheless, find it difficult to raise their contribution and to build within the approved cost. A committee appointed by the Ministry of Works and Housing has examined the ceiling on costs and recommended some upward revision for various housing schemes. This might help, but the original target will not be achieved.

7. In the State sector, the main programme relates to subsidised industrial housing, low income and middle income group housing, rental housing, slum clearance and improvement, and village housing. Of the total outlay of Rs. 124·4 crores, expenditure for the first three years has been reasonable. While 60 percent of the outlay has been utilised, however, village housing has been neglected. On the average, States have provided only 6 per cent of the total outlay for village housing, and it may be necessary to earmark specific provisions for village housing.

8. Slum clearance and improvement is handicapped by many socio-economic factors, but attention is being given to it in metropolitan cities. The Tamil Nadu Government has constituted a Slum Clearance Board for tackling the problem on a large scale. The Calcutta Metropolitan Development Authority has undertaken a massive improvement programme in *bastis*. In Delhi, the jhonpri removal scheme seeks to provide squatters with developed sites of 25 square yards each for putting their huts and the congested *katras* in the main city are being improved with the provision of sanitary facilities and other amenities. Annexure I gives the State-wise progress of expenditure.

II. Urban Development

9. In the Central sector, there are two programmes in operation, namely, preparation of inter-State plans by the Town and Country Planning organisation under the Ministry of Works and Housing and training and research in local Government administration. Work is in progress on the National Capital Region Plan around Delhi, which covers the Union Territory and parts of Haryana and Uttar Pradesh, as well as on the South East Resource Region covering parts of West Bengal, Bihar, Orissa and Madhya Pradesh. These Regional Plans will provide an outline of developmental programmes for inclusion in the Plans.

10. Grants were given to five centres of training and research in municipal administration in the Indian Institute of Public Administration, New Delhi, Universities of Lucknow and Osmania, All India Institute of Local Self-Government, Bombay and the Institute of Social Welfare and Business Management, Calcutta. It has been felt that the Delhi centre at the Institute of Public Administration needs to be developed as a technical cell to help the Ministry.

11. The main programmes in the plans of States and Union Territories for urban development are:

(i) Preparation of master plans for important urban centres and their surrounding areas;

(ii) Implementation of these plans by State Government;

(iii) Loans and grants to local bodies for minor projects of civic improvement such as pitching and draining of streets, provision of parks and fillingup of low-lying areas.

12. The Maharashtra Government has taken up the development of second city adjacent to Bombay in order to relieve the congestion on the existing city. A special provision of Rs. 43 crores has been made in the West Bengal Plan for the integrated development of the Calcutta Metropolitan area. During the first three years, a sum of Rs. 19·4 crores would have been spent on its schemes. Programmes for the Calcutta Metropolitan District are being supplemented to a significant extent through non-Plan provisions. The overall provision for the Calcutta Metropolitan Development Authority, constituted in 1970 under the C.M.D.A. Act, is of the order of Rs. 140 crores. By the middle of 1971-72, Rs. 27 crores have been spent. Annexure III gives the Statewise figure of expenditure.

13. Four capital development projects at Gandhinagar (Gujarat), Chandigarh, Bhubaneswar and Bhopal (M.P.) are being implemented under the miscellaneous programmes in the State Plans. These projects cover urban development activties such as land acquisition; provision of the Government and civil buildings, and housing. The Plan provisions and expenditure are :

Table 1: *Outlay and Expenditure on Capital Project*

(Rs. lakhs)

sl. no.		Fourth Plan	1969-70	1970-71	1971-72	total in three years
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	Gandhinagar	1825	666	524	303	1493
2	Bhubaneswar	300	25	41	57	123
3	Bhopal	550	89	77	200	366
4	Chandigarh (gross)[1]	1100	156	202	300	658
		(400)	(23)	(39)	(99)	
5	*total*	3775	936	844	860	2640

[1]Gross inclusive of ploughing back of sale proceeds.

Note:— Plan provisions are shown in brackets.

14. The Fourth Plan outlays and the progress of expenditure on Housing and Urban Development are indicated in table 2.

TABLE 2: *Outlay and Expenditure on Housing and Urban Development*

(Rs. crores)

sl. no.	scheme	Fourth Plan outlay	1969-70 expenditure	1970-71 antici-pated	1971-72 outlay	three years total	as percentage of total outlay	balance as per plan
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	centre	48·60	5·04	8·70	8·77	22·51	46·3	26·09
2.	states	172·99	21·99	36·18	40·64	98·81	57·1	74·18
3.	union territories	21·33	3·90	3·98	4·85	12·73	60·0	8·60
4.	*total*	**242·92**	**30·93**	**48·86**	**54·26**	**134·05**	**54·5**	**108·87**

III. WATER SUPPLY AND SANITATION

15. The proposed outlay on the Plan is Rs. 412·76 crores for urban and rural water supply and sanitation. This includes Rs. 404·73 crores in the States and Union Territories sector and Rs. 8·03 crores in the Central Sector. The actual/anticipated expenditure in the first three years of the Fourth Five Year Plan is shown in table 3 :

TABLE 3 : *Actual Expenditure during First Three Years*

(Rs. lakhs)

sl. no.	scheme	Fourth Plan provisional	1969-70 actual exp.	1970-71 actual exp.	1971-72 anticipated exp.	percentage in three years
(0)	(1)	(2)	(3)	(4)	(5)	(6)
1	states and union territories	**40473**	**4454**	**7087**	**8338**	**49**
2	urban	28023	2508	4559	5453	44
3	rural	12450	1946	2528	2885	59
4	central sector	**803**	**39**	**161**	**342**	**66**

16. There is an increasing keenness amongst the States and Union Territories to provide more funds for water supply schemes particularly for rural water supply but these efforts have so far been constrained by the overall State Plan ceilings.

Urban Water Supply and Sanitation

17. The progress on urban water supply schemes has been fairly satisfactory except for the metropolitan cities like Bombay, Madras, Hyderabad and Delhi. The cost of Bombay and Delhi water supply schemes is likely to be considerably higher than originally estimated mainly on account of the change in the scope and design of the schemes. Progress has also been hampered due to difficulties in procurement of steel plates for the main pipeline in Bombay and in the finalisation of the design and contract for the main pipeline for Madras. In the case of Delhi, delay has taken place in settling preliminaries for the source of water which has necessarily to be in one of the adjoining States.

18. Due to pressing need of funds for urban water supply and limited financial resources, most of the States are giving very low priority to urban sewerage. The local bodies also do not readily come forward to obtain loans from the State Government for sewerage schemes due to the high cost involved in such schemes and the relative unproductive nature of these schemes in comparison to the water supply schemes. For the conversion of dry latrines into sanitary flushed ones, excepting in Gujarat State, very little progress has been made in most of the States. Several practical difficulties are apprehended in the implementation of the programme in unsewered areas. Nevertheless, in view of the significance of this programme in the improvement of sanitation in areas where sewerage may take long to be introduced, emphasis has been laid on the acceleration of this programme with effect from 1971-72.

Rural Water Supply

19. Before the Fourth Plan, rural water supply schemes were taken up under the programmes

for Community Development, Local Development Works and Welfare of Backward Classes. These were supplemented by the National Water Supply and Sanitation programme (Rural) of the Ministry of Health. The former programmes provided for water supply through simple measures like wells and hand pumps while NWSSP (Rural) was confined to such villages or groups of them where tapping or distribution of water required a measure of technical skill. Through these programmes 1 ·2 million wells were constructed or renovated and nearly 17000 villages were provided with piped water supply.

20. For the Fourth Plan, it was envisaged that the bulk of the provision of Rs. 125 crores for rural water supply under 'water supply and sanitation' sector would be utilised in areas of acute scarcity and that other areas would meet their need, from programmes for Community Development, Welfare of Backward Classes or through local effort. A physical target for this provision was not worked out. During the course of formulation of the Annual Plan 1971-72 an attempt was however made to work out a physical target for the Fourth Plan period from which it appeared that nearly 70,000 villages would be served during the Fourth Plan period—20,000 through piped water supply and the remaining through other simpler measures.

21. In the first two years of the Fourth Plan the physical achievements as well as actual expenditure have somewhat exceeded the proposed targets and outlays. To a certain extent the progress on this programme was helped by the investigations carried out by the Geological Survey of India and the Central Ground Water Board to explore ground water resources for provision of drinking water, particularly in the rural areas of Rajasthan and Gujarat. The UNICEF assistance (described later in this chapter) in the form of high speed drilling rigs also accelerated exploitation of ground water in hard rocky areas. Present indications are that an additional amount of Rs. 30 crores can be utilised for rural water supply schemes over the Fourth Plan approved outlay of Rs. 125 crores.

22. The level at which the programme of water supply and sanitation is being financed at present needs to be drastically stepped up, as at this rate it may take nearly 30-40 years before drinking water is made available even to areas which have been suffering permanent disadvantages in this regard. Both for the selection of suitable schemes for implementation and for further acceleration of the programme, it is necessary to get a large shelf of rural water supply schemes ready in the remaining period of the Fourth Plan based on definite sources of water supply. With the completion of piped water supply schemes in villages, the question of their proper maintenance and operation also have to be given adequate attention.

LIC Loans

23. The overall resources in the Forth Plan take into account a provision of Rs. 30 crores to be taken by the local bodies of the various States for supplementing the provision on water supply and sanitation. During the year 1969-70, an amount of Rs. 5 ·5 crores was raised by nine State Governments or their local authorities. During 1970-71, a loan of Rs. 10 ·94 crores was obtained by nine States including six which had taken a loan in the previous year also. It is anticipated that States would possibly be drawing a higher amount than Rs. 30 crores as originally anticipated. There are however a number of States which have not yet obtained any loan and which need to gear up their machinery for this purpose.

24. The loans are negotiated by individual local authorities with the LIC with a guarantee from the State Government. These individual negotiations involve considerable procedural delays. It may be advantageous to adopt the procedure followed for housing programmes under which the State Government can negotiate these loans in lumpsum on behalf of all their local authorities.

25. The progress on water supply scheme was to some extent set back due to the shortage of steel plates. Steel plates, inter-alia, are also used for the manufacture of galvanised iron pipes which are extensively used for rural water supply schemes. While the shortage of galvanised iron pipes was to some extent met by substitution of PVC pipes, special efforts have to be made, as in the case of Bombay water supply scheme, for the import of these steel plates. For drilling in hard rocky areas (under a Central scheme referred to later) high speed pneumatic drilling rigs are already being obtained through UNICEF assistance, but to intensify this work, indigenous production of such rigs has to be undertaken.

26. Table 4 gives the break up of a provision of Rs. 8 ·03 crores provided in the Central sector in terms of various programmes and schemes and also progress of expenditure during the first three years against each :

TABLE 4 : *Expenditure on Central Sector*

(Rs. lakhs)

sl. no.	scheme	Fourth Plan provision	1969-70 actual exp.	1970-71 actual exp.	1971-72 anticipa-ted exp.	percentage in three years	balance for the last two years
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	*central sector*	**802·60**	**37·56**	**161·48**	**341·77**	**67**	**230·61**
2	centrally sponsored special investigations divisions central schemes	200	36·14	50·36	119·32	103	(—)5·82
3	training in public health engg.	25	1·42	1·29	2·45	21	19·84
4	prevention of water pollution	7·60	nil	0·01	1·00	14	6·59
5	UNICEF assisted rural water supply programme value of rigs	570	nil	104	206	54	260
	local expenses	nil	nil	5·82	13	—	—

Special Investigation Divisions

26. This is a Centrally sponsored scheme under which State Government, as a measure for advance action in investigation of rural water supply schemes, are being given hundred per cent financial assistances from the Centre for setting up public health engineering divisions to collect and collate necessary data on the existing and potential sources of water supply and to identify scarcity areas. The scheme has been in operation since 1962-63 and although a good deal of ground work has been covered, progress in the collation and presentation of a total picture for various parts of State on a uniform and coherent basis has been rather slow. After a review of the performance in the first two years of the Plan taken at the time of Annual Plan discussions for the year 1971-72, it was decided that efforts in this field needed to be intensified. It was further felt that financial assistance now being made available to each State was not adequate to cover employment of necessary staff for this work. New divisions were required to be set up in some of the new States like Meghalaya, Nagaland, Manipur and Tripura to which such assistance had not yet been extended. It may, therefore, be necessary to find additional funds to the extent of Rs. 1·5 crores to meet these needs.

Training in Public Health Engineering

27. Under this scheme, the Central Ministry of Health runs several specialised training courses through selected Institutes for various levels of Public Health Engineers and subordinates such as post-graduate training in public health engineering, training of water and sewerage works operators and analysts, well drillers etc. There are also plans to start some additional courses on various aspects of public health engineering.

Prevention of Water Pollution

28. An allocation was made for the establishment of a Central Board for Prevention of Water Pollution. The Bill in this behalf is at present before a Joint Select Committee of the two Houses of Parliament. It is proposed to take advance action in this connection from the current year onwards.

Supply of Rigs

29. Under a UNICEF programme 100 high speed pneumatic drilling rigs for use in hard rocky areas are expected to be received as assistance from UNICEF. The original plan provision of Rs. 3·5 crores was notional inasmuch as it represented the original value or rigs. Subsequently it was intimated by the Ministry that the value of these rigs would be of the order of Rs. 5·7 crores, hence the notional provision was agreed to be stepped up accordingly. In addition an amount of Rs. 50 lakhs may be required to meet local expenses for handling the rigs. In 1970-71, 18 rigs were received and by the mid year 1971-72 another 16 rigs have been received. Six more rigs are in the process of clearance. Of the 16 rigs received this year 8 have been diverted for emergency works for refugee relief. It is hoped that 35 rigs would be received in 1971-72 and it is anticipated that the total of 100 rigs would be made available by the end of the Fourth Plan.

Outlay and Expenditure on Housing

(Rs. lakhs)

sl. no.	state/union territory	Fourth Plan provision	1969-70 expenditure	1970-71 anticipated	1971-72 outlay
(0)	(1)	(2)	(3)	(4)	(5)
1	*states*	**11349·00**	**1602·00**	**2636·00**	**2574·00**
2	Andhra Pradesh	750·00	20·00	44·00	169·00
3	Assam	145·00	12·00	15·00	27·00
4	Bihar	750·00	86·00	124·00	130·00
5	Gujarat	625·00	51·00	100·00	180·00
6	Haryana	300·00[1]	50·00	51·00	50·00
7	Jammu and Kashmir	300·00	19·00	60·00	50·00
8	Kerala	460·00	113·00	134·00	110·00
9	Madhya Pradesh	640·00[1]	84·00	134·00	250·00
10	Maharashtra	1400·00	221·00	590·00	320·00
11	Mysore	700·00	161·00	176·00	180·00[1]
12	Nagaland	50·00	10·00	10·00	20·00
13	Orissa	475·00	108·00	133·00	150·00
14	Punjab	600·00[1]	5·00	85·00	74·00
15	Rajasthan	645·00	90·00[1]	123·00	117·00
16	Tamil Nadu	1625·00	285·00	371·00	325·00
17	Uttar Pradesh	1200·00	213·00[1]	270·00	260·00
18	West Bnegal	672·00	74·00	214·00	120·00
19	Himachal Pradesh	—	—	—	40·00
20	Meghalaya	12·00	—	2·00	2·00
21	*union territories*	**1094·00**	**229·07**	**194·23**	**293·8**
22	Andaman and Nicobar	13·10[2]	0·50	2·40	3·83[1]
23	Chandigarh	10·00[1]	6·81[1]	4·00	2·50
24	Dadra and Nagar Haveli	6·00	1·35	1·35	1·90
25	Delhi	800·00	173·85	140·09	250·34
26	Goa, Daman and Diu	92·00	15·70	11·30	15·00
27	Himachal Pradesh	78·00	9·88	10·00	as shown above
28	Laccadive Islands	1·50[2]	—	0·05	0·10
29	Manipur	25·00	—	3·50	4·25
30	NEFA	—	—	—	—
31	Pondicherry	46·00	16·57[1]	19·04	12·90
32	Tripura	22·40	4·41	2·50	3·00
33	*grand total*	**12443·00**	**1831·07**	**2830·23**	**2867·82**

[1]Includes Urban Development.

[2]Includes Welfare of Backward Classes.

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Outlay and Expenditure on Housing and Urban Development—Central Sector

sl. no.	item	Fourth Plan provision	1969-70 expenditure	1970-71 anticipated	1971-72 outlay	three year total 1969-70
(0)	(1)	(2)	(3)	(4)	(5)	(6)
	housing					
1	office and residential accommodation	3000·00	273·47	537·78	570·00	1381·25
2	housing statistics	35·00	5·20	3·10	4·00	12·30
3	experimental housing	35·00	1·10	7·00	3·00	11·10
4	housing and U.D. corporation	1000·00	—	200·00	200·00	400·00
5	cellular concrete plant	260·00	200·00	45·00	15·00	260·00
6	plantation labour housing	200·00	—	42·00	50·00	92·00
7	dock labour housing	250·00	12·81	25·00	17·00	54·81
	urban development					
8	town planning and regional planning	50·00	6·52	9·00	10·00	25·52
9	local self government training and research	30·00	5·08	5·75	5·76	16·59
10	*total*	**4860·00**	**504·18**	**874·63**	**874·76**	**2253·57**

Outlay and Expenditure on Urban Development

sl. no.	state/union territory	Fourth Plan provision	1969-70 expenditure	1970-71 anticipated	1971-72 outlay
(0)	(1)	(2)	(3)	(4)	(5)
1	*states*	5950 ·00	697 ·00	982 ·00	1490 ·00
2	Andhra Pradesh	200 ·0	64 ·00	28 ·00	40 ·00
3	Assam	160 ·00	29 ·00	32 ·00	43 ·00
4	Bihar	90 ·00	14 ·00	15 ·00	20 ·00
5	Gujarat	5 ·00	7 ·00	8 ·00	10 ·0
6	Haryana	1	—	—	—
7	Jammu and Kashmir	90 ·00	14 ·00	17 ·00	15 ·0
8	Kerala	100 ·00	24 ·00	29 ·00	29 00
9	Madhya Pradesh		5 ·00	14 ·00	10 ·00
10	Maharashtra	400 ·00	39 ·00	43 ·00	240 0
11	Mysore	100 ·0	1	—	1
12	Nagaland	128 ·00	10 ·00	12 ·00	28 ·00
13	Orissa	50 ·00	5 ·00	24 ·00	23 ·00
14	Punjab	1	5 ·00	10·00	14 ·00
15	Rajasthan	1	1	1	5 ·00
16	Tamil Nadu	125 ·00	24 ·00	39 ·00	40 ·00
17	Uttar Pradesh	1	1	1	30 ·00
18	West Bengal	4407 ·00	457 ·00	701	890 ·00[3]
19	Himachal Pradesh				43 ·00
20	Meghalaya	50.0	—	10 ·00	10 ·00
21	*union territories*	1039 ·25	160 ·70	203 ·83	190 ·74
22	Andaman and Nicobar	1	—	—	—
23	Chandigarh	1	1	—	—
24	Dadra and Nagar Haveli	—	—	—	—
25	Delhi	900 ·00	152 ·96	181 ·00	172 ·00
26	Goa, Daman and Diu	1	3 ·50	3 ·55	0 ·06
27	Himachal Pradesh	75 ·00	1 ·48	13 ·46	as shown above
28	Laccadive Islands	—	—	—	—
29	Manipur	15 ·00	0 ·73	2 ·21	3 ·22
30	NEFA	—	—	—	—
31	Pondicherry	34 ·00	1	—	7 ·46
32	Tripura	15 ·25	2 ·13	3 ·61	8 ·00
33	*total*	6989 ·25	857 ·70	1185 ·83	1680 ·74

[1]Included under Housing.

[2]Includes Rs. 363 lakhs for CMDP.

[3]Includes Rs. 870 lakhs for CMDP.

CHAPTER 23

SOCIAL WELFARE

In the Fourth Five Year Plan, social welfare services are directed towards the development of curative, rehabilitative and preventive programmes for the socially and physically handicapped and for women and children in rural areas and from low income groups.

Family and Child Welfare

2. In the social welfare sector, child welfare has been accorded the highest priority. A major programme under implementation is that of family and child welfare projects in rural areas. The anticipated expenditure on the scheme in the first three years of the Fourth Plan is Rs. 3.73 crores against a plan provision of Rs. 7.50 crores. Before the beginning of the Fourth Plan, there were 100 family and child welfare projects in existence. In the first three years, 151 more projects have been converted. The present policy is to start new projects or convert the existing welfare extension projects in such States as have agreed to bear the financial liability of continuing them after the five year period so far only five States have accepted this condition. In the remaining years of the Plan, the policy should be to persuade the other State Governments or Union Territories to accept liability for continuing these projects after a period of five years of support by the Central Government and to start new projects in these States which have given this undertaking. It is necessary to bring in State Governments more directly in the administration of these projects and in the composition of funetional committees and othor administrative arrangements since they have to take over the responsibility for these projects ultimately. There is need for technical supervision of these projects and for close coordination with departments implementing other social services at the field level. Steps should be taken to ensure that the programmes for mothers and children are tied up as envisaged. A deliberate effort should be made to raise resources from the community in addition to buildings and other facilities that have often been provided by it. This will help to enrich the programme for its benefit.

3. To improve the standards of services in family and child welfare projects, in-service training of personnel has been arranged at six centres for periods varying from three to ten months. During the first two years, 877 field staff have been trained. The system of progress reporting needs to be improved. Some assistanee needs to be provided to the existing training institutions for personnel of family and child welfare projects in order to enable them to develop indigenous teaching material and to relate class room instruction more meaningfully to the problems faced by balsevikas and griha-sevikas.

4. For tackling the problem of mal-nutrition among pre-school children, there are now two programmes under implementation by the Department of Social Welfare, namely, nutrition feeding of pre-school children through balvadis, and crash nutrition feeding programme for children in the age group 0-6 years and expectant mothers in the slum and tribal areas. The first programme was initiated in January 1971 and 1.18 lakh children are being provided with nutritional services at 3,301 balvadis through the Indian Council of Child Welfare, Harijan Sevak Sangh, Bharatiya Adimajati Sevak Sangh and the Central Social Welfare Board. The Second programme was begun in 1970-71 as a non-Plan scheme. During 1970-72 ; the anticipated expenditure is Rs. 11.48 crores; in 1970-71 about 6.5 lakh children were covered under the scheme and in 1971-72, a target of 20 lakh children was proposed. It is necessary to integrate the two programmes in order to reduce overhead administrative expenditure. Effective supervision, guidance and follow-up at different levels and coordination with related services will have to be ensured. It may be desirable to consider the promotion of nutrition among preschool children from two angles, namely, (i) development of balvadis which will provide the infrastructure for promotion of nutrition feeding as well as for other child development programmes and (ii) provision of nutrition through balvadis and other organisations. Even if the development of balvadis is done with the support of the Central Government initially, their continuation after some time should be the responsibility of State Governments or of voluntary agencies. It would, therefore, be desirable to work out provisions for the two schemes along these lines.

Welfare of Destitute Children

5. In spite of the priority given to the welfare of destitute children, the programme has made slow progress because of the delay in working out suitable schemes to be implemented through voluntary organisations and in providing necessary budgetary support. The scheme could not be initiated in the first two years. In 1971-72 an expenditure of Rs. 12.5 lakhs is anticipated. It would be desirable to step up the pace of implementation. States will need to expand considerably the services for these children under the Children acts. Simultaneously, a detailed asses-

sment of the nature and dimensions of the problem in each State has to be made, keeping in view the existing services and their projected development over the Plan years. It may be desirable to promote the programme through voluntary organisations in the field of child welfare. But a longer view needs to be taken on requirements of these children in areas where voluntary effort is poorly developed and special measures need to be worked out so that a balanced development of services can take place. It is also necessary to extend the services to cover children under 5 years. A greater emphasis should be given to the development of non-institutional services.

6. The Central Social Welfare Board provides grants-in-aid to voluntary organisations for the implementation of programmes for women and children, particularly in rural areas. For this a provision of Rs. 6.50 crores has been made in the Plan. During the first three years, the expenditure is estimated to be Rs. 3.95 crores. Field counselling services have been poorly developed. No built-in system of evaluation of the grant-in-aid policy exists. The Board has to make a systematic analysis of the needs and requirements of voluntary organisations in the light of Plan priorities and policies and develop its grant-in-aid policy. The Department of Social Welfare have the programmes of the Central Social Welfare Board under review. It is necessary to draw up for each State a perspective plan of development of voluntary effort keeping in view the Plan priorities and policies. The grant-in-aid policies of the Central and State Governments and the Board need to be rationally worked out.

Welfare of the Handicapped

7. For the welfare of the physically handicapped in the Central Sector, the major schemes relate to expansion and establishment of national centres for the blind, the deaf, the mentally retarded and the orthopaedically handicapped. This is in addition to programmes of education, employment, research studies, training of personnel and assistance to voluntary organisations. During the first three years, the estimated expenditure is Rs. 0.59 crore against a Plan outlay of Rs. 2.50 crores. The development national centres has been delayed on account of non-availability of suitable accommodation or land. There are likely to be shortfalls in expenditure. It is desirable to undertake a State-wise survey assessing the dimensions of the problem of different categories of handicapped persons to be able to develop services in social welfare, health and education. It is necessary to determine carefully the types of trades in which the handicapped persons should be trained so as to improve their chances of placement. The standards of education and training provided by voluntary organisations should be raised by extending adequate financial support and technical guidance. The placement of handicapped persons should be promoted both through the special employment exchanges as well as through the efforts of voluntary organisations to convince employers that a handicapped worker is as productive as normal worker. Alternative approaches to placement in sheltered and open employment need advance consideration in addition to proposals for giving concessions in the matter of their employment or reserving posts for them.

Research and Training

8. For promotion of research and training, the main programmes under implementation are the Central Institute of Research and Training in Public Cooperation and the balsevika training programme. During the first three years, the anticipated expenditure for these two programmes has been Rs. 30 lakhs. The work of the Central Institute of Research and Training in Public Cooperation is being reviewed by a committee constituted by the Department of Social Welfare. It is necessary to visualise the role of this Institute vis-a-vis the schools of social Work, the Central Social Welfare Board and other training institutions and to place greater emphasis on research.

9. The balsevika training programme is being implemented through the Indian Council of Child Welfare at 11 centres. In the first two years of the Plan, 814 balsevikas have been trained. A committee has been constituted by the Department of Social Welfare to evaluate the scheme. A major problem is recognition for the course for the purposes of employment. In the past three years, little progress has been made in the promotion of research in social welfare. Now that an Advisory Committee on Social Welfare Research has been constiuted and research priorities drawn up, it is necessary to provide financial support for research and evaluation. It is desirable to coordinate the promotion of research activities of the Department of Social Welfare at the Centre with those of State Governments, Schools of Social Work, Indian Council of Social Science Research and other research organisations.

Strengthening all-India Voluntary Organisations

10. Under the programme of assistance to all-India voluntary organisations, grants-in-aid are given to national organisations. During the first three years, the expenditure is estimated at Rs. 13 lakhs. It is necessary to provide larger support to this programme, as a major strategy for the development of welfare services is utilisation of the infra-structure provided through voluntary efforts. This sponsorship should lie within the frame-work of Plan priorities and policies. It would be necessary to consider strengthening of the organisational side of voluntary organisations by providing some financial support for the appointment of professionally qualified personnel for programme formulation and supervision.

11. In regard to the scheme of assistance to persons in permanent liability homes and infirmaries who are considered rehabilitable, there is likely to be a shortfall in the utilisation of the Plan provision of Rs. 125 lakhs. The anticipated expenditure in the first three years is Rs. 40 lakhs.

Pre-vocational Training Centres

12. The scheme of pre-vocational training centres was begun in the Third Plan. It aims at providing children in the age group 11-14 years with an adequate preparation for life through a combined three-year course in general education and vocational training. At present there are 79 centres of which six are for agricultural trades and twelve for girls in home science. The functioning of the centres has brought to surface problems which need to be sorted out in consultation with State Governments and the scheme should be consolidated in the remaining Plan years. The parents of the trainees in the centres do not view the course as a terminal one and in some States there have been difficulties in getting the boys admitted to industrial training institutes, technical centres or general education institutes. There are but limited employment opportunities for the boys who pass out from these centres because they have not yet acquired the required skills. There are also hardly any chances for them to utilise newly acquired skills for developing some family enterprises. The State Governments may have to review the utility of the programme in the light of their varying conditions and needs, particularly since the cost of training in these centres is higher than the normal expenditure on a child in ordinary schools.

Social Defence

13. Social defence services are organised mainly within the framework of specific legislation. The implementation of the Acts has been unsatisfactory. Several States are yet to enact Children's Acts while others only partially implement the provisions or have extended the application of the Act only to a few districts, on account of financial constraints. It is necessary to review the legislation and executive measures pertaining to beggary, delinquency and crime, immoral traffic in women and young girls, and take corrective measures. The Central Bureau of Correctional Services has an important role to play. The public needs to be made aware of the need for creating conditions in society which would minimise the incidence of individual and social disorganisation.

14. Absence of data, both qualitative and uantitative, has also been a major handicap in plan formulation and implementation. The Evaluation Committees have been handicapped by the absence of data on the progress of different schemes because the system of progress reporting is weak. At the Centre as well as in the States, the system for storage or retrieval of information leaves room for improvement.

State Plans

15. The formulation of the State plans for social welfare continues to be unsatisfactory. The proposals are more in the nature of a collection of schemes than a plan. It is necessary to set up planning cells in the departments of social welfare in the States and staff them with professionally trained personnel.

16. The progress of expenditure on social welfare in the States has been slow. Although for the States as a whole, the anticipated expenditure is 43.3 per cent of the Plan outlay, in several States it is much lower. The growth of welfare services has also not been even when viewed in terms of inter-programme priorities or geographical distribution. Welfare services have tended to concentrate in urban areas. The proportion of outlay on social defence has been rather high, and the services for children, women and the physically handicapped have lagged behind.

17. An outlay of Rs. 41.41 crores has been provided for the development of social welfare services of which Rs. 29.43 crores are at the Centre and Rs. 11.98 crores in the States and Union Territories. A special nutrition programme for children has also been included in the Plan, for which the total Plan requirement is estimated at Rs. 37.48 crores. Progress of expenditure shows that at the Centre (excluding the special nutrition programme) only 38.9 per cent of the outlay is likely to be spent during the first three years. In the States and Union Territories this percentage is anticipated to be 43.3 per cent. This is due to the low priority given to welfare programmes, inability to provide budgetary support to Plan outlays and delays in starting some new schemes.

18. Annexure 1 gives the anticipated expenditure in the first three years of the Plan. Savings are anticipated on the schemes of nutritional feeding in balvadis, welfare of destitute women programmes of the physically handicapped research, training and administration, the Central Bureau of Correctional Services, educational work for prohibition and rehabilitation of rehabilitable persons from permanent liability homes.

ANNEXURE I

Outlay and Expenditure in Social Welfare

(Rs. lakhs)

sl. no.	programme	Fourth Plan original outlay	1969-70 actuals	1970-71 actuals	1971-72 anticipated
(0)	(1)	(2)	(3)	(4)	(5)
1	*centre*	**2750·00**	**257·09**	**476·71**	**1442·48**
2	family and child welfare	750·00	93·26	140·00	140·00
3	nutritional feeding in balwadis	500·00	—	12·10	90·00
4	special nutrition programmes for children[1]	—	—	150·00	998·38
	assistance to voluntary organisations for the welfare of:				
5	destitute children	200·00	—	—	12·49
6	destitute women	100·00	—	—	4·00
7	grant-in-aid to voluntary organisations by Central Social Welfare Board	650·00	134·76	133·08	127·00
8	welfare of the handicapped	250·00	11·04	15·68	23·72
9	research, training and administration	105·00	8·50	7·00	14·50
10	Central Bureau of Correctional Services	20·00	—	1·00	2·00
11	strengthening of all-India voluntary organisations	33·00	3·56	3·40	5·94
12	educational work for prohibition	10·00	2·00	1·00	1·00
13	rehabilitation of rehabilitable persons from permanent liability homes and infirmaries	125·00	—	20·00	20·00
14	Regional Pre-vocational Training Centres	7·00	3·97	3·45	3·45
15	centrally sponsored—pre-vocational training scheme	193·00	37·28	37·00	37·00
16	*total (centre and centrally sponsored)*	**2943·00**	**294·37**	**513·71**	**1479·48**
17	*states*	**1057·00**	**82·00**	**174·00**	**200·00**
18	*union territories*	**141·00**	**7·88**	**21·36**	**24·54**

[1]This scheme was introduced under non-plan in 1970-71; it is now proposed to include it in the Plan.

CHAPTER 24

WELFARE AND DEVELOPMENT OF BACKWARD CLASSES

IN ORDER to raise the social, educational and economic standards of the Scheduled Castes and Scheduled Tribes, special schemes have been formulated in the welfare of backward classes sector. These schemes are intended to supplement the social and economic programmes in the general sectors. The basic approach in regard to planning for welfare of backward classes has been that the allocations in this sector are only an additional part of the total effort to be made for promoting their social and economic well-being. The most important programmes in the Centrally sponsored sector are post-matric scholarships and tribal development blocks. In the State sector, most of the outlay goes towards pre-matric education. The Fourth Plan outlays and the progress of expenditure are given in Annexure I.

2. An assessment of progress of expenditure for the Central sector shows that out of a Fourth Plan allocation of Rs. 60 crores, the anticipated expenditure during the first three years of the Fourth Plan is Rs. 35.76 crores. The requirement for the next two years is anticipated at Rs. 30.65 crores. An additional outlay of Rs. 6.41 crores will be required for the sector as a whole. Expenditure in excess of the Plan provision is anticipated in the scheme of post-matric scholarships to Scheduled Caste and Scheduled Tribe students and tribal development blocks. Savings are anticipated from research, training and special projects and in aid to voluntary organisations. In the States, during the first two years of the Fourth Plan, Rs. 23.55 crores were spent against a Fourth Plan outlay of Rs. 76.18 crores. The State Plan outlay in 1971-72 in the backward classes sector is Rs. 16.79 crores. In some of the States shortfall in expenditure is anticipated, unless these States speed up the programmes for the remaining years of the Plan.

Post-Matric Scholarships

3. For educational development, there are two schemes in the Central sector, namely, post-matric scholarships and girls' hostels. For post-matric scholarships to Scheduled Castes a Scheduled Tribes, the anticipated Plan expenditure in 1971-72 is Rs. 3.60 crores. This is in addition to a non-Plan expenditure of Rs. 7.52 crores which now stands committed to State Governments. If the existing criteria continue to be adopted, an additional allocation of about Rs. 7 crores would be required over the Fourth Plan provision. The number of post-matric scholarships awarded in the first three years of the Fourth Plan is estimated at 5.57 lakhs. All Scheduled Caste and Scheduled Tribe students who go in for post-matric education get a scholarship, and this adds to the amount of total expenditure. There is a means test only for Scheduled Castes.

4. The aspirations for higher education need to be related to the capabilities of students and employment prospects. In working out the criteria, consideration needs to be given to the extremely wide disparities in educational development among different Scheduled Castes and Scheduled Tribes, great variations in literacy among male and female students, means, age, merit and types of courses. It is also necessary for the State Governments to take steps to improve the quality of pre-matric education, give greater support to the education of Scheduled Castes and Scheduled Tribes, provide career guidance and facilities for vocational education at the middle and higher secondary school stage, and give special incentives to talented students.

5. For the promotion of education among girls, the scheme of the girls' hostels is being implemented. Under the scheme assistance is given to voluntary organisations for construction and expansion of hostel facilities and for supply of equipment. The estimated expenditure in the first three years of the Fourth Plan is Rs. 111.14 lakhs. In 1969-70, assistance was given for construction and expansion of 180 hostels. The Department of Social Welfare recently reviewed the implementation of the scheme and made some changes liberalising its implementation and extending it to cover both pre-matric and post-matric education. It is necessary, however, that an integrated plan for meeting the requirements of hostel facilities for girls is prepared for each State in consultation with the Education Department so that a suitable scheme can be developed for hostel facilities at various stages of education which may help to bridge the gap in literacy between males and females.

6. For improving the placement of Scheduled Castes and Scheduled Tribes in the posts reserved for them in various categories of employment, pre-examination training centres have been set up in twelve States and one Union Territory. They coach candidates taking competitive examinations for State Civil Services and other Subordinate Services. There are two other centres for coaching candidates for IAS, IPS and other Central Services. Four centres were started in 1970 for confidence building, career guidance and pre-employment coaching. In the remaining period of the Fourth Plan, it is necessary to consolidate the working of these institutions after a careful review of admission policy, assessment of manpower needs of not only Government departments but also public sector undertakings and nationalised banks and developing appropriate syllabi and coaching techniques. If the performance of coaching-cum-guidance centres shows that they are able to increase the rate of replacement of

Scheduled Caste and Scheduled Tribe Candidates Centres may be opened in other States.

7. The most important programme for the economic betterment of Scheduled Tribes is that of tribal development blocks. It was started in the Second Plan for intensive development of areas with a large concentration of tribal population. There now four Tribal Development Blocks in Stage I, 370 in Stage II and 110 in Stage III. By the end of 1972-73 the anticipated expenditure on these blocks is expected to be approximately Rs. 25.39 crores. Out of 484 Tribal Development Blocks, 4 will remain in Stage I, 273 in Stage II and 207 in Stage III in 1973-74. The plan outlay required for this programme in 1973-74 is anticipated to be Rs. 7.37 crores. Thus an additional allocation of Rs. 26 lakhs will be required over the Fourth Plan provision of Rs. 32.50 crores. The raising of social and economic condition of the population in tribal blocks is dependent largely upon the allocations coming from general sectors of development, as the allocations from the backward classes sector are of a supplementary nature. In practice, sufficient investments from general sectors of development have not been forthcoming, although efforts to earmark funds from the general sectors continue. Composite area development programmes should be drawn up for these areas and financed largely from the general sector outlays. It is also necessary to initiate a dialogue with States for transferring the responsibility of the scheme to them at the end of the Fourth Plan.

8. Schemes of co-operation and welfare of denotified and nomadic tribes have not been able to make the necessary impact in the absence of proper integration with general development programmes. In the first three years of the Fourth Plan Rs. 141.29 lakhs were spent on special schemes of co-operation and Rs. 258.47 lakhs on schemes of rehabilitation of denotified and nomadic tribes. It would be desirable to choose a few areas and communities for concentrated action instead of having a large number of schemes with low allocations. It is necessary to initiate a dialogue with State Governments for transferring the schemes to them at the end of the Fourth Plan and give guidelines for the formulation of policies and programmes for their welfare.

Scavenging Conditions

9. The schemes of improvement in working and living conditions of those in unclean occupations, for which an allocation of Rs. 300 lakhs has been made, has not made satisfactory progress on account of the lukewarm attitude of municipalities, indifference of the public and some resistance on the part of scavengers to change conventional methods of work. In terms of financial expenditure Rs. 173.66 lakhs have been spent. Although the report of the Malkani Committee on scavenging conditions was comprehensive in coverage it has in fact implied only a programme for preventing the practice of carrying night-soil as head load. The long-term solution of the problem depends upon the conversion of dry latrines into sanitary latrines and on measure for conservancy and improvement of sanitation for which the general sectors of development must initiate rapid programmes. Other steps necessary are : (1) municipalisation of private scavenging; (2) legislation whereby scavenging of service latrines in houses is declared an obligatory function of municipalities; (3) stepping up of effort to have underground drainage and making it compulsory for house-owners to take connections for latrines in areas with underground sewerage; (4) grant of subsidies and loans to convert dry latrines into water-borne ones; (5) starting projects in a few municipalities so that the problem is tackled in an integrated manner; (6) combining legislative, executive as well as educative measures with financial resources; (7) educating public opinion in order to build up pressure for change, and (8) legal prohibition of carrying night-soil as head load, beginning with urban areas. Unless high priority is given by State Governments and local bodies and pressure put on them, it will not be possible to make progress.

Tribal Research Institutes

10. The working of tribal research institutes is under review by a Study Team of the Planning Commission. Preliminary appraisal of eleven institutes shows that their programme of work has not been adequately oriented to development needs. There has to be a greater use of research findings in the actual formulation and implementation of development plans. There need to be closer links between the tribal research institutes themselves. A common approach should be developed to the types of studies that these institutes should take up. Recommendations of the Study Team are expected to pave the way towards their better organisation and functioning. There is likely to be a saving in the Plan provision.

11. Under the programme of assistance to voluntary organisations for implementing various welfare schemes, Rs. 100.81 lakhs was given as grant-in-aid in the first three years of the Fourth Plan against a Plan outlay of Rs. 200 lakhs. It is desirable to provide support to the voluntary organisations to strengthen the organisational side technically by providing financial support for appointing technical personnel for programme planning and supervision.

12. In the States, during the first two years of the Fourth Plan, Rs. 23.55 crores were spent against a Fourth Plan outlay of Rs. 76.18 crores. The State Plan outlay in 1971-72 in the backward classes sector is Rs. 16.79 crores. Unless some of the States step up the outlay, there is likely to be shortfall in expenditure. This would not be desirable because one-fifth of the total population belongs to Scheduled Castes and Scheduled Tribes; they cannot be brought to the level of the general population unless programmes for their welfare are implemented at least to the extent

envisaged in the Plans. The formulation of State annual Plans for this sector continues to be weak, although guidelines for the formulation and implementation of programmes have been sent to State Governments. There are number of small schemes, specially for economic uplift, which need to be integrated with general development schemes. In an attempt to achieve wide distribution of benefits, the extent of assistance given under these schemes generally falls far short of requirement. The development strategy also does not generally take into consideration the wide variations in levels of development between tribes and between different castes. Weaknesses in the implementation of legislative and executive measures for the protection of the interests of Scheduled Castes and Scheduled Tribes continue.

13. Schemes for educational development at the pre-matric level are in the State sector and include grant of stipends or scholarships, free studentships, mid-day meals, uniforms, exemption from payment of examination fees, book grants and hostel facilities. Most States have allocated about 60 per cent of the outlays in the welfare of backward classes sector for educational programmes. In the first two years of the Plan, States have spent Rs. 12·03 crores for educational development among Scheduled Castes and Scheduled Tribes out of a total expenditure of Rs. 20·72 crores. For 1971-72, the outlay for educational schemes in the State sector is about Rs. 10 crores.

14. Higher enrolment among both boys and girls and reduction in stagnation and wastage would require qualitative improvements in the educational system. Larger financial outlays will be necessary to provide incentives like midday meals, school uniforms, free supply of text books, expansion of hostel facilities and award of scholarships. There is need to identify those Scheduled Castes and Tribes which are educationally much below the level reached by the Scheduled Castes and Tribes as a whole and special efforts should be made to bring their children to school. In the middle and higher secondary school stage, facilities for career guidance and coaching will have to be provided, and facilities for vocational education increased. Special-guidance and incentives should be provided to talented students so that they can realise their full potentialities for growth. In the backward classes sector, large sums are being spent on educational schemes; higher outlays for this programme will therefore mean an increase in the total outlay for the welfare of backward classes sector, From the general sector of education, it will be necessary to make these incentives a normal feature for schools located in tribal and backward areas.

15. The programme of housing or house sites for Scheduled Castes does not appear to have made much headway in spite of the emphasis on it in the Fourth Plan as wall as the guidelines sent to State Governments. Factual information on the steps taken by State. Governments and the physical targets achieved are not available. It is, therefore, necessary for each State Government to review the progress.

16. No systematic review has been made of the actual implementation of legislative and executive measures in different States to protect tribals and Harijans from exploitation. It is necessary to ensure that the protection to tribals in the matter of eviction and land alienation, scaling down the debts regulating money-lending and controlling the rates of interest should be properly enforced at the field level. The weaknesses in the administrative machinery and loopholes in legislation need to be removed so that the administration can identify cases of evasion or bypassing of laws and rules, and assist the tribals in getting their lawful dues.

17. Programmes in the welfare of backward classes sector are intended to supplement the programmes in the general sectors of development from which, too, the backward classes are expected to derive benefits. In practice, this has not happened and the policy guidelines issued by the Planning Commission as well as the Department of Social Welfare have not been fully effective. Some States now earmark funds for a few schemes, generally in proportion to the percentage of Scheduled Castes and Scheduled Tribes population. There is need to exercise greater care to ensure the flow of development denefits to these classes. It is not possible to earmark proportionate amounts for welfare of backward classes in all programmes where the beneficiaries are not divisible. But in many schemes which benefit individuals either by way of loans or grants-in-aid or other services, safeguards could be built into the rules and regulations and periodic appraisal made of the extent to which these are followed in actual practice. One of the basic tasks would be for State Governments to identify the programmes in each sector from which it is possible to ensure the flow of benefits to backward classes. Areas inhabited predominantly by Scheduled Tribes and Scheduled Castes should recieve special attention from general sector allocations. Schemes should be specially tailored to meet their needs and capacities so that Scheduled Tribes and Scheduled Castes can derive the expected benefits. The general sectors should also undertake the promotion of activities and occupations in which Scheduled Castes and Scheduled Tribes are engaged in large numbers. State planning departments will need to have technical staff for preparing integrated area and district plans for tribal areas after proper survey of their social and economic needs. Further, at the stage of implementation, there should be composite programmes instead of piece-meal schemes pursued in isolation of one another by the several departments.

ANNEXURE I

Welfare of Backward Classes—Progress of Expenditure

(Rs. lakhs)

sl. no.	scheme	Fourth Plan outlay	actual expenditure 1969-70	actual expenditure 1970-71	estimated expenditure 1971-72
(0)	(1)	(2)	(3)	(4)	(5)
1	*centrally sponsored*	**6000·00**	**1122·96**	**1176·24**	**1276·75**
2	post-matric scholarships	1100·00	193·21[1]	259·58[1]	360·25[1]
3	girls' hostels	200·00	30·30	41·17	39·67
4	coaching and allied schemes	100·00	8·79	14·29[2]	21·03[2]
5	tribal development blocks	3250·00	670·30	618·98	609·25
6	cooperation	250·00	50·84	45·15	45·30
7	research, training and special projects	150·00	9·59	12·61	12·70
8	improvement in working and living conditions of those in unclean occupations.	300·00	52·90	59·46	61·30
9	denotified tribes and nomadic tribes	450·00	74·22	92·00	92·25
10	aid to voluntary organisations	200·00	32·81	33·00	35·00
11	*states*	**7618·00**	**965·00**	**1390·00**	**1679·00**
12	*union territories*	**495·84**	**66·09**	**86·76**	**85·42**
13	*total*	**14113·84**	**2154·05**	**2653·00**	**3041·17**

[1]Includes "Direct disbursement of post-matric scholarships."
[2]Includes "Coaching-cum-Guidance Centres."