



THIRD FIVE YEAR PLAN PROGRESS REPORT

1961-62

**GOVERNMENT OF INDIA
PLANNING COMMISSION**

March, 1963



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ANNUAL PROGRESS REPORT, 1961-62

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I. ECONOMIC TRENDS AND ACHIEVEMENTS

I. ECONOMIC TRENDS

In 1961-62, the first year of the Third Plan, there was a moderate increase in national income coupled with a decline in the general price level. Available statistics indicate that while output in the agricultural sector remained on the whole static during 1961-62, that in the industrial sector increased though at a rate lower than in the previous year. According to preliminary estimates the national income in 1961-62 was Rs. 13,020 crores in terms of constant prices having gone up by about 2·1 per cent only as against the average of 4 per cent in the second plan period and the record increase of 7·5 per cent in 1960-61. Aggregate investment in the economy in 1961-62 is estimated to have been only marginally higher than in the previous year. The expansion of money supply during the year was also proportionately smaller, due partly to a smaller rate of increase in bank credit. While these factors contributed to restraining the growth of demand, the unusually large outputs of agriculture and industry realised during the previous year helped to narrow down the gap between total availabilities and total demand in respect of a variety of commodities. Hence, a measure of stability in domestic prices was attained. However, since not all of the investment and consumption requirements could be met out of domestic production, the difficulties connected with external payments continued, resulting in a further fall during the year in foreign exchange reserves.

Agricultural Production.

In the year 1960-61 a large increase of 8·9 per cent in agricultural production had been registered due, in the main, to exceptionally favourable weather conditions. This increase was, moreover, in relation to the sub-normal level of output recorded in 1959-60. For the year under review, the output of foodgrains was somewhat lower than in 1960-61; but a marginal increase in the production of crops "other than foodgrains" contributed to maintenance of total output at about the same level as in 1960-61.

The output of foodgrains in 1961-62 placed at 78·6 million tons on the basis of the final estimates was lower than in 1960-61 by over one million tons. Within this overall position, outputs of wheat, bajra, maize, ragi and other pulses are estimated to have increased. In fact, the output of barley and wheat in 1961-62 was 3·1 million

tons and 11.6 million tons, representing an increase of about 8.9 per cent and 7.4 per cent respectively over that for 1960-61. The output of rice, jowar, millets, gram and tur, however, was lower. The decline in the case of rice was only 0.1 per cent, but the output of jowar and pulses, representing two important unirrigated crops, was substantially lower due to adverse weather conditions. The table below sets out the available estimates of foodgrains production:

(In million tons)

	1960-61	1961-62	Percentage variation in 1961-62 over 1960-61
Rice	33.66	33.61	-0.1
Jowar	9.22	7.66	-16.9
Bajra	3.18	3.50	+10.1
Maize	3.95	4.00	+1.3
Ragi	1.65	1.75	+6.1
Small millets	1.94	1.88	-3.1
Wheat	10.82	11.62	+7.4
Barley	2.82	3.07	+8.9
TOTAL CEREALS	67.24	67.09	-0.2
Pulses			
Gram	6.22	5.85	-5.9
Tur	2.05	1.29	-37.1
Other pulses	4.18	4.33	+3.6
TOTAL PULSES	12.45	11.48	-7.8
TOTAL FOODGRAINS	79.69	78.57	-1.4

In the case of commercial crops, jute and mesta recorded substantial increases. Production of major oilseeds, viz., groundnut, castor seed and sesamum was also higher in 1961-62 as compared to

the level of output recorded in 1960-61. But sugarcane and cotton outputs declined during the year under review.

	Production in million tons		Percentage rise or decline in 1961-62 over 1960-61
	1961-62	1960-61	
<i>Oilseeds</i>	6.83	6.52	+4.8
Groundnut	4.68	4.39	+6.6
Castor seed	0.10	0.09	+11.1
Sesamum	0.37	0.32	+15.6
Rape and mustard	1.29	1.34	-3.7
Linseed	0.39	0.39	..
<i>Jute and mesta</i>			
Jute (lakh bales)	6.27	3.98	+57.5
Mesta (lakh bales)	1.70	1.13	+51.4
Cotton (lakh bales)	45.0	53.9	-16.5
Sugarcane (lakh tons)*	97.32	104.47	-6.8

Industrial production

As already mentioned, the rate of increase in industrial output in 1961-62 was lower at 6.8 per cent as against 10.4 per cent for 1960-61. The decline in the rate of increase occurred in almost all important industries as indicated in the table below.

	Percentage in 1960-61 over 1959-60	Variation 1961-62 over 1960-61
<i>I. Production of Major Industries</i>		
Cotton yarn	+2.8	+9.0
Cotton Cloth	+3.1	+0.8
Jute textiles	-0.3	-6.4
Sugar	+16.7	+5.6**
Coal	+14.2	-0.5
Pig iron	+24.5	+17.2
Finished Steel	+26.3	+25.0
Cement	+9.1	+3.8
II.—GENERAL INDEX OF INDUSTRIAL PRODUCTION	+10.4	+6.8

*In terms of gur.

**This figure is in terms of the financial year and not in terms of season.

	Percentage in 1960-61 over 1959-60	Variation in 1961-62 over 1960-61
<i>General index</i>	+11.1	+4.6
Coal	-14.3	-1.0
Sugar	+17.0	+5.0
Cotton textiles	+3.2	+1.0
(a) Cotton yarn	+5.7	+9.0
(b) Cotton cloth (mill made)	+1.5	-3.1
Jute textiles	-0.3	-7.0
Cement	+9.0	+4.0
Iron & steel	+25.9	+21.4
(a) Pig iron & ferro alloys	+23.9	+17.0
(b) Finished steel	+26.6	+25.0

In absolute terms, however, the level of output in 1961-62 was higher in almost all important industries except coal, rubber tubes, ammonium sulphate, sheet glass, lead (virgin metal), screws, diesel engines, commercial vehicles, bicycles and jute textiles. There was a decline of 6 per cent in the production of jute textiles due, in the main, to inadequate supply of raw jute. The slower rate of increase in output of various other industries was due to shortage in supply of raw materials, power and transport bottlenecks.

One of the important features of industrial growth in 1961-62 was the starting of production in several new lines, viz., watches, field cameras, ammonium phosphate, vitamin B6 and C, etc. This is indicative of the process of diversification of industry, which has accompanied industrial growth in recent years.

Employment.

The Third Plan is expected to absorb in gainful employment the equivalent of the new entrants to the labour force. The annual additions to the labour force during Third Plan are estimated to be little over 3 million persons every year. As against this, additional employment opportunities created in 1961-62 are estimated at 2 million and are expected to be 2.4 million in 1962-63.

A land mark of the employment policy under the Third Plan is the introduction of the rural works programme and the rural industries programme designed mainly to provide employment opportunities in the rural areas. The main elements of the programme are to speed up production in rural areas with special reference to agriculture and to improve local transport and communication system. The rural works programme has been in operation since 1960 and the rural industries programme is being implemented on a pilot scale. These programmes are expected to gather momentum in terms of outlay and additional employment opportunities. The total outlay under the rural works programme for the entire Third Plan is estimated to be Rs. 150 crores and the additional employment opportunities in the neighbourhood of 2·5 million. At the pilot stage 32 blocks were selected for experimentation in December, 1960 involving an outlay of about Rs. 50 lakhs.

It is too early to make an exact assessment of the working of the programme but from such reports as are available it appears that progress of the rural works programme has been rather slow so far because of the delay in the formulation of plans, their scrutiny and approval, personnel shortages, irregular flow of funds, rigid application of the principle of voluntary contribution especially in less prosperous areas. Advance planning would be necessary if the expanded programme is to register better progress and realize its objectives.

Price Situation.

As mentioned earlier, the trend of persistent pressure on prices was reversed in 1961-62. A decline of 3·7 per cent was recorded between March 1961 and March 1962. This decline was due largely to a steep fall of 15 per cent in industrial raw material prices as against substantial increases of 13·9 per cent in 1959-60 and 20 per cent in 1961-62. Again, there was a decline of 2·2 per cent in the price index for industrial manufactures as compared to a rise of 6·8 per cent in 1959-60 and 10·3 per cent in 1960-61. The price index for food articles, however, maintained its earlier upward trend and recorded a small rise of 0·3 per cent.

As would be seen from the table below, the only item under the group 'food articles' which registered a decline during the year was edible oils. But, the largest increases were not in foodgrains prices but in those of fruits and vegetables, fish, eggs and meat and sugar and gur.

Index Numbers of wholesale prices

	Variation over previous year in	
	1960-61	1961-62
Food articles	+1.4	+0.3
Cereals	-2.6	+1.3
Rice	-4.6	+2.1
Wheat	-0.9	+1.1
Pulses	+5.1	+0.5
Fruits and vegetables	-16.9	+20.7
Milk and ghee	+7.1	+0.5
Edible oils	+20.5	-8.8
Fish, eggs and meat	+3.1	+21.3
Sugar and Gur	-16.7	+4.0

The price index for the group liquor and tobacco recorded a steep decline of 13 per cent in 1961-62 as compared to the increase of 17 per cent in the previous year. The decline in the group index was largely due to the fall in prices of tobacco.

While on the one hand, Government had to take various measures to hold prices of raw jute from falling to uneconomic levels (such as announcement of jute buffer stock scheme, and minimum jute prices etc.), on the other hand, a number of steps had to be taken to check the rise in the price of raw cotton. The variations in the prices of raw materials during the course of the last two years are set out below:

	Variations over the previous year in	
	1960-61	1961-62
Industrial raw materials	+20.0	-15.1
Fibres	+40.3	-28.0
Cotton	-1.9	+1.5
Jute	+89.6	-46.4
Oilseeds	+14.0	-7.7

The position regarding the group 'industrial manufactures' is indicated in the following table. While the overall index in respect of manufactured articles declined, there was some increase in prices

of 'cotton textiles', 'metal products', 'chemicals' and 'machinery and transport equipment'.

	Variation over the previous year in	
	1960-61	1961-62
Manufacturers	+10.3	-2.2
Textiles	+15.3	-5.9
Cotton	+1.4	+1.0
Jute	+60.4	-25.2
Metal products	-0.9	+3.5
Chemicals	+1.1	+6.7
Machinery and transport equipment	+1.4	+3.3

Working class cost of living index.

Though the general index of wholesale prices declined by 3.7 per cent in 1961-62, the All-India Consumer price index showed an increase of 2.4 per cent, from 124 in March 1961 to 127 in March 1962. Apart from the limitations of the present consumer price index, the divergent trends in these two indices arise from differences in their weight patterns. In the main, the decline in the wholesale price index was largely due to the fall in the prices of industrial raw materials. These prices do not enter into the consumer price index directly; consequently a fall in raw materials prices does not compensate for the rise in the prices of essential consumer goods in the same manner as in the case of wholesale price index. There is also the further point that retail prices in particular locations, on which the consumer price index is based, do not vary proportionately with the general index for wholesale prices

Monetary Trends*

As mentioned earlier, the percentage increase in money supply in 1961-62 was somewhat smaller than that in the previous year. In absolute terms, however, money supply with the public increased by Rs. 175.3 crores in 1961-62 as against the corresponding increase of Rs. 170.8 crores in 1960-61.

*Analysis under this section is based on figures adjusted to eliminate impact of PL 480/665 transfers from the State Bank to the Reserve Bank. Details and other explanatory notes may be seen in the annexures.

There were a few distinctive features about the expansion of money supply during the year under review. While the contraction during the slack season was substantially larger than in the previous year, expansion of money supply during the busy season (end of October, 1961 to end of March, 1962) was also more pronounced. In terms of components of money supply, currency with the public expanded by about Rs. 103·7* crores in 1961-62 and deposit money by as much as Rs. 71·6 crores. In the previous year, on the other hand, most of the increase in money supply was in the form of currency expansion (Rs. 154·7 crores), the increase in deposit money constituting only Rs. 16·1 crores.

The factors responsible for changes in money supply with the public during the financial year 1960-61 and 1961-62 are indicated in Annexure III. Bank credit to the Government sector increased by Rs. 244** crores in 1961-62 as compared to Rs. 82** crores in the previous year. This increase is mainly attributable to a higher level of banks' investment in Government securities which increased by Rs. 79** crores in 1961-62 as against a decline of Rs. 39** crores in the previous year. Loans and advances to Governments by Reserve Bank of India (registering an increase of Rs. 42 crores) and Treasury Bills purchased and discounted (recording a rise of Rs. 7 crores) were also of a higher order than in the previous year. The increase in Rupee investment of R.B.I. taken together with the decrease in Government deposits with the Reserve Bank varied almost to the same extent as in the previous year.

Net bank credit to private sector registered a small decline of Rs. 7** crores in 1961-62 as compared to the rise of Rs. 144** crores in the previous year. This is attributable to a smaller increase in gross bank credit on the one hand (Rs. 122 crores in 1961-62 as compared to Rs. 220 crores in the previous year) and a larger increase in time liabilities on the other hand (Rs. 129** crores in 1961-62 as against Rs. 76** crores in the previous year).

During the busy season of 1961-62 fresh accruals to deposits of the scheduled banks were of the order of Rs. 110·6 crores, as compared to an increase of Rs. 44·2 crores during the busy season ending March 1961. The expansion of credit, on the other hand, was somewhat lower at Rs. 185·3 crores in the 1961-62 busy season as against Rs. 226·3 crores for the corresponding period of 1960-61. Thus, on account of smaller credit expansion and larger fresh accruals to deposits, the liquid position of scheduled banks during

* Net of withdrawal of special currency from Kuwait (Rs. 34·2 crores) during April—June, 1961.

** Adjusted for P. L. 480 transfers

the period October 1961 to end of March 1962 was much more comfortable than in the previous year busy season and as will be seen from the table below, scheduled banks' borrowings from the R.B.I. and liquidation of Government securities were, therefore, substantially lower.

										<i>Variation during the busy season</i> (end of October to end of March) 1960-61 1961-62	
Demand liabilities	.	.	.	.	.	.	.	.	.	-49.1	+61.8
Time liabilities	.	.	.	.	.	.	.	.	.	-4.9**	+38.8
Aggregate liabilities	.	.	.	.	.	.	.	.	.	+44.2	+110.5
Borrowings from the R.B.I.	.	.	.	.	.	.	.	.	.	+77.9	+46.5
Cash and balances with the R.B.I.	.	.	.	.	.	.	.	.	.	-28.0	-8.4
Investment in Government securities	.	.	.	.	.	.	.	.	.	-70.7**	-24.2
Bank credit	.	.	.	.	.	.	.	.	.	+226.3	+185.3

The easier credit conditions during 1961-62 busy season also resulted in lower money rates prevailing in the market. The table below compares the inter-bank call money rate at Bombay during the busy season of financial years 1960-61 and 1961-62.

										<i>Inter-Bank Call Money Rate at Bombay</i> (per cent per annum) Weighted averages	
Months										Busy season of the financial year	
										1960-61	1961-62
November	.	.	.	.	.	.	.	.	.	4.20	4.03
December	.	.	.	.	.	.	.	.	.	4.18	4.07
January	.	.	.	.	.	.	.	.	.	5.18	4.49
February	.	.	.	.	.	.	.	.	.	5.26	4.62
March	.	.	.	.	.	.	.	.	.	5.26	5.05

The Balance of Payments

As will be seen from the following table, India's external payments position deteriorated further in 1961-62. Although the trade deficit was lower by Rs. 161 crores in 1961-62 as compared with the preceding year, this improvement was more than offset by the deterioration in the invisible account and in capital transactions

**Adjusted for P.L. 480 transfers.

excluding official loans. The pressure on the balance of payments was thus greater than in the previous year, the decline in foreign exchange reserves (including net borrowings from the International Monetary Fund) being Rs. 64·7 crores in 1961-62 as against Rs. 48·6 crores in 1960-61.

India's Overall Balance of Payments 1960-61 and 1961-62

(Rs. crores)

	1960-61	1961-62
1. Imports c.i.f.	1102·3	978·0
(a) Private	664·1	620·7
(b) Government	458·2	357·3
2. Exports f.o.b.	630·5	667·5
3. Trade balance (2-1)	-471·8	-310·5
4. Official donations	46·4	44·4
5. Other invisibles (net)	36·2	-12·1
6. Current Account (net) (3-4+5)	-389·2	-278·2
7. Errors and Omission	-10·7	4·5
8. Official Loans (gross)	245·2	237·6
9. Other capital transactions (net)	106·1	-28·6
10. Drawings on I.M.F. (net)	-10·7*	58·4
11. Draft on Foreign Exchange Reserves	59·3	6·3

Exports in 1961-62 amounted to Rs. 667·5 crores which were Rs. 37 crores higher than actual exports in 1960-61. The outturn of exports in 1961-62 has thus corresponded to the estimate of export earnings for that year visualised in the Third Plan report. Total import payments at Rs. 978 crores in 1961-62 were, on the other hand, smaller than import payments in 1960-61 by Rs. 124 crores. The Third Plan document had indicated total imports excluding PL 480 imports at Rs. 1131 crores for 1961-62. Adjusting for actual PL 480 imports of Rs. 94 crores in 1961-62, total imports in that year came to Rs. 884 crores. Actual imports in 1961-62 were thus lower than the Plan estimate by as much as Rs. 247 crores. The changes in exports and imports are considered in detail in a subsequent section.

A noteworthy feature of the payments position in 1961-62 was the emergence, for the first time, of a net deficit in the invisible account (excluding official donations). In 1960-61 invisible transactions (excluding official donations) had yielded a surplus of Rs. 36·2 crores. This turned into a net deficit of Rs. 12·1 crores in 1961-62. This sharp deterioration in the invisible account is attributable mainly to larger net payments on the 'investment income' account, smaller receipts under 'private donations' and reduced receipts

*There were no borrowings from the I.M.F. in 1960-61. The only transaction during the year consisted of a repayment of Rs. 10·7 crores on account of an earlier drawing made in 1956-57.

under the head 'Government not included elsewhere'. A part of the worsening of the position under the head 'Government not included elsewhere' was of an accounting nature only since a decline in receipts due to smaller U.S. Embassy expenditure from PL 480 counterpart funds was matched by a decline in payments on capital account. The basic position in regard to invisible transactions has, however, been weakening for some years. Net payments under the head 'investment income' have shown a continually rising trend mainly because of increased payments of interests, dividends, etc. on both public and private account and reduced income from the dwindling foreign exchange reserves.

Capital transactions other than official loans showed a net outflow of Rs. 28·6 crores in 1961-62 as compared to a net inflow of Rs. 106·1 crores in 1960-61. This deterioration on the capital account was the result of net outflows of private and banking capital as against net inflows in 1960-61 as also of larger amortization payments than in the preceding year. A substantial part of the deterioration in the capital account was related to net changes in PL 480 counterpart funds.

The inflow of official donations in 1961-62 at Rs. 44·4 crores was Rs. 2 crores lower than in 1960-61. Receipts of official loans in 1961-62 amounted to Rs. 237·6 crores which was Rs. 7·6 crores smaller than in the preceding year.

Owing to the acute pressure on the balance of payments, the Government of India approached the International Monetary Fund in the middle of 1961 for a short-term accommodation of \$250 million (Rs. 119 crores) amounting to 42 per cent of our quota with the I.M.F. This amount was drawn in August, 1961. Out of this a sum of \$127·5 million (Rs. 60·7 crores) was utilised for the repayment of the earlier drawing made in 1956-57. On net an amount of Rs. 58·3 crores thus went to augment our foreign exchange reserves over the year 1961-62 to the extent of Rs. 6·3 crores.

Exports

As stated earlier, the Third Plan report estimated export earnings in 1961-62 at Rs. 667·0 crores. Subsequently a detailed Export Plan for 1961-62 was prepared by the Ministry of Commerce and Industry in consultation with the Central Ministries and the Planning Commission. The Export Plan covered 30 items and envisaged export earnings of Rs. 608·5 crores for these items. The other items not covered by the Plan were expected to earn approximately Rs. 70 crores during 1961-62. Thus, the total export earnings during 1961-62 were anticipated at Rs. 678·5 crores. This figure is exclusive of re-exports for which no target was indicated. In working

out the targets of individual commodities domestic production and consumption as well as the likely demand in foreign markets were taken into account. In respect of majority of the items included in the export plan, the export promotion councils and commodity boards were consulted.

The Export Plan for 1961-62 envisaged increases in the exports of a number of commodities such as, sugar, tea, iron ore, oilcakes, new manufactures*, leather, vegetable oils, etc. Actual exports in 1961-62, on the basis of customs data, amounted to Rs. 656·8 crores exclusive of re-exports. There was thus a shortfall of Rs. 21·7 crores as compared to the target indicated in the Export Plan. However, as compared to actual exports in 1960-61 the performance in 1961-62 showed an improvement of Rs. 23·9 crores, excluding re-exports, and an improvement of about Rs. 19·2 crores after taking into account re-exports. Exports of a large number of commodities recorded increases in 1961-62 as compared to 1960-61. Notable among these were sugar, jute manufactures, raw cotton, cotton waste, oil cakes, coir yarn and manufactures, and new manufactures*. However, the gains made in these commodities were partially wiped off by lower earnings from commodities such as cotton textiles, manganese ore, vegetable oils, lac and tea. The following table shows the actual exports of some of the major commodities in 1960-61 and 1961-62 as well as the export targets of these commodities in 1961-62.

Exports of certain major commodities in 1960-61 and 1961-62 and export targets for 1961-62

(Rs. crores)

	Actual export for 1960-61 (customs data)	Export Plan for 1961-62	Actual export in 1961-62 (customs data)	Increase(+) Decrease(-) in col. 3 as compared to col. 1
	1	2	3	4
1. Sugar	3·3	12·0	15·3	+12·0
2. Tea	123·6	130·0	122·4	-1·2
3. New manufactures	28·7	35·0	30·7	+2·0
4. Iron ore	17·0	23·0	17·4	+0·4
5. Oilcakes	14·3	20·0	17·3	+3·0
6. Leather	24·9	29·0	25·3	+0·4
7. Vegetable oils (including essential oils)	12·6	16·0	10·3	-2·3
8. Coffee	7·2	10·0	9·0	+1·8
9. Spices	16·6	15·0	17·6	+1·0

*New manufactures include items such as ferro-manganese metals, engineering goods, chemicals and allied products, cement, footwear, etc.

	1	2	3	4
10. Woollen manufactures	5.3	7.0	4.6	-0.7
11. Art silk fabrics	2.6	4.0	5.6	+3.0
12. Coir yarn and manufactures . .	8.7	10.0	11.4	+2.7
13. Cotton textiles	57.6	60.0	48.4	-9.2
14. Jute manufactures	135.2	120.0	144.8	+9.6
15. Manganese ore	14.0	15.0	10.4	-3.6
16. Raw cotton	8.7	11.0	14.3	+5.6
Total exports including other exports	632.9	678.5	656.8	+23.9
Re-exports	9.9	*	5.2	-4.7
All exports	642.8**	—	662.0**	+19.2

It would be seen from the above table that, on the whole, the performance of exports during 1961-62 has been quite satisfactory and but for certain declines, the increase in exports in 1961-62 would have been much larger.

The direction of India's exports did not change very significantly in 1961-62 as compared to 1960-61. Of India's total exports of Rs. 643 crores in 1960-61, West Europe accounted for 37.3 per cent, America 21.6 per cent, and Asia 20.9 per cent—a total of 79.8 per cent for the three regions taken together. Exports to East Europe and to Africa amounted to 7.7 per cent each of the total. In 1961-62 increases were recorded in India's exports to East Europe, Africa and America, and particularly to the U.S.A. The share of the East Europe in India's exports increased from 7.7 to 9.6 per cent. On the other hand, exports to West Europe went down by Rs. 10 crores from Rs. 240 crores in 1960-61, its share in India's total exports thus declining from 37.3 per cent to 34.6 per cent.

A number of export promotion measures were adopted during the course of the year 1961-62. The institutional framework for promoting exports was strengthened. A Committee of the Cabinet assisted by a Committee of Economic Secretaries for exports was set up to report progress of export promotion measures and consider questions of policy. A beginning was made in this year to enlist the cooperation of State Governments for export promotion. Import control policies during the year were also used as an instrument for the promotion of exports. A system of enrolment of exporters by various Export Promotion Councils and the Commodity Boards was introduced with a view to organise the export trade on sound

*No target for re-export was given in the Export Plan for 1961-62.

**On the basis of E.C.D. data actual exports in 1960-61 amounted to Rs. 630.5 crores and Rs. 667.5 crores in 1961-62.

lines. An Export Promotion Council for marine products was constituted.

Fiscal incentives were extended to a number of export items during this year. Thus the export duty on tea was reduced from 53 nP per kg to 44 nP with effect from March 1961.

A rebate of 50 per cent in the railway freight was extended to items such as, confectionery, radios, guar gum and seeds, window and sheet glass, electrical motors, vertical turbine pumps, alcohol etc. A rebate in railway freight on manganese ore was granted by the Government. With a view to eliminate complaints about high freight rates and discrimination in ocean freight rates, several conference lines were persuaded to reduce ocean freight on a number of export items.

Measures were also adopted for specific commodities. Thus the Special Export Promotion scheme for engineering goods which was previously applicable only to manufacturers/exporters was during the year extended, subject to certain conditions, to non-manufacturing exporters of certain light engineering goods. Also the existing scheme for cotton textiles, woollen goods, wool manufactures and vanaspati were either amended or revised during the course of this year. Government also took significant measures towards the stabilisation of the prices of lac and jute. A buffer stock scheme for lac was introduced under the aegis of the S.T.C. and a similar scheme for jute was organised by the I.J.M.A. Fresh export quotas and enhanced quotas were given in respect of several commodities. About 20 commodities were decontrolled in March 1961.

Imports

As seen earlier, total imports fell from Rs. 1102·3 crores in 1960-61 to Rs. 978·0 crores in 1961-62. Both the public and the private sectors shared in the decline. But while private imports fell by Rs. 23·4 crores from Rs. 644·1 crores in 1960-61 to Rs. 620·7 crores in 1961-62, Government imports declined by about Rs. 110 crores from Rs. 458·2 crores to Rs. 357·3 crores.

It will be seen from the table below that the decline in private imports was spread over a number of commodities. Imports of most raw materials and manufactures recorded declines in 1961-62 as compared to the preceding year. The more substantial falls were in cotton, raw and waste, (Rs. 20·3 crores), metals other than iron and steel (Rs. 5 crores), mineral oils (Rs. 4·2 crores), textile yarns (Rs. 4 crores), and food, drink and tobacco (Rs. 4·9 crores). On the other

hand, imports of machinery on private account registered a substantial increase from Rs. 114.2 crores to Rs. 138.3 crores. Imports of vehicles including locomotives fell from Rs. 44.5 crores in 1960-61 to Rs. 42.3 crores in 1961-62 and of ships, aircrafts and parts from Rs. 6.2 crores to Rs. 4.0 crores. Imports of capital goods on private account were thus substantially larger in 1961-62 as compared to the preceding year.

		(Rs. crores)	
		Private Imports 1960-61 and 1961-62	
		1960-61	1961-62
1. Food, drink and tobacco		25.7	20.8
2. Drugs and medicines		8.7	8.4
3. Paper, paper board and newsprint		9.2	10.2
4. Electrical goods		17.5	20.3
5. Mineral oils		86.2	82.0
6. Cotton-raw and waste		81.1	60.8
7. Jute raw and waste		5.4	6.5
8. Chemicals		33.1	38.1
9. Dyes and colours		12.1	11.4
10. Metals—Iron and steel		56.7	55.7
Metals—other than iron and steel		35.4	30.4
12. Textile yarns		15.6	11.6
13. Machinery		114.2	138.3
14. Vehicles (including locomotives)		44.5	42.3
15. Ships, aircrafts and parts		8.2	4.0
TOTAL (including others)		644.1	620.7

The reduction of about Rs. 110 crores in Government imports in 1961-62 is attributable mainly to the fall in imports of foodgrains. As will be seen from the table below, imports of foodgrains fell from Rs. 209.2 crores in 1960-61 to Rs. 116.6 crores in 1961-62—a fall of Rs. 92.6 crores. This was due to reduced imports of foodgrains under the PL 480 programme. The smaller imports of foodgrains in 1961-62 were rendered possible by the good food crops in 1961. Imports of railway stores in 1961-62 also recorded a fall of Rs. 10 crores. On the other hand, imports of capital equipment for Government projects rose a little from Rs. 101.0 crores in 1960-61 to Rs. 103.5 crores in 1961-62. Government imports of iron and steel also rose from Rs. 20.7 crores to Rs. 22.1 crores. Imports of communication stores showed only a slight increase. Other Government imports including fertilisers, mineral oils, etc. declined by Rs. 3 crores from Rs. 91.7 crores to Rs. 88.7 crores.

Imports on Government Account 1960-61 and 1961-62

(Rs. crores)

	1960-61	1961-62
1. Foodgrains		
2. Capital equipment for Government projects	209	117
3. Iron and Steel	101	103
4. Railway stores	21	22
5. Communications stores	20	10
6. Others (including fertilisers minerals oils, etc.)	15	16
	92	89
TOTAL	458	357

Owing to the shortage of foreign exchange resources, import policy during the year continued to be generally restrictive. However, within the limitations set by the availability of foreign exchange, import policy was directed towards ensuring to the extent possible the utilisation of the country's industrial potential as also towards the promotion of exports. Under the licensing policy for the first half of the year, i.e. April to September, 1961, imports of 20 items including leather belting, transformers, etc. were banned, while import quotas for about 125 items like iron and steel fittings, coal-tar dyes were reduced. For the period October 1961—March 1962, quotas were reduced for a number of items like iron and steel valves, machine-screws, etc. and imports of parts and accessories of cycles were banned. Quotas were liberalised over the year in the case of a number of small items including drugs and medicines, dyes, machinery, spare parts and film studio equipment. The distinction between soft currency and dollar areas for the purposes of import licensing was removed from April 1961.

External Assistance

An amount of Rs. 699 crores of external assistance was available at the commencement of the Third Plan. Of this, Rs. 372 crores represented the carry-over of assistance from the Second Plan, the remainder (Rs. 327 crores) being aid authorisations primarily from the U.S.S.R. and other East European countries, earmarked for Third Plan projects.

At a meeting of the Consortium organised by the World Bank in May-June, 1961 to consider India's requirements of assistance for the Third Plan, the members of the Consortium agreed to commit assistance of Rs. 617 crores (\$ 1295 million) for the year 1961-62. Commitments of aid were also indicated for the second year of the Plan, but these were to be considered at a further meeting. Against the commitment of Rs. 617 crores by the members of the Consortium for

1961-62, actual authorisations made by them during the year amounted to Rs. 394 crores, broken down as follows:—

Source	Amount (Rs. crores)
U.S.A.	82
Canada	20
Germany (West)	60
U.K.	60
Japan	38
France	14
IBRD	69
IDA	51
TOTAL	394

Other authorisations during the year amounted to Rs. 34 crores. However, of this amount of Rs. 34 crores, Rs. 21·43 crores authorised by Italy in August 1961 was to be reckoned as her assistance to India for the second year of the Third Plan. Thus the total assistance authorised during 1961-62 aggregated to Rs. 428 crores. Taking into account the unspent balance of assistance carried over from the second plan period, the total assistance available during the year 1961-62 amounted to Rs. 1127 crores—Rs. 1076 crores in loans and Rs. 51 crores in grants. Out of this the assistance utilised during the year amounted to Rs. 248 crores—Rs. 227 crores in loans and Rs. 21 crores in grants, leaving an unspent balance of Rs. 879 crores on 31st March 1962. The details of the authorisation and utilisation of external assistance during the year 1961-62 including the carry-over of assistance from the Second to the Third Plan are given in Annexure IV.

The figures of assistance given in the preceding paragraphs are exclusive of assistance under the PL 480 programme. The carry over of PL 480 assistance from the Second to the Third Plan amounted to Rs. 597·5 crores. No fresh authorisations were made under the PL 480 programme during the year 1961-62. The utilisation of PL 480 assistance, in the sense of PL 480 commodities imported, amounted to Rs. 90·4 crores in the same year, leaving an unspent balance of Rs. 507·1 crores at the end of the year.

II. PLAN TARGETS AND ACHIEVEMENTS

A synoptic view of achievements in the initial year of the Third Plan may be had from the data presented in Annexure V which shows the levels of production and development attained in 1961-62 relative to the position in 1960-61 and targets for the last year of the Third Plan.

Considering the standard of actual performance which the Third Plan has been able to achieve in its first year, it appears that while in the aggregate it has met with some degree of success in certain directions the pace of progress has not been fast enough at least in view of the ground to be covered in the entire five year period. A single year is an inadequate basis for adequate assessment of progress. Besides, the pace of development is always slower in the initial year and picks up only in the second or third year.

In the agricultural sector, the output of foodgrains was at 78.6 million tons being lower by about a million tons as compared to 1960-61. There was also a decline in the production of certain important cash crops like cotton. The additional utilization of major irrigation was less than a million acres and additional potential from minor irrigation less than 2 million acres. The area benefited from soil conservation increased only by about a million acres. The performance of other agricultural production programmes was of like order in relation to the targets set for the Third Plan. The overall performance in agriculture was thus less than satisfactory. In the industrial sector, while there was significant addition to the capacity and output in certain categories, the rate of growth of industrial production as a whole had slackened.

The circumstances that were responsible for the relatively slow progress of the Plan in the initial year and the manner in which the problems confronted with were tackled are briefly reviewed in the paragraphs that follow.

At the very outset, it must be pointed out that in the case of an economy with a low rate of domestic savings, with agriculture accounting for almost half the national income and the implementation of Plans being influenced in no small degree by the size of external assistance available and the operational and other procedures associated with it, a single year is too short a period to establish conclusive judgements. At each step a close watch has to be maintained over the economic situation and the progress of the Plan and appropriate adjustments have to be made from time to time.

In the case of agriculture, apart from adverse weather conditions, expansion of production potential had not been realized to the extent planned. There has been a tendency in some States to divert outlays for irrigation from continuing schemes to new schemes with the result that potential is not being speedily created. Maximum benefits have also not been secured from irrigation potential already created due to failure to construct field channels in many areas. Minor irrigation programmes had also not progressed satisfactorily.

To secure speedy utilization of irrigation facilities, States were advised that the alignment of water courses and field channels should be worked out by the project authorities on village maps, and these maps should be supplied to the district, block and panchayat authorities for getting the field channels excavated in good time by the beneficiaries. Acting as agents of Government, Panchayat Samitis and Village Panchayats should be empowered to carry out the works and recover costs in case of default. Other measures which have been suggested are popularization of new cropping patterns and expediting the carrying out of technical surveys, preparation of district and block irrigation maps and detail schemes. Minor irrigation programme is also being expanded to raise the area to be benefited over the third plan period by 20 per cent. Soil conservation and dryfarming targets have been similarly raised.

Seed multiplication and distribution programmes had lagged behind due to inadequate financial provision in State Plans and absence of appropriate arrangements for payment of premium to registered growers of improved seeds. Follow-up action on the recommendations made in the PEO Report on Improved Seeds and by a COPP Team have been initiated by the Ministry of Food & Agriculture. A COPP Team has also taken up the examination of problems relating to the use of improved agricultural implements.

While the availability of nitrogenous fertilizers had improved, it continued to be below requirements due largely to lack of foreign exchange. This problem is being tackled by popularising the use of calcium ammonium nitrate now being produced in the country. Apart from increasing field demonstrations the price has been reduced and off-season rebate given to the cooperative and other distributors. To conserve animal dung for manurial purposes, a scheme has been finalised for popularising bio-gas plants. The problem of raising agricultural production is, however, not merely one of providing necessary 'inputs' but also one of conservation of potential output by providing adequate safeguards against damage to crops from floods, water logging, pests etc. Master Plans for flood control, including water logging, which States have been asked to prepare need to be finalised quickly and more comprehensive programmes for plant protection drawn up.

In the case of industries, the principal factors that adversely affected the rate of growth were the shortage of transport, power, fuel, essential raw materials and components. The position in respect of transport and power has eased lately to some extent, but in respect of essential raw materials and components it continues to be difficult due to shortage of foreign exchange. In addition, some Public

sector projects have not operated to full capacity because of technical and other difficulties. The tendency to satisfy regional and individual claims by licensing too many units within a given capacity has led to the development of high cost industry.

The Railway development programmes have been reviewed and the Railways have been authorised to undertake certain additional line capacity works which are required largely in connection with the movement of coal. The Railways will undertake doubling of additional 275 miles over certain sections so as to be able to move coal over these sections in keeping with the demands anticipated by the Coal Controller and the Ministry of Mines and Fuel. They have also been authorised to accelerate the work on certain electrification programmes with a view to making available the increased capacity as early as possible. The additional funds required by the Railways on the basis of a larger physical programme are being found on an annual basis.

The wagon-building programme has been already stepped up to a considerable extent and arrangements are being made to meet the requirements of the Railways for steel castings and other materials, both from indigenous sources and imports.

The Railways have introduced a revised system of allotment of wagons from January 1962 which takes into account the capacity available in different directions. Particular attention has been given to the task of tying up more closely railway development programmes with the programmes for development of heavy industries and more particularly coal and steel. An Inter-departmental Working Group has been studying those programmes so as to ensure their synchronisation and coordinated phasing.

In regard to coal there has been a distinct improvement recently both in production and movement of coal. Measures for the rationalisation of coal movement, such as bulk loading and unloading, larger movement by road and by rail-cum-sea route are being adopted to step up despatches of coal. Encouragement of substitution of coal by furnace oil and examination of the scope of fuel economy in industry are receiving attention. By way of incentive to the private sector the price structure for coal was revised in December 1961; further revisions have been made since.

In several areas the demand for power increased rapidly causing shortages all round. Shortages and imbalances had arisen on account of lack of coordination between licensing of new industries and the power generation programme. A team from the Ministry of Irriga-

tion and Power and the Planning Commission visited all States during September-November 1961 and reviewed carefully the programme of power development, identified the factors which tended to cause delay and prepared a realistic schedule of works to be undertaken project by project. In the discussions with the States stress has been laid on coordinated action within each project as between its various components. Such questions as delays in procurement of steel, explosives, cement, coal and other materials are being attended to. To meet shortages additions to generating capacity to the extent of about 1100 MW have been recently authorized. The development of regional and inter-State grids, with a view to meeting regional shortages and enabling optimum utilization of generating capacity, was also under study. The increase in pressure for power in several parts of the country is due in part as already explained to the issue of industrial licences. The Ministry of Commerce and Industry have informed the State Governments that they should not recommend for licensing any project requiring more than 2000 K.W. unless they are in a position to make the necessary power available under their approved Third Plan programme.

For speeding up implementation of plan programmes in a coordinated manner, the Planning Commission has informal discussions with Union Ministries from time to time. Issues requiring action are identified, remedial measures worked out and the Planning Commission is kept informed of the follow up action. Apart from *ad hoc* consultations, Working groups are organised for more detailed study of problems if necessary. Planning Commission are also trying to improve the methods for annual planning. Effort is being made to secure greater continuity and advance action in planning projects in sectors such as industry, transport, power, technical education and scientific research which involve long periods of preparation and gestation and to obtain better data and estimates regarding supply of and demand for key commodities.

Attention is being given to the building up of adequate statistical and economic information. This is an essential step in the study of inter-relations between different parts of the economy. Problems relating to returns on investments in public enterprises, inventory control, production control and reduction in construction costs are also under study. Planning Commission are at the same time engaged in improving the system of reporting on progress both in respect of major projects and the programmes of the Central Ministries and State Governments. To facilitate speedy implementation and execution of schemes included in the State Plans, steps to simplify pattern of Central assistance were taken sometime back. Procedures have been further simplified and liberalized.

With a view to speeding up implementation, the Finance Ministry has given to all Ministries at the Centre extensive financial powers including creation of posts, making posts permanent, reappropriation of funds, sanctioning expenditure etc. These delegations are accompanied by provisions for more detailed presentation of budget proposals and institution of arrangements for work studies within each Ministry.

More detailed account of measures taken to step efficiency in implementation are given in Chapter XX.

ANNEXURE I

Index number of wholesale prices

(Base—1952-53=100)

Last week of the financial year ending Saturday	March, 28, 1959	March 25, 1960	March 25, 1961	March 31, 1962	Percentage variation in		
					March 1960 over March 1959	March 1961 over March 1960	March 1962 over March 1961
I. Food articles	112.7	116.5	118.1	118.4	+3.4	+1.4	+0.3
Cereals	100.5	103.0	100.3	101.6	+2.5	-2.6	+1.1
Rice	92.3	106.1	101.2	103.3	+15.0	-4.6	+2.1
Wheat	109.5	92.3	91.5	92.5	-15.7	-0.9	+1.1
Pulses	109.4	37.4	91.9	91.4	-20.1	+5.1	+0.5
Fruits and vegetables	117.7	130.9	108.8	131.3	+11.2	-16.9	+20.7
Milk and ghee . . .	105.2	110.5	118.4	119.0	+5.0	+7.1	+0.5
Edible oils	123.9	136.4	164.3	149.8	+10.1	+20.5	-8.8
Fish, eggs and meat	106.1	116.4	120.0	142.5	+9.7	+3.1	+21.3
Sugar and gur . . .	128.1	140.6	117.1	121.8	+9.8	-16.7	+4.0
II. Liquor & Tobacco	98.9	97.1	113.6	98.8	-1.8	+17.0	-13.0
III. Fuel, Power, Light and Lubricants	115.9	117.8	121.6	122.5	+1.6	+3.2	+0.7
IV. Industrial raw mate- rials	115.9	132.0	158.5	134.6	+13.9	+20.1	-15.1
Fibres	107.2	125.2	175.6	126.4	+16.8	+40.3	-28.8
Cotton	99.6	113.0	110.9	112.6	+13.5	-1.9	+1.5
Jute	114.1	141.0	267.5	143.2	+23.6	+89.6	-46.4
Oilseeds ¹	127.7	140.4	160.0	147.6	+9.9	+14.0	-7.7
V. Manufactures	109.5	117.0	129.1	126.3	+6.8	+10.3	-2.2
A. Intermediate products	109.0	121.3	137.4	135.4	+11.3	+13.3	-1.5
B. Finished products	109.5	116.2	127.7	124.8	+6.1	+9.9	-2.3
Textiles	104.6	115.2	132.8	125.0	+10.1	+15.3	-5.9
(i) Cotton	114.2	125.0	126.8	128.1	+9.5	+1.4	+1.0
(ii) Jute	*83.9	97.3	156.1	116.8	+16.0	+60.4	-25.2
Metal products . . .	143.3	148.2	146.9	152.0	+3.4	-0.9	+3.5
Chemicals	110.8	104.4	105.6	112.7	-5.8	+1.1	+6.7
Machinery and trans- port equipment	106.1	111.0	112.6	116.3	+4.6	+1.4	+3.3
All commodities	112.1	118.7	127.6	122.9	+5.9	+7.5	-3.7

*Relates to the week ending March 21, 1959.

ANNEXURE II

Variations in Money Supply during the years 1960-61 and 1961-62

(Rs. crores)

Item	Outstanding as on		Variations during the month period							
	March 31, 1961	March 30, 1962	April 1960	April 1961	Slack season (April end to October end)	Busy season (Oct. end to March end)	Financial year 1960-61	1961-62		
					1960	1961	1960-61 to March 31	March 31 to March 30		
A. Currency w. h. the public	2038.1	2201.8	+38.5	-0.3	-89.0	-101.1	+205.4	+205.1	+154.7	+103.7
B. Deposit money	776.1	847.7	-34.3	+5.0	+5.5	+3.6	+46.9	+63.0	+16.1	+71.6
TOTAL (A+B)	2874.2	3049.5	+4.2	+4.7	-83.5	-97.5	+252.3	+268.1	+170.8	+175.3

NOTE (i) The above table is based on last Friday figures except for the month of March, 1960 in which case instead of taking the figures of the last Friday i.e., as on March 25, 1960, as the base, outstandings as on March 31, 1960 have been taken into account in order to avoid undue over-estimation of variations during the financial year 1960-61.

(ii) Figures are net of Special Currency withdrawn from Kuwait in April—June, 1961.

(iii) Necessary adjustments have been made to allow for likely variations in circulation of small coins with the public.

Source : Reserve Bank of India Bulletins and the 1961-62 Report on Currency & Finance.

ANNEUXRE III

Variations in Money Supply with the Public

(Adjusted figures)*

(Rs. crores)

Item	Variations during the financial year	
	1960-61	1961-62
	(March 31 to March 31)	(March 31 to March 30)
A. Money supply with the public		
1. Currency with the public**	+155	+11
2. Deposit money	+16	+71
3. Total money supply (1+2)	+171	+175
B. Factors affecting money supply		
1. Bank credit to Govt. Sector	+82	+244
(a)+(b)	(-35)	(+208)
2. (a) RBI credit to Govt. Sector (i) to (iv)	+121	+165
(i) Loans and advances to Govt. by RBI	+12	+42
[(ii) Decrease (+) in Govt. deposits with RBI]	+12	+18
[(iii) Rupee investments of the RBI]	+103	+98
v) Treasury Bills purchased and discounted	-6	+7
(b) Bank's investment in Govt. securities	-39	+79
	(-156)	(+43)
2. Bank credit to private sector (net)	+144	-7
(a)+(b)	(+261)	(+26)
(a) Bank credit (gross)‡	+220	+122
(b) Decline (+) in time liabilities of banks	-76	-129
	(+41)	(-93)
3. Foreign Assets held by RBI (Disregarding IMF transactions)	+47	-65
4. Other factors]	-8	+3

*Adjusted (i) to eliminate the extraordinary impact of arrangements relating to PL 480 counterpart funds. Wherever necessary adjustments have been made, the original unadjusted figures are shown within brackets, and (ii) to allow for likely variations in the circulation of small coins with the public.

**Net of Special Currency withdrawn from Kuwait in April-June 1961.

(Source : RBI Bulletins and 1961-62 Report on currency & Finance).

ANNEXURE IV

Authorisation and utilisation of External Assistance during 1961-62

(Rs. crores.)

Source of Assistance	Carry over of unutilised aid from Second to Third Plan	Authorisation during 1961-62	Total aid available upto 31-3-62.	Utilisation during 1961-62	Balance available as on 1-4-62.
1	2	3	4	5	6
A. Loans					
I. I.B.R.D. & I.D.A. . . .	63.35	120.24	183.59	37.10	146.49
1. I.B.R.D.	63.35	69.29	132.64	35.89	96.75
2. I.D.A.	—	50.95	50.95	1.21	49.74
II. Consortium countries . .	226.45	286.90	513.35	165.90	347.45
1. U.S.A.	199.83	81.67	281.50	69.63	211.87
2. Canada	—	11.90	11.90	..	11.90
3. West Germany	14.20	59.52	73.72	66.01	7.71
4. U.K.	0.81	60.00	60.81	22.99	37.82
5. Japan	11.61	38.09	49.70	7.27	42.43
6. Italy	—	21.43	21.43	—	21.43
7. France	—	14.29	14.29	—	14.29
III. East European countries	367.25	—	367.25	24.58	342.67
1. U.S.S.R.	310.80	—	310.80	24.58	286.22
2. Czechoslovakia	23.10	—	23.10	—	23.10
3. Poland	14.30	—	14.30	—	14.30
4. Yugoslavia	19.05	—	19.05	—	19.05
IV. Other countries (Switzerland)	11.98	—	11.98	—	11.98
TOTAL—A (LOANS)	669.03	407.14	1076.17	227.58	848.59
B. Grants					
I. Consortium countries . .	28.97	19.41	48.38	19.67	28.71
1. U.S.A.	16.49	7.46	23.95	10.01	13.95
2. Canada	10.65	11.90	22.55	9.46	13.09
3. West Germany	1.48	—	1.48	0.10	1.38
4. U.K.	0.35	0.05	0.40	0.10	0.30
II. Other countries	0.84	1.71	2.55	1.37	1.18
1. Australia	0.64	1.03	1.67	0.73	0.94
2. New Zealand	0.20	0.02	0.22	0.19	0.03
3. Norway	—	0.66	0.66	0.45	0.21
TOTAL—B (GRANTS)	29.81	21.12	50.93	21.04	29.89
TOTAL—A+B (LOANS & GRANTS)	698.84	428.26	1127.10	248.62	878.48

ANNEXURE V

Principal Achievements in 1960-61 and 1961-62

Item	Unit	1960-61 (position)	Third Plan Targets	1961-62 (achievement)
<i>Agriculture</i>				
Foodgrains total . . .	Million tons	79.7	100	78.6
Sugarcane (Gur) . . .	"	10.4	10	9.7
Oilseeds . . .	"	6.5	9.8	6.8
Jute . . .	Million bales	4	6.2	6.3
Cotton . . .	"	5.4	7.1	4.5
Major and Medium Irrigation (utilised additional)	Million acres (gross)	1	11.7†	0.89
Minor Irrigation (potential additional)	"	2.5	12.8 (19.2)*	1.7
Soil Conservation (addi- tional area benefited)	Million acres	2	11 (16.5)*	1.28
Land reclamation (additional)	"	1.2	3.60	0.58
Dry farming . . .	"	..	22 (50)*	1.93
Total area under improved seeds (foodgrains) . . .	"	55	203	67
Consumption of fertilisers :				
(a) Nitrogenous . . .	000 tons of N	193	1000	282
(b) Phosphatic . . .	000 tons of P ₂ O ₅	70	400	72
Organic and green manuring :				
(a) Urban compost . . .	Million tons	2.8	5.0	3.0
(b) Rural compost . . .	"	82.7	150.0	76.7
(c) Green manuring . . .	Million acres	11.7	41.0	13.2
<i>Industry</i>				
Finished steel . . .	Million tons	2.4	6.8	2.9
Aluminium . . .	000 tons	18.2	80.0	19.6
Lead . . .	000 tons	3.8	8.0	3.1
Machine tools . . .	Rs. crores	6.0 (a)	30.0	8.4
Industrial and Sc. equipment	Rs. crores	3.0	12.0	4.0
A.C.S.R. conductors . . .	000 tons	23.6	44.0	26.0
Nitrogenous fertilisers (N) . . .	"	97.2	800.00	142.3
Sulphuric Acid. . .	"	353.9 (a)	1500.0	423.0
D.D.T. . . .	Tons	2786	2800	278.0
Penicillin . . .	M.M.U.	39.7	120.0	50.0

Item	Unit	1960-61 (position)	Third Plan Targets	1961-62 (achievement)
Industry—contd.				
Soap (organised sector)	. 000 tons	42.2	220.0	144.5
Royon filament.	. Million lbs	47.0	140.0 (b)	52.9
Paper and Paper board	. 000 tons	345.0	700.0	362.8
Cement . . .	. Million tons	7.8	13.0	8.2
Refractories . . .	. 000 tons $\frac{1}{2}$	550	1500	600 (c)
Iron ore . . .	. Million tons (a) ₁	10.7	30.0	12.6
Coal . . .	. Million metric tonnes	55.5	97.0	55.2
Handloom cloth . .	. Million yards	1930	3500	2100
Power				
Installed capacity . .	. M.W.	5595	126900	6174
Generated electricity (d) ₂	. Million Kwh	20040	45000	22957
Towns and villages electri- fied (cumulative)	. Number	24209	43000	27209
Transport				
Freight carried . . .	. Million tons	153.8	245.0	158.0
Procurement of :				
Locomotives . . .	. Numbers	369	1850	295
Carriages . . .	. "	1455	8068	1610
Wagons (in terms of 4 wheelers) . . .	. "	12430	124695	19114
Route miles to be electrified	. Miles	136	1100	327
Doubling of track . . .	. "	267	1875	422
Missing links . . .	. Miles of roads.	85	300	70
Major bridges . . .	. Numbers	10	60	5
General Education :				
Primary, 6-11 Yrs.				
Enrolment . . .	. Lakhs	352	505	384
Percentage of age-group	. %	62.6	77.8	66.7
Middle, 11-14 Yrs :				
Enrolment . . .	. Lakhs	66	101	76
Percentage of age-group	. %	24.0	29.6	26.8
Secondary, 14-17 Yrs :				
Enrolment . . .	. Lakhs	29	45	31
Percentage of age-group	. %	11.4	15.3	12.3
Technical Education :				
Degree (intake) . . .	. Numbers	13860	19090	15690
Diploma (intake) . . .	. "	25570	38290	27690

ANNEXURE V
Principal Achievements, 1960-61 and 1961-62

Item	Unit	1960-61 (position)	Third Plan Targets	1961-62 (achiev- ements)
<i>Technical Education—contd.</i>				
Craftsmen training				
Industrial training .	Numbers	167	323	220
Admission capacity .	000	42·7	107·8	50·8
<i>Health :</i>				
Beds	000	186	240	193
Doctors	"	71·5	81	74·5
Nurses	"	27·0	45	29·4

Note :—

(a) For calendar year.¶

(b) Includes tyre cord.

(c) Estimated.

(d) Includes generation in self-generating industrial establishments.

*Revised targets as decided by the N.D.C. in November, 1962.

†Revised.

II. PLAN OUTLAY AND ITS FINANCING

I. PLAN OUTLAY, 1961-62

The Third Five Year Plan came into operation in April 1961 although the Plan itself was presented to Parliament and formally adopted as the National Plan of the country in August 1961. The annual plan for 1961-62, the first year of the Third Plan had, however, been formulated in advance and consisted partly of continuing schemes from the First and Second Plans and partly of new schemes included in the Third Plan. To ensure satisfactory implementation of the Plan it was felt that in the initial years of the Plan highest priority should be given to the extension of the transport facilities and development of power which are basic to the success of most other schemes included in the Plan and the development of the country's economy as a whole.

The Central and State budgets for the year 1961-62 provided for an outlay of Rs. 1221 crores on the Plan, Rs. 634 crores at the Centre and Rs. 587 crores in the States. The actual outlay turned out to be lower; it was around Rs. 1112 crores. Apart from this outlay on the plan as such, the Central and the State Governments had to finance in this year another developmental outlay of about Rs. 140 crores which was required in connection with the maintenance of the Second Plan schemes and which by definition is reckoned outside the Plan. Thus the developmental effort put forth in 1961-62, by way of Plan as well as maintenance expenditure in respect of Second Plan schemes, was quite substantial. The break-up of the Plan outlay for 1961-62 by main heads of development is given in the table below. A more detailed statement is annexed to this chapter

(Rs. crores)

Heads	Third Plan 1961-66 Centre and States	1961-62 Budget estimates			1961-62 Actual expenditure		
		Centre including Union terri- tories	States	Total	Centre including Union terri- tories	States	Total
Agriculture, Community Development and Cooperation . . .	1068	20	145	165	14	133	147
Irrigation and Power . . .	1662	11	229	240	9	230	239
Industries and Minerals . . .	1784	220	33	253	200	31	231
Transport and Communications . . .	1486	267	44	311	237	53	290
Social Services . . .	1300	111	128	239	73	118	191
Miscellaneous . . .	200	5	8	13	4	10	14
TOTAL . . .	7500	634	587	1221	537	575	1112

At the Centre, as against the budgeted outlay of Rs. 634 crores (including Union Territories) the actual expenditure was Rs. 537 crores. There were shortfalls under railways, industries and social services. In the States the outlay turned out to be close to the budget estimates. Expenditure was larger than the budgeted outlay under 'flood control', 'power', 'roads', 'road transport' and 'industries and minerals'. There were, however, shortfalls under other items. The shortfall in the agricultural sector was partly due to the delays in finalization of schemes and partly to the tendency in certain States to divert funds to other heads of development. The shortfall in the case of village and small industries was due to the delays in the formulation of schemes and obtaining financial sanctions. Progress was especially slow in implementation of the schemes involving acquisition of plant and machinery. Similarly the shortfall under social services was due to the delay in the finalization or sanctioning of schemes, diversion of funds to other heads and personnel difficulties. Substantial shortfall was also recorded in respect of 'irrigation'.

II. FINANCING OF THE PLAN, 1961-62

The following table indicates the position in regard to the financing of the plan in 1961-62 (i) as per budget estimates, (ii) as per revised estimates and (iii) as on the basis of the latest assessment

Financing of the Plan, 1961-62

(Rs. crores)

	Five year scheme of finance	1961-62		
		Budget estimates	Revised estimates	Likely actuals
1. Balance from current revenue at 1960-61 rates of taxation	550	93	80	177
2. Additional taxation	1710	77	97	98
3. Contribution of Railways	100	24	38	46
4. Surpluses of other public enterprises	450	37	22	20*
5. Loans from the public	800	162	142	148
6. Small savings including prize bonds (net)	600	115	98	72
7. Unfunded debt (net)	265	55	51	54
8. Steel Equalization Fund (net)	105	18	12	13
9. Balance of miscellaneous capital receipts over non-plan disbursements	170	26	117	73
10. Total of 1 to 9	4750	607	657	721
11. Budgetary receipts corresponding to external assistance	2200	491	377	303
12. Deficit financing	550	123	165	88
13. Total (10+11+12)	7500	1221	1199	1112

Exclusive of an amount of Rs. 28.6 crores in respect of internal resources of public enterprises under the control of Central Government. Since this amount was used up in financing working capital requirements and other miscellaneous asset formation it has not been taken into account under either resources or plan outlays set out here.

For financing the outlay of Rs. 1112 crores, the Central and State Governments raised about Rs. 721 crores out of their normal resources. Budgetary receipts corresponding to external assistance contributed another Rs. 303 crores, while the remaining amount of Rs. 88 crores was found through drawals from cash balances and borrowings from the Reserve Bank either by way of over-drafts and ways and means advances or issue of *ad hoc* treasury bills.

Out of the aggregate normal resources of Rs. 721 crores, about Rs. 229 crores was in respect of the State's resources. In addition the States received from the Centre plan assistance of Rs. 330 crores. Another Rs. 16 crores was found by them through liquidation of cash reserves and through increases in overdrafts and ways and means advances from the Reserve Bank. Thus the total resources for the State Plans came to Rs. 575 crores.

The following table gives the resources estimates separately for the Centre and the States.

Resources estimates for the Centre and the States : 1961-62

(Rs. crores)

	Budget Estimates			Revised Estimates			Anticipated Actuals		
	Centre	States	Total	Centre	States	Total	Centre	States	Total
	1	2	3	4	5	6	7	8	9
1. Balance from current revenues at 1960-61 rates of taxation	48	45	93	51	29	80	145	32	177
2. Additional taxation	57	20	77	83	14	97	83	15	98
3. Railway's contribution	24	..	24	38	..	38	46	..	46
4. Surpluses of other public enterprises	20	17	37	..	22	22	*	20	20
5. Loans from the public (net)	88	74	162	64	78	142	65	83	148
6. Small savings including prize bonds (net)	47	68	115	33	65	98	28	64	92
7. Unfunded debt (net)	40	15	55	36	15	51	40	14	54
8. Federal Equalization Fund (net)	18	..	18	12	..	12	13	..	13
9. Balance of miscellaneous capital receipts over non-plan disbursements	80	—54	26	142	—25	117	72	1	73
10. Total of 1 to 9	422	185	607	459	198	657	492	229	721
11. Budgetary receipts corresponding to external assistance	491	..	491	377	..	377	303	..	303
12. Deficit financing	72	51	123	121	44	165	72	16	88
13. Total of 10, 11 and 12	985	236	1222	957	242	1199	867	245	1112
14. Assistance for State Plans	—351	351	..	—369	369	..	—110	330	..
15. Total resources	634	587	1221	588	611	1199	57	575	1112

*Exclusive of an amount of Rs. 28.6 crores in respect of internal resources of public enterprises under the control of Central Government. Since this amount was used up in financing working capital requirements and other miscellaneous asset formation, it has been taken into account under either resources or plan outlays set out here.

(i) *Balance from current revenues.*—As against the five year estimate for balance from current revenues indicated in the Plan at Rs. 550 crores, the actual realization in 1961-62 turned out to be Rs. 177 crores, Rs. 145 crores at the Centre and Rs. 32 crores in the States. Revenue receipts, both tax and non-tax, were fairly buoyant—certainly more buoyant than visualized at the time of the formulation of the Plan. Concurrently, however, non-plan expenditures, both developmental and non-developmental turned out to be larger than initially estimated. Part of the increase in non-plan expenditure was due to the increase in pay and emoluments of low paid employees. Committed expenditures on account of the second plan schemes under heads like education and health also turned out to be somewhat larger than the estimates framed at the time of the formulation of the Plan. In spite of the increases in expenditure the net position in regard to revenue resources for the Plan was indeed better than visualized earlier.

(ii) *Additional taxation.*—Proposals for additional taxation put forth at the time of the presentation of the Central budget in February 1961 were expected to yield an aggregate revenue of Rs. 60·9 crores over the year 1961-62. Later, some concessions were made. After allowing for these concessions, the estimate of yield in 1961-62 would have been Rs. 57 crores. The data relating to the actual collection, however, show that the yield from these measures was larger, it was around Rs. 83 crores.

The following table indicates the details

Yield from additional taxation undertaken by the Central Government in 1961-62.
(Rs. crores)

	As per budget speech	Concessions announced after the budget	As per final budget	Actuals
1. Customs	29·2	3·6	25·6	27·6
2. Excise	28·6	0·2	28·4	52·3
3. Income tax	2·0	..	2·0	2·1
4. Corporation tax	1·0	..	1·0	1·0
TOTAL	60·8	3·8	57·0	83·0

It is estimated that measures of additional taxation undertaken by the Centre in 1961-62 would yield an aggregate revenue of about Rs. 450 crores over the Plan period i.e. a little over 40 per cent of the five year target.

So far as the States are concerned only eleven of them introduced fresh measures in 1961-62. These were expected to bring in an aggregate revenue of Rs. 21.2 crores in that year. There was, however, some delay in the implementation of some of the proposals and the actual yield over the year turned out to be only Rs. 14.7 crores. It is estimated that over a full year these measures would yield Rs. 21 crores or say about Rs. 106 crores over the Plan period.

The Statewise estimates are set out below.

Estimated yield from additional taxation measures introduced in the States in 1961-62.
(Rs. crores)

States	Yield in 1961-62	Yield over a full year	Yield over the Third Plan
	1	2	3
1 Andhra Pradesh . . . . .	..	..	..
2 Assam	0.15	0.23	1.51
3 Bihar . . . . .	..	..	..
4 Gujarat	1.19	1.55	7.69
5 Jammu and Kashmir . . . . .	..	..	..
6 Kerala	1.13	1.32	8.54
7 Madhya Pradesh	0.14	0.15	0.74
8 Madras . . . . .	..	..	..
9 Maharashtra	1.26	1.86	10.62
10 Mysore	1.14	1.90	8.14
11 Orissa	1.50	2.92	13.91
12 Punjab	2.71*	3.09	16.78
13 Rajasthan	1.23	1.50	8.30
14 Uttar Pradesh	4.10	5.70	26.95
15 West Bengal	0.14	0.72	3.26
TOTAL	14.69	20.95	106.44

The table below indicates the itemwise details of the tax effort put forth in the States in 1961-62.

Tax-wise yield from additional taxation in the States in 1961-62.

(Rs. crores)

	Yield in 1961-62	Yield over a full year	Yield over the Third Plan
1 Land revenue	0.05	0.48	3.30
2 Irrigation rates	0.50	1.85	8.20
3 Tax on passengers and goods transported by roads	1.50	2.47	13.24
4 Motor vehicles tax	0.15	0.33	1.45
5 Sales-tax (including sales-tax on motor spirit)	7.57	8.46	43.09
6 Electricity duties	0.70	1.75	3.72
7 State excise duties	1.30	1.58	8.43
8 Stamps and registration	2.25*	2.62	14.43
9 Entertainment tax	0.67	1.29	6.18
10 Other taxes . . . . .	..	1.12	4.40
TOTAL	14.69	20.95	106.44

*Includes Rs. 2 crores from changes in 'stamp duty' carried out in Punjab in November 1960. As this measure was taken specifically for raising resources for the Third Plan, the yield therefrom has been reckoned as additional taxation for the Third Plan.

The pattern of the tax effort in 1961-62 indicates that the States did not find it easy to tap resources from the rural areas. Out of the aggregate amount of Rs. 21 crores that would accrue annually from the measures put forth in 1961-62, only Rs. 2·3 crores related to land revenue and irrigation rates which fall on rural communities. Other taxes, such as sales taxes, electricity duties, stamps and registration, entertainment tax, motor vehicles tax and tax on passengers and goods transported by roads, accounted for the remaining amount.

As against the five year target for additional taxation of Rs. 1710 crores, measures of taxation undertaken by the Centre and the States in 1961-62 would yield an aggregate revenue of a little over Rs. 550 crores over the Plan period.

(iii) *Contribution of railways and other public enterprises.*—The following table indicates the data in regard to railways' contribution for the Plan.

Financing of the Railway Plan, 1961-62.

(Rs. crores)				
	Third] Plan Scheme of Revenue	1961-62		
		B.E.	R.E.	Accts.
<i>A. Contribution from the Centre for the development programmes of Railways</i>				
1 Capital expenditure provided in the Central budget	875·0	160·0	169·8	144·9
2 Net addition to or withdrawals from Railway funds by Railways		4·1	3·3	14·8
3 Loans from the Centre		14·8	..	..
4 Centre's contribution (1—2+3)		170·7	166·5	130·1
<i>B. Resources made available by Railways for their Plan</i>				
5 Gross addition to Railway Funds (including interest)	450·0	77·3	86·6	94·1
6 Railways expenditure on Open Line Works		12·0	11·7	9·6
7 Total (5+6)	450·0	89·3	98·3	103·7
8 Expenditure on current depreciation	350·0	65·0	60·3	58·2
9 Resources made available by Railways for the development plan (7—8)	100·0	24·3	38·0	45·5
10 Total expenditure on the Railway Plan including current depreciation (4+7)	1325·0	260·0	264·0	233·8
11 Net expenditure on the Railway Development Plan	975·0	195·0	204·0	175·6

When the budgets for 1961-62 were framed, it was anticipated that public enterprises, other than railways, would make available about Rs. 37 crores for financing the Plan. Of this, Rs. 20 crores was in respect of the Hindustan Steel while the remaining Rs. 17 crores represented the contribution of enterprises under the jurisdiction of the States. It is estimated that Central Government enterprises had internal resources of Rs. 28·6 crores available for their asset formation. As this amount was largely used up in financing working capital requirements and other miscellaneous asset formation, in the financing tables set out in this Chapter it has not been taken into account under either resources or plan outlays. In regard to the States' enterprises like Electricity Boards, Road Transportation Corporations etc., the estimate of contribution is now placed at Rs. 20 crores.

(iv) *Borrowings and other capital receipts.*—The Central budget for 1961-62 had taken credit for a gross receipt of Rs. 225 crores under the item 'loans from the public.' The provision for repayment on account of maturing loans was Rs. 137·5 crores. The estimates of net receipts was thus taken at Rs. 87·5 crores. Actual collections under loans floated by the Central Government amounted to Rs. 202 crores. Allowing for the repayment of Rs. 137·5 crores, net collection during the year thus came to Rs. 64·5 crores.

During the year, thirteen out of the fifteen States floated loans, the total amount realised being Rs. 85 crores. Allowing for repayments on account of maturing loans, and after taking into account the loans floated by certain States Electricity Boards, the aggregate net borrowings of the States during the year amounted to about Rs. 83 crores.

Taking the Centre and the States together, the net borrowings over the year 1961-62 thus amounted to Rs. 148 crores.

The Small Savings movement suffered a setback in 1961-62; the aggregate collection amounted to Rs. 88 crores as against about Rs. 108 crores in the previous year. It is, however, necessary to mention that the high level of net collections in 1960-61 was due to certain special factors such as the weakening of the public confidence in joint stock banks which had led to a transfer of savings from the banks to small savings schemes. These factors ceased to be operative in 1961-62. With the introduction of insurance of small deposits, there was a reversal of the earlier year's trends and a transfer of funds from small savings schemes to the banking system.

In regard to prize bonds, the budget estimate for the year 1961-62 was Rs. 10 crores. Actual receipts were about Rs. 4 crores. The States' share amounted to about Rs. 2 crores and the balance was retained at the Centre.

Under unfunded debt, as against the five year estimate of Rs. 265 crores, the net receipt in 1961-62 was Rs. 54 crores, Rs. 40 crores at the Centre and Rs. 14 crores in the States. In the light of the estimate for 1961-62 it appears that the actual out-turn over the five year period would be somewhat better than the estimate worked out at the time of the formulation of the Plan.

The following table indicates receipts and disbursements under the item 'Steel Equalization Fund'.

(Rs. crores)					
1961-62					
	B.E.	R.E.	Accounts		
1. Receipts . . .	26·6	25·0	25·5		
2. Disbursements . . .	8·8	13·0	12·7		
3. Net receipts . . .	17·8	12·0	12·8		

For the year 1961-62, gross receipts under 'Steel Equalization Fund' had earlier been estimated at Rs. 26·6 crores. Because of a shortfall in domestic production, actual receipts amounted to Rs. 25·5 crores only. Disbursements out of the Fund went up to Rs. 12·7 crores. These are in respect of subsidy on imports arranged by the Iron and Steel Controller and on account of adjustments in freight paid by producers on despatches.

On the basis of revised estimates, balance of miscellaneous capital receipts over non-plan disbursements in 1961-62 comes to Rs. 117 crores, Rs. 142 crores at the Centre and Rs. (—) 25 crores in the States. The estimate for the Centre is inclusive of a sum of Rs. 32 crores representing net withdrawal of currency from Kuwait. Other items taken on the receipt side are repayment of loans by the State and other parties, transfer from revenue to capital account, value of one-rupee notes issued, suspense account and cheques and bills and miscellaneous deposits and advances. On the expenditure side, the items taken into account are outlay on State trading including that on building up of buffer stocks of food grains, security printing press, currency, coinage and mint, loans to foreign countries including payment to Pakistan under Indus Water Treaty, loans and advances to States and to other parties for non-plan purposes and other non-plan capital disbursements. The data which have now become available show that actual out-turn under this item was Rs. 72 crores.

So far as the States are concerned, the revised estimate of net receipts under the item 'balances of miscellaneous capital receipts over non-plan disbursements' was Rs. (—) 25 crores. On the basis

of the discussions held at the State headquarters in December 1962—January 1963, the likely actuals work out at Rs. 1 crore. In arriving at this estimate, credit has been taken for *ad hoc* loans from the Centre of about Rs. 30 crores as also an amount of Rs. 27 crores from sale of securities held in reserves. If these amounts are excluded, the estimate for 1961-62 would work out at Rs. (—) 56 crores as against the five-year figure of Rs. (—) 250 crores indicated in the Plan. Thus, on the whole, the performance of the States in this regard was below the original expectations. This was mainly due to an increase under non-plan capital outlays including loans and advances; the two important items in this category being administrative buildings and loans to cultivators. In the case of both these items, the disbursements in the first year were much higher than the average envisaged in the plan.

(v) *Budgetary receipts corresponding to external assistance.*—The following table indicates the details of budgetary receipts corresponding to external assistance.

(Rs. crores)]			
1961-62			
	B.E.	R.E.	Accounts
A. Loans			
(a) <i>Gross receipts</i>	386.0	345.0	280.1
(i) Loans from USA and US Exim Bank	181.8	147.3	121.5
(ii) Loans from U.K.	0.3	29.8	23.0
(iii) IBRD loans ¹	17.6	33.3	29.4
(iv) Loans from USSR	32.2	20.6	24.4
(v) Loans from West Germany	8.5	83.7	77.2
(vi) Loans from others	25.6	11.5	4.6
(vii) New credits	120.0	18.8	
(b) <i>Repayments</i>	26.9	65.0	63.0
Net loans A	359.1	280.0	217.1
B. Grants	35.5	37.5	31.8
C. Investment of U. S. Counterpart Funds (net)	96.0	59.6	54.1
D. Net External assistance]	490.6	377.1	303.0

It will be seen from the above that budgetary receipts corresponding to external assistance in 1961-62 came to Rs. 303 crores as against the budget estimate of Rs. 491 crores. The estimate of Rs. 303 crores is inclusive of a sum of Rs. 54 crores representing borrowings by the Government out of PL 480 counter-part funds through issue of special securities.

(vi) *Deficit Financing.*—On the basis of the data regarding cash balances, issue of treasury bills in favour of the Reserve Bank and overdrafts and ways and means advances that the States secured from the Bank, the estimate of the aggregate budgetary deficit in 1961-62 would work out at Rs. 88 crores. If, however, one widens the concept of deficit financing so as to include in it the increase in long-term security holdings of Reserve Bank, the figure will be somewhat larger. Over the financial year Reserve Bank's holdings of long term government securities increased by Rs. 81* crores. Thus one could say that from the point of view of the effect of governmental transactions on the money supply, deficit financing in 1961-62 was in the neighbourhood of Rs. 170 crores. This order of deficit financing, however, did not lead to any untoward effects on the economy.

Summing Up

The above review indicates that in the first year of the plan tax receipts were fairly buoyant. Concurrently, however, the non-plan expenditure also increased. In the matter of loans, while the amount realised was quite sizeable, in the process the Reserve Bank holdings of long dated rupee securities also increase. Under small savings, the receipts over the year turned out to be much lower than the realisation in 1960-61. The additional taxation effort put forth by the Centre was substantial but in the States only a modest beginning was made. The experience of the first year of the plan would suggest that while there may have to be some shifts in the relative contribution of different sources of finance, the over all financial effort envisaged in the plan should on the whole, prove feasible.

*Part of this increase—to the extent of Rs. 54 crores was due to the decline in PL/480/665 deposits with the State Bank of India while the remaining represents purchase of long-term securities by the Reserve Bank in the open market.

ANNEXURE

Plan outlay for Centre, States and Union Territories for 1961-62*

(Rs. Crores)

Head of Development	1961-62								
	Budget				Actuals				
	Centre	Union Territories	States	Total	Centre	Union Territories	States	Total	
I	2	3	4	5	6	7	8	9	
Agricultural Production	9.43	1.06	32.55	43.04	1.68	0.77	20.00	22.45	
Minor Irrigation	0.21	0.31	25.99	26.51	(—)	0.21	29.10	29.27	
Soil Conservation	0.96	0.07	5.66	6.69	0.82	0.24	6.50	7.56	
Animal Husbandry	0.94	0.35	6.56	7.85	0.49	0.24	4.10	4.8	
Drying & Milk Supply	0.70	0.09	4.35	5.14	0.51	0.07	4.40	4.98	
Forests	0.32	0.70	5.39	6.41	0.13	0.43	4.70	5.26	
Fisheries	0.67	0.15	2.34	3.16	0.09	0.08	2.00	2.17	
Warehousing & Marketing	1.46	0.02	0.65	2.13	5.49	0.02	0.50	6.01	
I. Agricultural Programmes	14.69	2.75	83.49	100.93	9.17	2.66	71.30	82.53	
Co-operation	0.30	0.26	10.70	11.26	0.30	0.17	8.30	8.77	
Community Development	0.74	1.27	46.88	48.89	0.60	1.36	51.00	55.90	
Panchayat . . . . .	..	0.06	3.62	3.68		0.04	2.90		
II. Community Development and Cooperation	1.04	1.59	61.20	63.83	0.90	1.57	62.20	64.67	
Irrigation	0.26	0.01	96.60	96.87	0.85	0.01	85.80	86.66	
Flood control . . . . .	..	0.40	8.31	8.71	..	0.16	16.00	16.16	
Power	5.21	5.01	124.52	134.74	5.08	2.44	128.30	135.82	
III. Irrigation and Power	5.47	5.42	229.3	240.32	5.93	2.61	230.10	238.64	

Large and Medium Industries	113.39	11.13	124.52	179.11	0.67	12.10	193.28
Mineral Development	81.77	0.77	82.54			2.00	
Village and Small Industries	23.50	21.10	45.53	20.57	0.51	16.80	37.88
<i>IV. Industries and Minerals</i>	218.66	33.00	252.59	199.68	0.58	30.90	231.16
Railways	185.00	..	195.00	175.60	..	..	175.60
Roads	15.35	39.70	60.63	13.46	4.70	45.90	64.06
Road Transport	..	2.75	4.15	..	1.31	6.20	7.51
Ports and Harbours	7.49	..	7.49	4.84	..	..	4.84
Shipping	15.20	..	15.20	7.85	..	..	7.85
Tourism	0.19	0.41	0.61	0.39	0.01	0.40	0.80
Civil Aviation	8.17	..	8.17	12.34	..	..	12.34
Posts and Telegraphs	12.90	..	12.90	12.01	..	..	12.01
Other Transport	0.63	1.24	2.30	1.27	0.07	0.60	1.94
Broadcasting	3.45	..	3.45	1.22	..	..	1.22
Other Communications	1.12	..	1.12	1.42	..	..	1.42
<i>V. Transport and Communications</i>	259.48	44.10	311.00	230.40	6.09	53.10	289.59
General Education	15.38	3.60	59.88	11.24	2.62	39.00	52.86
Technical Education and Scientific Research	25.54	0.27	36.45	16.41	0.17	7.50	24.08
Health	13.74	7.08	66.60	5.97	2.33	47.20	55.50
Housing	8.71	12.54	36.16	5.00	4.96	11.60	21.56
Welfare of Backward Classes	4.12	0.69	16.08	3.66	0.63	10.70	14.99
Social Welfare	2.77	0.12	3.99	2.66	0.09	0.60	3.35
Public Cooperation	0.27	@	0.27	..	..	..	..
Labour and Welfare	4.99	0.26	8.52	1.84	0.21	1.0	3.35
Rehabilitation	11.34	..	11.34	10.80	..	..	10.80
<i>VI. Social Services</i>	86.86	24.56	127.87	57.58	11.01	117.90	186.49
<i>VII. Miscellaneous</i>	4.78	0.53	13.20	7.02	1.81	9.60	18.43
<i>VI. GRAND TOTAL</i>	590.98	43.20	1221.16	510.68	25.73	575.10	1111.51

*These are the latest available figures and in certain cases may differ marginally from the ones given later chapters.

@ Included under 'Social Welfare'

III. AGRICULTURE

I. AGRICULTURAL PRODUCTION IN 1961-62

Weather conditions

The weather conditions during 1961-62 kharif season had been unfavourable over large parts of the country. West Madhya Pradesh, West Vidharba, Central Maharashtra, Telengana, Coastal Mysore and parts of Kerala and Madras witnessed heavy floods and excessive rains. Sub-Himalayan West Bengal experienced a prolonged spell of deficient rains during the kharif season. In parts of Bihar there were deficient rains and in parts heavy rains and floods during the kharif season. The rabi season was characterised by frost and cold wave in certain parts of the country.

Estimates of Production and Yield

A statement showing the total production and average yield of individual crops during 1960-61 and 1961-62 is given below:—

All India Estimates of Total Production and Per Acre Yields of Principal Crops—1960-61 and 1961-62

	Total Production (ooo tons)			Per acre yields (lbs.)		
	1960-61	1961-62	%age increase (+) decrease (—) during 1961-62 over 1960-61	1960-61	1961-62	%age increase (+) or decrease (—) during 1961-62 over 1960-61
I	2	3	4	5	6	7
<i>Foodgrains</i>						
Rice . . .	33,658	33,610	(—)0·1	909	900	(—)1·0
Wheat . . .	10,818	11,620	(+)7·4	756	783	(+)3·6
Jowar . . .	9,215	7,664	(—)16·8	484	399	(—)17·6
Bajra . . .	3,177	3,502	(+)10·2	252	290	(—)15·1
Maize . . .	3,952	4,000	(+)1·2	822	812	(—)1·2
Ragi . . .	1,654	1,749	(+)5·7	646	686	(+)6·2
Barley . . .	2,821	3,067	(+)8·7	793	832	(+)4·9
Sugarcane (gur) .	10,447	9,732	(—)6·8	4,042	3,669	(—)9·2
Jute* . . .	3,982	6,347	(+)59·4	1,053	1,114	(+)5·8
Mesta* . . .	1,131	1,705	(+)50·3	657	717	(+)9·1
Cotton* . . .	5,390	4,500	(—)16·5	112	94	(—)16·1
<i>Oilseeds</i>						
Groundnut . . .	4,391	4,682	(+)6·6	636	662	(+)4·1
Sesamum . . .	316	366	(+)15·8	132	147	(+)11·4
Castor . . .	89	101	(+)13·5	192	204	(+)6·3
Rape & Mustard .	1,335	1,285	(—)3·7	422	379	(—)9·8
Linseed . . .	389	391	(+)0·5	197	208	(—)5·6

*Production in Bales.

Foodgrains

While 1960-61 enjoyed unusually good weather conditions resulting in a larger increase in agricultural production over the previous year, conditions were somewhat below normal during 1961-62. As a consequence, the output of foodgrains, due particularly to the failure of jowar crop, was lower in 1961-62 being 78.6 million tons against 79.7 million tons in the previous year. Apart from adverse weather conditions, expansion of production potential had not been realised to the extent planned. The increase in production potential was much below the target being 3.05 million tons out of 24 million tons for the Third Plan period i.e. 12.5 per cent of the plan target.

Commercial Crops

Among commercial crops, jute and mesta production touched an all time high and were placed at 63.5 and 17.1 lakh bales respectively as compared to 39.8 and 11.3 lakh bales respectively during 1960-61. Production of oil seeds also showed some increase but cotton and sugarcane production witnessed a decline during the year under report. Detailed review of some crops follows.

Cotton

The Third Five Year Plan aims at an increase of 19 lakh bales from 51 to 70 lakh bales of cotton. No specific target was, however, fixed for 1961-62. The final estimates recently issued by the Ministry of Food and Agriculture put the production of cotton in 1961-62 at 45 lakh bales as against 54 lakh bales in 1960-61 reflecting a shortfall of 16.6 per cent. The cotton crop is reported to have been seriously affected by adverse weather conditions during the year. According to the available reports on the cotton development programmes, it appears that, as against the target of 4.1 lakh tons of improved seed of cotton, nearly 3.3 lakh tons were distributed to the cultivators during the year. Targets for the programme of improved seeds were exceeded in a few States, namely, Mysore, Uttar Pradesh and Gujarat whereas in other States there were substantial shortfalls. In regard to the use of nitrogenous fertilisers for the cotton crop, it is reported that a quantity of 30,000 tons was distributed as against the target of 55,000 tons, showing a short fall of 20 per cent.

Consumption of cotton by mills has been rising year after year. It is estimated at 56 lakh bales in 1961-62. Our annual imports of cotton to cover the gap between our requirements and production stand at 9 lakh bales. To cope with the increasing requirements of the textile mills, every attempt has to be made to increase the

production of cotton, especially, through intensive cultivation so as to improve the per acre yield of cotton. With this end in view, the Ministry of Food and Agriculture have, in consultation with the Planning Commission, chalked out a programme for intensification of cotton production. Further, the ceiling price of 'Jarilla', the basic variety of cotton, has been raised from Rs. 820 to Rs. 947 per candy, with corresponding increase in the price of other varieties, with effect from 1962-63 season.

Jute

According to the final estimate prepared by the Ministry of Food and Agriculture, production of jute has already exceeded the Third Plan target of 62 lakh bales in 1961-62 being higher by .7 lakh bales. The increase was due primarily to the expansion of the area under jute which rose from 15.1 lakh acres in 1960-61 to 22.6 lakh acres in 1961-62, an increase of about 50 per cent. The per acre yield, however, increased by 5.4 per cent only. Production of mesta, an inferior fibre, also rose from 11.3 lakh bales to 17.1 lakh bales in 1961-62.

One of the most significant development of the year was the adoption of a floor price policy and creation of the Jute Buffer Stock Association to maintain the floor price at Rs. 30 per md. for the standard variety, Assam Bottoms at Calcutta. The Indian Jute Mills Association also introduced a system of minimum quotas for raw jute to be purchased by the member mills with effect from November 29, 1961. The State Bank of India reduced the margin requirement for advances against purchases of raw jute by mills from 25 per cent to 15 per cent from the middle of December, 1961. The price of 'Assam Bottoms' (Standard Variety) at Calcutta was maintained for the most part, above Rs. 30 per md., the floor price fixed for Buffer Stock Operation.

Oilseeds

The Third Plan target stands at 98 lakh tons. Final estimates of production of oilseeds for 1961-62 put the output at 68.25 lakh tons as against 65.20 lakh tons produced during 1960-61.

In order to achieve the Third Plan target of 98 lakh tons of oilseeds, the Ministry of Food and Agriculture have requested the State Governments to give greater attention to the intensification of production involving the integrated use of improved seeds, fertilisers, plant protection measures, improved cultural practices, etc.

Sugarcane

Sugarcane production in 1961-62 declined from 104·47 lakh tons in 1960-61 to 97·32 lakh tons as against the Third Plan target of 100 lakh tons in terms of gur. The per acre yield declined by 9·2 per cent.

Having regard to the existing sugar situation in the country, the Government of India removed, with effect from September 27, 1961, all controls on prices and distribution of sugar, restrictions on inter-State movement of sugar and the system of allotment of sugar to specified dealers. The practice of controlled releases has, however, been retained as an important tool for influencing prices. Further, an ordinance entitled "The Sugar (Regulation of Production) Ordinance, 1961" was promulgated on September 29, 1961. This ordinance provides for the regulation of production of sugar in the interests of the general public and for the levy and collection of a special excise duty on sugar produced by a factory in excess of the quota fixed for the purpose. In the Rules framed under this Ordinance which took effect from November 1, 1961, it was provided that production of sugar during 1961-62 was to be limited to 90 per cent of that attained in 1960-61.

Spices

During the year under review an additional area of about 1·25 lakh acres had been covered under cashewnut as compared to the Third Plan target of 8 lakh acres. The cultivation of pepper and cardamom has been extended over an additional area of about 2·1 and 3·0 thousand acres respectively as compared to the plan targets of 16·7 and 11·2 thousand acres. Pilot schemes for the development of clove, nutmeg and cinnamon have also been taken up in the States of Kerala, Mysore and Uttar Pradesh. In addition to the development schemes, research schemes were also carried on which generally aim at improving the yield through agronomic, botanical and horticultural measures.

Plantation crops

Tentative estimates of production of tea and rubber indicate an increase during 1961-62 as compared to the previous year. The production of coffee declined due to heavy rains and floods. It was placed at 44,850 tonnes showing a fall of nearly 23,000 tonnes over the previous year.

II. PROGRESS OF AGRICULTURAL PROGRAMMES

The principal technical programmes for raising agricultural production were intended to increase the per acre yields through

intensive cultivation by such means as more irrigation, supply of fertilisers and manures, seed multiplication and distribution, plant protection, soil conservation, dry farming and land reclamation, and improved agricultural implements.

It is estimated that the total plan expenditure during 1961-62 was Rs. 82.02 crores as compared with the budget estimates of Rs. 100.93 crores as detailed below:—

(Rs. lakhs)					
Sub-head	Third Plan Provision	Budget 1961-62	Anticipated Expenditure 1961-62	%age of col. 4 to col. 3	%age of col. 4 to col. 2
I	2	3	4	5	6
Agricultural production . . .	22,607	3,765	2212	58.7	9.8
Minor Irrigation . . .	17,676	2,651	2927	110.4	16.6
Soil Conservation . . .	7,273	669	756	113.0	10.4
Animal Husbandry . . .	5,444	785	476	60.6	8.7
Dairying & Milk Supply . . .	3,608	514	495	96.2	13.7
Forests . . .	5,139	641	579	81.0	10.1
Fisheries . . .	2,864	316	217	68.7	7.6
Warehousing & Marketing . . .	4,153	752	600	79.8	14.4
TOTAL . . .	68,764	10,093	8,202	81.3	11.9

The above table indicates that there has been significant short-fall in the development programmes relating to agricultural production, animal husbandry and fisheries.

The Third Plan targets and achievements during 1961-62 in respect of minor irrigation, land development and supply schemes are given in the tables below:—

(a) *Minor Irrigation and Land Development*

Programme	Unit	Third Plan target	1961-62 (Anticipated) achievement	%age of col. 4 over col. 3
I	2	3	4	5
I. Minor Irrigation (Gross) . . .	Million acres.	12.8	1.7	13.3
(a) Agriculture . . .	„	9.5	1.2	12.6
(b) Community Development . . .	„	3.3	0.5	15.2
II. Land development				
(a) Soil conservation on agricultural lands	„	11.0	1.28	11.6
(b) Dry farming . . .	„	22.0	1.93	8.8
(c) Land reclamation . . .	„	3.60	0.58	16.1

(b) Supply schemes

Programme	Unit	1960-61 Estimated Area/pro- duction	Addl. target during the 3rd Plan	1965-66 3rd Plan target total	1961-62 Antici- pated achieve- ment	Addl. over 1960-61	%age of col. 7 over col. 4
I	2	3	4	5	6	7	8
1. Area under improved seeds—food-grains . . .	Million acres	55	148	203	67	12	8.1
2. Urban Compost .	Million tons.	3.0	2.06	5.06	3.0	..	..
3. Rural Compost .	„	82.7	67.3	150.0	76.7	(—)6.0	(—)9
4. Green manuring	Million acres	11.7	29.3	41.0	13.2	1.5	5.1
5. Nitrogen . . .	Lakh tons.	1.93	8.07	10.0	2.82	0.89	11
6. P ₂ O ₅ . . .	„	0.70	3.30	4.0	0.82	0.12	3

Minor Irrigation

An additional area of 12.8 million acres is proposed to be covered through minor irrigation schemes during the Third Plan period as against 9 million acres during Second Plan. In 1961-62 it is estimated that an area of about 1.7 million acres benefited through these works—1.2 million acres in the agriculture sector and 0.5 million acres in the C.D. sector. The area benefited by minor irrigation in 1961-62 is 13.8 per cent of the Plan target. On the other hand, the actual expenditure incurred in the year on minor irrigation programmes was about 16.6 per cent of the Plan outlay.

To accelerate the tempo of minor irrigation programme, Regional Conferences on Minor Irrigation were held during the year at which a number of recommendations were made to the State Governments. These recommendations broadly included improvement in the organisational arrangements for undertaking such works, intensification of work on surveys and investigations, delegation of powers to ensure speedy implementation of schemes, proper assessment of progress, etc. Action on these recommendation was taken up by the Ministry of Food and Agriculture with the State Governments.

Work was started on the centrally sponsored schemes for applied research on water use and engineering problems connected with minor irrigation, training of agricultural staff in water use and establishment of research centres in river valley project areas for irrigation farming.

Under the Ground-water Exploration Project, 47 bores were drilled as against the target of 67 bores. Of these, 22 proved successful and were converted into production wells upto the end of February 1962.

Land Reclamation & Development

The Third Five Year Plan envisages reclamation of another 3.6 million acres. This includes about 2 million acres in Rajasthan and some cultivable waste-lands identified and recommended for reclamation by the committee on Waste-lands Survey and Reclamation. According to provisional estimates, an area of 0.6 million acres seems to have been reclaimed during 1961-62.

Since the progress of reclamation of waste lands in larger blocks is bound to be slow in view of limited foreign exchange resources for importing machinery, assistance had been offered to State Governments for reclamation of waste lands in smaller blocks under the Centrally Sponsored scheme of Resettlement of Landless Labourers as it could be carried out with manual labour.

Fertilisers and Manures

According to the programme indicated in the Third Five Year Plan, the supply of nitrogenous fertilisers was proposed to be increased from 2.30 lakh tons in 1960-61 to 4.00 lakh tons of nitrogen in 1961-62; 1.40 lakh tons from internal production and 2.60 lakh tons from imports. While the internal production kept pace with the programme, there was a shortfall of 1.04 lakh tons in imports mainly on account of difficult foreign exchange position. The actual supply from this source was 1.56 lakh tons of nitrogen. The total availability of nitrogenous fertilisers in 1961-62 was thus 2.96 lakh tons of nitrogen out of which 2.82 lakh tons of nitrogen were distributed. The fertiliser-wise break up of the above supply is given below:—

	Quantity (lakh tons)	Nitrogen
Ammonium Sulphate	7.44	1.49
Calcium Ammonium Nitrate	2.19	0.44
Ammonium Sulphate Nitrate	0.88	0.23
Urea	1.46	0.66
TOTAL . . . . .	..	2.82

The target of 4.00 lakh tons for 1961-62 was based on the anticipated consumption of 3 lakh tons during 1960-61. As the original

target of 4.00 lakh tons of nitrogen was not revised to allow for the lower consumption of 2.30 lakh tons actually recorded during the base year, the target for additional consumption of nitrogenous fertilisers for 1961-62 was on the high side. Additional supply of 0.89 lakh tons during 1961-62 which is 89 per cent of the original additional target can be considered to be satisfactory.

The production of calcium ammonium nitrate was begun at the Nangal Factory in 1961-62. Being a new type of fertiliser there was resistance to its use by farmers of Northern States for whom it was mainly meant. Lack of demonstration hampered offtake. To overcome storage difficulties considerable quantities of it were diverted to the Southern States.

The consumption of phosphatic fertilisers during 1961-62 is estimated at 0.72 lakh tons of P_2O_5 as compared to 1.00 lakh tons envisaged. The consumption in 1960-61 was 0.70 lakh tons. The progress in the consumption of phosphatic fertilisers has thus been rather slow so far.

Follow up action on the recommendations of the Fertiliser Distribution Committee has been initiated by the Ministry of Food and Agriculture with the State Governments.

Organic Manures

The Third Five Year Plan has laid great emphasis on the utilisation of locally available organic manures. Comprehensive schemes for this purpose have been included in all the State Plans. It was proposed to increase the production of rural compost from 83 million tons in 1960-61 to 150 million tons in 1965-66, an increase of 67 million tons during the third plan period. Information based on the material received from the States shows that its production in 1961-62 was only 76 million tons.

The production of urban compost was proposed to be increased from 3.0 million tons in 1960-61 to 3.34 million tons in 1961-62 and to 5.0 million tons by 1965-66. The estimated production of 3.0 million tons of urban compost in 1961-62 shows an increase of 0.2 million tons or 7 per cent over the revised estimate of production of 2.80 million tons in 1960-61.

During the third plan period, the area under green manuring is proposed to be increased from 11.7 million acres in 1960-61 to 41 million acres. The coverage under green manuring in 1961-62 is estimated at 13.2 million acres i.e. an increase of 1.5 million acres or 5.1 per cent of the plan target.

The progress in the sphere of development of local manurial resources has thus not been satisfactory.

Seed Multiplication and Distribution

The Third Five Year Plan programme envisages the establishment of 800 additional seed multiplication farms. The number of farms set up during 1961-62 was only 71. The total area under improved seeds of food crops during 1961-62 was reported to be 67 million acres, which is only 12 million acres above the area of 55 million acres reached in 1960-61. This constituted only 8 per cent of the additional area to be covered under improved seeds in the Plan period. Considering the very large number of seed farms set up during the Second Plan, the area covered with improved seeds in 1961-62 is very low. Non-availability of improved strains for all crops and areas, inadequate financial provision for procurement and distribution by Cooperative Societies and absence of incentives by way of premium to registered seed growers have hampered progress under this programme. Ways and means of removing these bottlenecks are under consideration. Follow up action on the recommendations made in the studies of the multiplication and distribution programme for improved seeds by the Programme Evaluation Organisation and by the Seed Multiplication Team of the Committee on Plan Projects has been initiated by the Ministry of Food and Agriculture.

Improved Agricultural Implements

The Third Five Year Plan Report has made certain recommendations for the popularisation and production of improved agricultural implements in the country. Action had been initiated on these lines. A list of standardised implements was drawn up and blue prints for undertaking large scale manufacture were prepared. The requirement of iron and steel for agricultural purposes has been included in the list of core projects to ensure adequacy of supplies. A scheme for popularisation of improved implements is being drawn up by the Directorate of Extension and Training. It was decided to establish large number of workshops attached to Extension Training Centres. A number of States have set up Committees or Boards including representatives of farmers and manufacturers for assisting in drawing up of production programmes and devising suitable arrangements for distribution and ensuring supplies of raw materials. States have been requested to start more Research-Cum-Testing and Training Centres taking advantage of the Central assistance for this purpose.

Plant Protections

The Directorate of Plant Protection Quarantine and Storage continued to assist the States/Union Territories with technical advice, equipment, pesticides and personnel in control operations against crop pests and diseases through its 14 Central Plant Protection Stations. During the year, over 84 locust swarms entered India and their movement was reported from 5,431 places in Punjab, Rajasthan, Gujarat and the Union Territory of Delhi. About 4,500 villages were infested, involving a gross area of over 50,000 sq. miles.

Intensive Agricultural District Programme

The District of Tanjore (Madras) was the first to launch the programme in April, 1960 followed by Shahabad (Bihar) and West Godavari (Andhra Pradesh) where the work was started during rabi, 1960-61. The remaining four districts of Ludhiana (Punjab), Pali (Rajasthan), Raipur (Madhya Pradesh) and Aligarh (Uttar Pradesh) entered the implementation stage of the programme from 1961-62 Kharif Season and had completed one to two year of field work. By the end of rabi 1961-62, an area of 13 lakh acres was covered under the programme in the selected districts, which comprised about 15 per cent of the total cultivated area of these districts. The number of Blocks covered were 113 out of 139 blocks in which the first seven districts were to be ultimately delimited. An intensive effort was made to reach the farmers and to formulate farm management and production plans. Besides providing necessary supplies of fertilisers, improved seeds and other production requisites, the programme envisages construction of godowns, laying out of scientific demonstrations, establishment of seed testing laboratories, development of marketing facilities. Crop cutting experiments conducted during 1961-62 showed a noticeable trend towards increased production in the programme areas compared to the entire district as well as areas outside the selected districts.

While approving the above scheme, the Cabinet had stipulated that its operation should be extended to the remaining eight States as well. Mandya (Mysore), Bhandar (Maharashtra), Cachar (Assam), Palghat and Alleppey (Kerala) and six blocks (Jammu & Kashmir) were selected and preliminary arrangements were made for initiating the programme in them.

A programme of a similar nature in the Mandi district of Himachal Pradesh, for which the Government of the Federal Republic of Germany are giving assistance in the form of technical experts and equipment, was approved. Whereas in the other districts the emphasis is on production of foodgrains and other crops, in Mandi

the programme will be devoted mainly to mixed farming, namely crop and fodder production, horticulture, poultry and animal husbandry as it is likely to be more remunerative.

Agricultural Marketing, Storage and Warehousing

A sum of Rs. 819.78 lakhs was provided in the State plans and Central sector for the development of agricultural marketing, storage and warehousing during the year 1961-62. The actual expenditure was Rs. 613.73 lakhs.

(Rs. lakhs)

Particulars	Agriculture Marketing & Warehousing		Storage	Total
	*State Plan Sector	Central Plan	Central Plan	
1	2	3	4	5
1. Budgeted outlay 1961-62	104.01	215.77	500.00	819.78
2. Actual Expenditure	59.03	48.80	506.00	613.73
3. Percentage of (2) to (1)	56.8	22.6	101.2	74.9

*The above figures are based on details furnished by State Governments in connection with annual plan 1963-64. They do not tally with the figures given in outlay table earlier due to difference in classification of schemes by certain State Governments.

During 1961-62, 13 agricultural produce markets were regulated bringing the total to 733. Target for the Third Plan is to bring under statutory regulation all the 2500 wholesale assembling markets in the country. Market Acts were also passed in Bihar and Rajasthan while Uttar Pradesh and West Bengal drafted necessary bills for introduction in the State Legislatures.

Tobacco, bristles, lemon-grass oil, sandal-wood oil, wool and Sann hemp continued to be graded for export purposes and the value of produce graded during 1961-62 amounted to Rs. 32.46 crores, as against Rs. 29.55 crores at the end of the year 1960-61. There has, thus, been an increase of about 9.8 per cent. No targets were fixed under the scheme for the Third Plan. Compulsory grading of palm nosa oil and goat hair for export was also commenced during the year.

As regards training in agricultural marketing, 95 persons completed the one year's course and 245 the market secretaries course upto the end of 1960-61; 27 persons were under training for the former course and 47 for the latter. In the Third Plan it is expected to train 150 and 750 persons respectively in these courses.

The Central Warehousing Corporation had, on the 31st March, 1962, 1.30 lakh tons storage capacity available with it comprising 0.36 lakh tons of owned accommodation and 0.94 lakh tons of hired

capacity. The total capacity at the end of March, 1961 was 0.79 lakh tons comprising 0.12 lakh tons of owned and 0.67 lakh tons of hired godowns. The State Warehousing Corporation had 3.96 lakh tons of warehousing capacity at the end of March, 1962, comprising 3.68 lakh tons of hired and 0.28 lakh tons of owned capacity. The corresponding total capacity at the end of March, 1961 was 2.78 lakh tons of which 2.74 lakh tons was hired and 0.04 lakh tons owned.

The number of Central warehouses increased from 40 at the end of 1960-61 to 60 at the end of 1961-62 thus realising in full the target fixed. The target for State Corporation has also been almost achieved. They set up 69 warehouses, 37 sub-warehouses and one cold storage as against 84 warehouses, 10 sub-warehouses and one cold storage programmed for the year.

The Central Government had available with them 0.69 million tons of owned capacity at the end of March, 1961. This was increased to 1.18 million tons during the year under review.

Fruit Preservation

A sum of Rs. 29.17 lakhs was provided for the development of fruit preservation during 1961-62. The expenditure during the year is estimated at Rs. 25.05 lakhs. In the Central Sector, there is only one scheme, viz., subsidy on tin plate. Under this head, a sum of Rs. 9.36 lakhs was disbursed during the year.

Agricultural Research and Education

The work on the various research schemes included in the Central Sector did not make any substantial progress as the work during the year mainly related to finalisation of proposals and obtaining clearance from the Finance Ministry and the Planning Commission. Under the scheme for the Project for Intensification of Regional Research on Cotton Oilseeds and Millets, two more centres were added during 1961-62.

A new agricultural college in Himachal Pradesh for catering to the needs of hilly regions was started during the year raising the total number of agricultural colleges in the country to 54. Proposals for the establishment of Agricultural Universities in the States of Punjab, Rajasthan, Orissa, Andhra Pradesh, Madras, Kerala and Madhya Pradesh were under consideration. Only the States of Punjab, Rajasthan and Orissa had passed the necessary legislation. An Expert Committee was set up to examine the proposals of the various States and help them in finalisation of necessary draft legislation. The University Grants Commission was also examining these proposals.

IV. ANIMAL HUSBANDRY, DAIRYING AND FISHERIES

I. ANIMAL HUSBANDRY

The objective of animal husbandry programme during the Third Five Year Plan is three-fold, namely to increase the supply of milk, meat and eggs, to provide efficient bullock power for agricultural operations and to improve the output of animal products, such as, wool, hides and skins etc. Originally an allocation of Rs. 55·30 crores was provided. An amount of Rs. 53·62 crores has now been approved. Of this, Rs. 4·66 crores were spent during 1961-62.

Breeding

(i) *Key Village Blocks.*—Under the key village scheme, it is envisaged to expand 64 blocks, intensify 89 existing key village blocks, establish 79 new ones in important breeding tracts and to establish 40 central semen collection centres during the Third Plan. Against this, during 1961-62, 10 new key village blocks were established each with 10 units, 18 existing blocks were expanded and 19 taken up for intensification. In addition, 8 central semen collection centres were established. As against the target of 44,440 for the third plan period, 3891 calves were subsidised during 1961-62.

(ii) *Gaushala Development.*—The plan envisages assistance to 168 selected gaushalas to convert them into cattle breeding-cum-milk production units. During 1961-62, 22 gaushalas were taken up for development. Some States have given low priority to this important scheme as it has not been classified as a 'pattern' scheme.

(iii) *Expansion and Establishment of Cattle Breeding & Bull Rearing Farms.*—Eleven cattle breeding farms were expanded and five bull rearing farms established against the plan target of 33 and 11 farms respectively.

(iv) *Cross-breeding Scheme.*—The cross-breeding scheme which was taken up on a pilot basis to determine the possibilities of increasing the milk production of non-descript cattle in hilly and heavy rain-fall areas by introducing foreign blood was continued. In accordance with this policy, 55 Jersey animals (consisting of 41 heifers and 14 bull calves) were received as gift from the Heifer Project, U.S.A. The animals were temporarily located at the Government Breeding Farm, Mandi, in Himachal Pradesh. Heifers and two of the bulls calves were retained on the farm as a nucleus stock for further production of Jersey animals while the remaining bull calves were used for cattle development under the coordinated Hill Cattle Development Scheme.

(v) *Castration of Scrub Bulls*.—The scheme for mass castration of scrub bulls' was not included in the plans of most of the States on the ground that this would be attended to by the existing staff. However, in view of the importance of the scheme in the Livestock Development Programme, the States have been advised by the Ministry of Food and Agriculture to include separate provision for this scheme and organise special units to carry out the work in an organised manner in different districts and at the same time train the Village Level Workers.

Feeding and Nutrition

Of the various measures proposed in the Third Plan, preliminary arrangements were made during the year 1961-62 for the establishment of a fodder bank and expansion of the one already set up during the Second Plan. Similar arrangements were also made for the establishment of the proposed Forage and Grassland Research Institute. A Feed and Fodder Development scheme included in the Third Plan was taken up in 10 States and two Union Territories. In addition, the establishment of improved pasture at the State Livestock Farms as well as in the village grazing lands was taken up. Silage making and chaffing of fodder were also popularised amongst the cultivators to avoid wastage.

Gosadan Scheme

The plan envisages the establishment of 23 new Gosadans. Three Gosadans were established during 1961-62.

Disease Control

The Rinderpest Eradication programme initiated in the First Plan is being continued in the Third Plan. During the year 1961-62, the work was completed in West Bengal. Considerable areas in other States have also been rendered free of the disease. During 1961-62, 133·61 lakh animals were vaccinated against rinderpest. Since the inception of the scheme till March, 1962, 1079·07 lakh animals had been vaccinated. During the year 255·74 lakh doses of vaccine were produced. To prevent the ingress of the disease from the adjoining countries, 17 vaccination stations were functioning.

Poultry Development

Five Regional Poultry Farms and 269 extension centres were established during the Second Plan. During 1961-62 seven poultry extension centres were established against the plan target of 50. During 1961-62, 20·22 lakh eggs were produced, 1·86 lakh birds were distributed and 2420 persons were trained in modern methods of poultry keeping. The scheme of "Regional Duck Breeding Farm" was started by the Government of West Bengal.

A collaboration programme between Commercial Organisation of U.S.A. and India was finalised for the broiler and egg production on a mass scale. A Committee was constituted to explore the possibilities for the indigenous manufactures of poultry farm equipment.

Sheep and Wool Development

On the basis of exploratory research, the country has been divided into three main regions and a set breeding policy laid down. For the development of sheep in the Northern Himalayas, 60 Rambouillet sheep were imported from U.S.A. during 1961-62. For the development of Angora goats 14 bucks were obtained for the Research Station at Bilaspur in Himachal Pradesh. During the first year of the plan, 2 Sheep Breeding Farms were established, 3 expanded, and 15 sheep and wool extension centres organised and 115 extension centres were expanded. During 1961-62, 150 rams were purchased and distributed for the introduction of sheep in a mixed farming economy.

Arrangements were made for the establishment of the Central Sheep Breeding Research Institute at Malpura in Tonk district in Rajasthan and 4000 acres of land was acquired in January, 1962. The authorities of the United Nations Special Fund approved of the assistance to this Project to the extent of \$740,000.

Piggery Development

The Third Plan provides for the establishment of two regional pig-breeding-station-cum-bacon factories, 12 piggery units and 140 piggery development blocks. Against this, 5 piggery units and 7 piggery development blocks were established during 1961-62.

Hide-flaying, Curing and Carcass Utilisation

With a view to popularising the adoption of improved methods and techniques of hide-flaying, curing and carcass utilisation over a large area, two training centres were established during the Second Plan—one in Delhi and another at Baksi-ka-talab, Lucknow. During the year 1961-62, 31 candidates from the various States were trained at the Delhi training centre. The training centre was closed from October, 1961. During 1961-62, 80 candidates from the various States were trained in different trades at the Model Training-cum-production Centre, Baksi-ka-Talab, Lucknow.

Other Schemes

The Central Council of Gosamvardhana which was reorganised in the last year of the Second Plan, and was assigned the task of

organising, implementing and coordinating the different activities relating to the preservation and development of cattle, set up various committees to review the working of the key village scheme, and of measures for the development of feed and fodder and salvage of high yielding cows.

Education and Research

By the end of the Second Five Year Plan, 17 veterinary colleges were functioning. A new veterinary college was set up in Ranchi (Bihar) during 1961-62 and 849 students graduated from the different veterinary institutes.

II. DAIRY DEVELOPMENT

Against the expenditure of Rs. 7.78 crores and Rs. 15.00 crores in the First and Second Plans respectively an allocation of Rs. 36.08 crores has been provided under the Third Five Year Plan for dairy development. Against this a sum of Rs. 4.95 crores was spent during 1961-62. The current plan provides for the establishment of 55 new milk supply scheme in cities with a population exceeding one lakh and in growing industrial townships, 8 rural creameries, 4 milk product factories and 2 cheese factories for developing the rural milk pockets. In addition, it is also planned to establish 4 cattle feed compounding factories and to develop the manufacture of milk products in the private sector.

Milk Projects

High priority has been accorded to the completion of spill-over schemes during the current plan. During the first year of the Third Plan, seven dairies were started at Trivandrum, Bhopal, Gaya, Worli (Bombay), Ahmedabad, Chandigarh and Coimbatore with a total handling capacity of about 315,000 litres (8500 maunds) per day. Of the 55 Milk Supply Schemes 15 were taken up for implementation.

Besides the developmental programme in the public sector, rapid progress has been made in the private sector in respect of dairy products. Thirteen firms have so far been licensed and their capital outlay is estimated at Rs. 4 crores. The annual production capacities licensed are:—(a) 8500 tons of condensed milk, (b) 3000 tons of malted milk, (c) 5500 tons of infant milk foods, (d) 250 tons of processed cheese, and (e) 7500 tons of milk power.

Indigenous Manufacture of Dairy Equipment

The success of dairying is directly related to the availability of dairy equipment and machinery. In view of this, a dairy machinery

committee was set up by the Ministry of Commerce and Industry to assess the requirements of the equipment, formulate programmes of production and assist the manufacturers in the execution of the programmes. Four firms were licensed and the assistance of I.S.I. was sought in regard to the specification for manufacturing equipments. The annual foreign exchange requirement was estimated at Rs. 80 lakhs to produce dairy equipments worth Rs. 2.5 crores which corresponds to the installed capacity of the firms licensed.

Dairy Cooperatives

Since the dairy development schemes included in the Third Plan did not cover towns with population of less than one lakh and also several small milk pockets in different parts of the country, the position was reviewed in a meeting held in the Planning Commission in March, 1961, with the State representatives. It was decided that small cooperative units may be established in different parts of the country to promote milk production and supply on wider scale. A note indicating the lines on which small cooperative unit might be organised was sent to the State Governments. The intention was that the supply and collection of milk ought to be undertaken through a net-work of producers' cooperatives in villages.

Cattle Colonies

The removal of milch animals from cities and their rehabilitation in colonies is regarded as a health-cum-slum clearance measure during the Third Five Year Plan. The main responsibility for it devolved on the city municipalities and corporations. There has however been very little progress.

Research and Education

Development of research facilities received attention during the period. The construction of Students' Hostel was completed while that of the Dairy Science College, Karnal was in progress. Teaching courses in M.Sc., and B.Sc., in dairying at Karnal and the Indian Dairy Diploma (I.D.D.) at Bangalore were in progress. The Western Regional Station at Bombay was provided with facilities. The total requirements of dairy personnel during the third plan period is estimated at 2850. The out-turn from the existing institutions during 1961-62 was about 150 against the estimated requirements of 200 for the year.

III. FISHERIES DEVELOPMENT

Against the outlay of Rs. 9 crores in the Second Plan, an allocation of Rs. 28·64 crores has been earmarked for the development of fisheries during the Third Plan. Of this, Rs. 2·17 crores was spent during 1961-62.

Inland Fisheries

The plan envisages the collection and distribution of 120 million additional fry and fingerlings, setting up of 50,000 acres of water as demonstration farms, utilisation of 2,000 acres of marshy land and 1,500 acres of estuarine waters for fish culture. During the year 1961-62, five demonstration farms were established and about 15 million additional fry and fingerlings were distributed. The techniques of induced breeding will reduce the need for transporting fry and fingerlings to distant places and minimise the mortality during transit.

Marine Fisheries

The plan provides for the mechanisation of 4,000 fishing crafts, the establishment of 4 deep sea fishing stations, for operation of 35 large vessels and to provide landing and berthing facilities for fishing vessels at 16 ports.

(a) *Mechanisation of fishing crafts.*—The number of mechanised boats increased from 600 to 1800 during the Second Plan. During 1961-62, about 200 boats were mechanised. The main difficulty in accelerating the tempo of mechanisation was the non-availability of marine diesel engines and the shortage of foreign exchange. Foreign exchange allocation of Rs. 8 lakhs was made during 1961-62 against the requirement of Rs. 40 lakhs.

(b) *Ice and Cold Storage.*—The Third Plan provides for setting up of 72 ice and cold storage plants at important fish landing and consuming centres during the Third Plan. Against this, 6 ice and cold storage plants were set up during 1961-62.

(c) *Minor Ports.*—During the Second Plan 12 fishing harbours were surveyed and lay-out sketches for nine harbours were prepared. In the Third Plan, it is proposed to complete the survey and development of 21 ports. During 1961-62, five minor ports were taken up for development.

(d) *Central Off-shore Fishing Stations.*—In the Second plan, 3 Off-shore Fishing Stations were set up in addition to the Deep Sea Fishing Station, Bombay. About 20 fishing vessels were operating from these four stations for exploring and charting fishing grounds,

determining fishing seasons, etc. In the third Plan it is envisaged to establish 4 new stations at a cost of Rs. 204 lakhs. Two stations one at Veeraval and the other at Mangalore started functioning during 1961-62. Shortage of fishing vessels and equipment due to foreign exchange difficulty greatly hampered the activities of these stations.

Fisheries companies and Cooperatives

The Third Plan provides an allocation of Rs. 1 crore as loan to fisheries companies and cooperatives. It was subsequently decided that under the scheme loans would be given to cooperatives only. A loan of Rs. 10.00 lakhs was sanctioned to Gujarat Fisheries Central Cooperative.

Foreign Collaboration

An agreement between the Government of India and the Government of Norway for the extension of the Indo-Norwegian Project to other States was signed in November, 1961. The Government of India also signed an agreement with the Government of Japan in March, 1962 for starting a fish processing training centre in Mysore to train technicians in freezing, canning and preservation of other edible products like fish sausages.

Research and Education

The two central fisheries research stations for marine fisheries at Mandapam (Madras) and for inland fisheries at Barrackpore (West Bengal) were expanded.

The total requirements of personnel to carry out the different development projects in fisheries in the current plan is estimated at 2100. The Central Institute of Fisheries Education started functioning in Bombay from July, 1961, to impart training to personnel of the level of district fisheries officers. Against the requirement of 250, the out-turn of trained personnel from the various institutes during 1961-62 was 150.

V. FORESTS AND SOIL CONSERVATION

FORESTS

Programmes relating to creation of economic and industrial plantations, farm forestry, rehabilitation of degraded forests, development of communications and roads, improvement of forest grazing are among the important items of work which were taken up during the period under review.

Economic Plantations

As against the Third Five Year Plan target of extending plantations of industrial and economic importance to over seven lakh acres, the achievement during 1961-62 was 82,000 acres under different species comprising 26,300 acres teak, 10,500 acres matchwood, 2,400 acres wattle and 42,600 acres for other miscellaneous varieties. Only about 12 percent of the Plan Target has thus been achieved. The tempo will need to be specially accelerated in the States of Madhya Pradesh, Maharashtra, Rajasthan and Jammu and Kashmir.

Farm Forestry

Under the scheme of village and farm forestry, which is an important programme in the Third Plan, a modest start was made in the States of Madhya Pradesh, Madras, Rajasthan and Mysore and about 9,300 acres are reported to have been covered during 1961-62 against the Plan target of 12 lakh acres.

Rehabilitation of Degraded Forests

In order to increase the forest potential in the areas which were not properly looked after hitherto, the State Plans have included schemes for benefiting six lakh acres during the third plan period. In 1961-62, 60,000 acres were covered, accounting for 10% of the plan target.

Development of Communication and Roads

As against the plan target of developing 15,000 miles of roads, the achievement during the period under review was 1000 miles mainly in Assam, Bihar, Madhya Pradesh, Rajasthan and Himachal Pradesh.

Forest Grazing

Under the programme for grazing and pasture development, the States of Gujarat, Rajasthan, Madras, Maharashtra, and Mysore took up work over 7,400 acres during 1961-62.

Other Schemes

Under the Central Sector, work on the Delhi Zoological Park was continued. A scheme for pro-investment survey of forest resources including a special programme for plantation of quick growing species was approved. A project for the establishment of Central and Regional logging training centres under the Forest Research Institute was also drawn up.

Soil Conservation

The main programmes taken up during 1961-62 related to extension of soil conservation measures in agricultural lands and contour bunding, intensification of dry farming practices, reclamation of alkaline and saline lands and soil conservation in the catchment areas of river valley projects. The progress under all the scheme was much below the target.

Under the programme for extension of soil conservation measures on agricultural lands, the achievement during the first year was 1.28 million acres or 11.6 percent of the Plan target of 11 million acres. Large scale work was in progress in 1961-62 in the States of Maharashtra, Gujarat, Uttar Pradesh, Madras and Bihar. As regards dry farming practices, against the Plan target of covering an area of 22 million acres, the achievement was 1.93 million acres or 9 percent. Under the programme for the reclamation of saline and alkaline lands about 600 acres were treated during 1961-62 in the State of Uttar Pradesh against the Third Plan target of two lakh acres.

In the Central Sector, activities relating to training and research programmes on different aspects of soil conservation were continued at the various research-cum-training centres. Under the programme for soil conservation in the catchment areas of river valley projects, about 70,000 acres were covered. The importance of this work needs to be stressed to the State Governments so that the Plan target of one million acres is achieved. In addition to the 21 dry farming demonstration projects set up during the Second Plan, 6 new projects were established in 1961-62. Under the scheme for All India Soil and Land Survey, about 23.5 lakh acres were surveyed till January 1962.

VI. CO-OPERATION

The Third Plan provides for specific programmes for cooperative credit, marketing, processing, consumer cooperatives, labour and construction cooperative and cooperative training and administration under the agricultural sector. Besides, programmes for industrial cooperatives, housing cooperatives and others form part of the Plans of the concerned sectors.

The outlay included in the State Plans for the Third Plan period for cooperative development schemes in the agricultural sector under the important sub-heads along with the outlay and actual expenditure for 1961-62 are shown in the following table.

Sub-head	Outlay in third plan (Revised)	(Rs. in lakhs)	
		1961-62	
		Outlay	Actual Expenditure
Credit and Marketing	3,392	756	512
Farming	669	87	51
Training and Education	652	117	90
Others	1,705	95	187
TOTAL	6,418	1,055	840

A sum of Rs. 8 crores has been set apart in the Central sector in the form of additional provision for cooperative farming and training schemes. In view of the unsatisfactory progress of the cooperative movement in Eastern States, it has also been agreed to provide additional assistance to these States for its development. The actual expenditure during 1961-62 has been of the order of Rs 30 lakhs.

Cooperative Credit

The various targets for cooperative credit and the actual achievements in 1961-62 are summarised below:

Item	Target for Third Plan	1961-62	
		Programme	Actual Achievement
Organisation of new primary Agricultural Credit Societies (number)	31,055	8,000	7,383
Membership at the end of the period (millions)	37.39	22.24	20.80
Coverage of rural population (Percentage)	52	..	30
Short and medium term credit advances (Rs. crores)	530	243	232
Long term loans—fresh lendings (Rs. crores)	142	17	14

The important decisions relating to cooperative credit in the context of the larger needs in the Third Plan have been elaborated in the Third Five Year Plan document. During 1961-62 action has been initiated by the various authorities concerned for implementing these decisions. Among the steps taken the following deserve to be mentioned:

(i) The Reserve Bank of India has intimated the State Governments to send applications for loans for contribution to the share capital of primary agricultural societies up to 500 societies in each State. The minimum amount for contribution to any society on matching basis has been fixed at Rs. 1500. The contribution is to be restricted to societies in the audit classifications of A, B or C with overdues not exceeding 30%.

(ii) The Reserve Bank has accepted the recommendations made by the Committee on Cooperative Credit regarding liberalisation of the credit limits for short term credit provided by them to the Central Co-operative Banks and the State Governments have been informed about the procedure to be adopted in obtaining the additional credit limits. In respect of medium term credit also the recommendations made by the Committee "that the Reserve Bank should sanction an additional limit on the basis of the increase in their owned funds to the Central Bank" has been accepted by the Reserve Bank.

(iii) The provision has been made in the State Plans for giving outright grants to the primary societies and Central Bank at the rate of 3 per cent and 1 per cent respectively of the additional loans during the year over those advanced by them in the preceding year.

The need for revitalising the poor and dormant societies which constituted a large proportion of the primary societies on priority basis has been emphasized in the Third Plan. The detailed procedure to be adopted for carrying out the programme of revitalising has been drawn up by the Ministry and communicated to the State Governments. With the initiation of the measures during 1961-62, satisfactory progress is expected to be maintained.

The realisation of the targets fixed for short and medium term credits depends to a very large extent on the achievement of the increase in the internal resources of the co-operative movement at various levels visualised in the Third Plan. In many States, specific targets have been worked out at various levels for the Third Plan period. It has been agreed that this work will be completed in all the States and that the State targets will be broken up district and

blockwise so as to facilitate a regular review of the actual performance by the block and district level officers. The problem of medium term finance continues to present difficulties. While the importance, of medium term credit for promoting the development programmes of agriculture has been recognised, it has not been possible for the co-operative credit structure to find the necessary medium term resources. The Reserve Bank of India provides medium term finance from its Long Term Operations Fund, but this has necessarily to be very limited in view of the fact that this fund has been created out of the annual contribution made from the profits of the Reserve Bank and has to be used for other equally important purposes like loans for share capital participation in co-operative credit institutions and purchase of debentures of the land mortgage banks. The recommendation made by the Committee on Co-operative Credit to raise the annual contribution to the Long Term Operations Fund from Rs. 10 crores to Rs. 15 crores is under consideration. Even with this enhanced contribution, the funds that can be made available by the Reserve Bank may not exceed 20 per cent of the total requirements. The entire problem is under study by the Reserve Bank and the Planning Commission.

Credit for longer periods which are needed for increasing the production capacity of the land are provided by the co-operative land mortgage banks. It has been pointed out in the Third Plan that the achievement of the target for long term to the extent of Rs. 150 crores (loans outstanding) will depend on the support which land mortgage banks received from institutional investors and the success of rural debentures. The assistance to be given by the national institutions like the Reserve Bank of India, the State Bank of India and Life Insurance Corporation has been considered in a meeting in the Planning Commission with the representatives of these institutions. Apart from the problem of availability of resources concerted effort is needed for strengthening the institutional structure. During 1961-62, 78 primary land mortgage banks are likely to be established in addition to opening of a number of branches of central land mortgage banks. The target for the Third Five Year Plan is the organisation of 173 new primary land mortgage banks and 150 branches of central land mortgage banks. With a view to augmenting resources available for long term loans it has been decided to set up an Agricultural Development Finance Corporation. The procedural details are being worked out.

Marketing, Storage and Processing

As against a target for the organisation of about 600 new primary marketing societies and 783 processing units in the third plan, 122

marketing societies have been set up and 109 processing societies are likely to be assisted during 1961-62.

In 1961-62 the setting up of 3,300 rural godowns had been programmed. However only 1350 rural godowns were actually established. The shortfall in the achievement in this regard was mainly due to reduced allocations made by the State Governments.

The progress in regard to development of co-operative marketing and establishing a link between credit and marketing has not been upto expectation except in respect of some crops, such as cotton and sugarcane in one or two States. The problems in respect of paddy, jute and wheat are being examined by a study team appointed by the National Co-operative Development and Warehousing Board.

The only agricultural crops in respect of which Co-operative processing has made some progress are sugarcane and cotton. About 15 per cent of the sugar produced in India is accounted for by the Co-operative Sugar Factories and about 11 per cent of cotton ginning is done in the co-operative sector. The National Co-operative Development and Warehousing Board appointed a working group to look into the question of processing. The report of working group brought out the inadequacy of co-operative processing in agricultural economy and has made a number of important recommendations. In pursuance of these recommendations, model blue prints for processing units are being prepared and comprehensive programmes for the processing of different commodities are being worked out.

The development of co-operative marketing and processing is very much dependent upon the supply of adequate finance. The State Bank of India has expanded their assistance in regard to marketing finance. Upto 30th September 1961, the State Bank of India had sanctioned credit limits of the tune of Rs. 2.55 crores to 168 Co-operative Marketing and Processing Societies (other than sugar factories) and to the tune of Rs. 5.10 crores to 14 Co-operative Sugar Factories in various States. The State Bank of India has also agreed to advance clean loans to marketing and processing societies on the guarantee of central/apex banks/or the State Governments. Certain other suggestions made by the Conference of State Ministers for Co-operation held in October, 1961 regarding further liberalisation of finance by the State Bank are being pursued.

The processing units also require block capital. The Third Plan has drawn attention to the need for working out satisfactory arrangements for meeting this requirement. It has been felt that State Finance Corporations should provide assistance for this purpose

along with State Governments. State Finance Corporations have not come into the picture so far. A recent development has been the setting up of the "Refinance Corporation" which also provides medium term loans to State Co-operative Banks/Central Banks for financing co-operative processing units.

Cooperative Farming

A programme for setting up of 3180 Cooperative Farming Societies in Pilot Projects is envisaged during the third plan. Of these, 235 societies had been organised upto 31st March, 1962. For farming societies outside the pilot project areas, no targets have been fixed for the third plan period or for the year 1961-62. Till the end of March, 1962, about 454 societies had been set up.

Arrangements are being worked out for the training of Secretaries of the Cooperative Farming Societies and for orientation of cooperative institutions and appropriate Departments in the States. In seven States the programmes has already been given effect to.

Consumers' Cooperatives

The programme for 1961-62 was to provide assistance to 11 wholesale consumers' stores and 371 primary consumers' stores. About 321 primary stores and 8 apex stores were taken for organisation/revitalisation. The Committee on Consumers Cooperatives suggested that there should be only one wholesale store in each State. This recommendation has been accepted in the Conference of State Ministers of Cooperation held at New Delhi in October, 1961.

Cooperative Training and Education

There were 62 training centres for the training of junior personnel in the State cooperative departments and institutions at the end of 1960-61. During the current year 4 more schools have been opened. For education of members and office-bearers of cooperative societies, there were 417 peripatetic parties in position at the end of June, 1961. Another 148 parties may be added during 1961-62.

Besides the subordinate training centres and peripatetic parties mentioned above, the Central Committee for Cooperative Training has been conducting the senior officers' training college and five regional cooperative training centres from the funds provided by the Reserve Bank of India. At present, this programme is not included in the Third Five Year Plan as such. Recently, the question of organising cooperative training and education on sound lines was examined by a Study Team set up by the Ministry of Community Development and Cooperation. This team recommended that, as

far as possible, training centres including those conducted with funds received from the Reserve Bank should be entrusted to non-official cooperative institutions.

Consequent upon the decision of the Conference of the State Ministers for Cooperation held in October, 1960, the special Committee constituted by the National Cooperative Union with the approval of the Government of India will be in over-all-charge of coordinating the programmes relating to cooperative education, training and research. It will run a central institute for training senior personnel and organise specialised courses on marketing, land-mortgage banking, etc., which involve inter-state arrangements. The intermediate training centres will be transferred to the State Cooperative Unions to be run by special Committees constituted by them with the approval of State Governments wherever the State Cooperative Unions are in a position to undertake the responsibility. In the case of the centres which could not be transferred immediately, they will be administered by the special committee of the National Cooperative Union. All the subordinate training centres will be transferred to the State Cooperative Unions. These developments are of far reaching significance and constitute a most significant step forward in realising the objective of making the cooperative movement self regulatory in character.

VII. COMMUNITY DEVELOPMENT AND PANCHAYATI RAJ

Outlays and expenditure

The Third Five Year Plan provides an outlay of Rs. 294 crores for community development, out of which Rs. 288 crores are meant for expenditure in blocks and Rs. 6 crores have been earmarked for Central and Centrally sponsored schemes mainly relating to training programmes. An outlay of Rs. 28 crores has been provided for Panchayati Raj schemes.

The State Governments and Union Territories provided an outlay of Rs. 49.38 crores for community development and Rs. 3.36 crores for Panchayati Raj scheme in their budget for 1961-62. As against this, the actual expenditure incurred amounted to Rs. 52.33 crores for community development and Rs. 2.96 crores for Panchayati Raj schemes.

Achievements and targets

Out of the total number of 5,223 blocks which are to be covered by October, 1963, 3,137 blocks had already been opened by the end of the Second Plan, covering 370 thousand village with a population of 203.1 million. During 1961-62 the number of blocks had increased to 3,589 and the number of villages and population covered under the programme increased to 410 thousand and 234 million respectively. There were also 681 pre-extension blocks.

The elaborate training arrangements evolved during the Second Plan were continued during 1961-62. The Central Institute of Study and Research in Community Development conducted six training courses in which 225 persons participated. Among other training institutions functioning during the year, mention may be made of 96 Village Level Workers training centres, 43 Gram Sevikas training centres, 18 Social Education Organisers training centres, 10 orientation and study centres for Block Development Officers and Extension Officers as well as non-officials, 4 Small Industries Service Institutes and 7 Khadi Gram Udog Mahavidyalayas for extension officers (industries) and 3 health orientation training centres. The training courses in all these institutions were carried out according to schedule. Two orientation and study centres were established during the year bringing the total number of such centres to 10. The State Governments had also established 80 training centres for the training

of Panchayat Secretaries in courses of three months duration each. Out of the 50 Panchayati Raj training centres that were sanctioned for 1961-62 out of which 43 centres had been established. These centres are run at the district level by non-official organisations for training Sarpanchas, Upsarpanchas, Panchas, members of the Block Development Committees/Panchayat Samitis and part-time Panchayat Secretaries in Community Development and Panchayati Raj.

Panchayati Raj

During the year Panchayati Raj had been implemented in Rajasthan, Andhra Pradesh, Assam, Madras, Mysore, Orissa and Punjab. Legislation was enacted in Uttar Pradesh, Gujarat, Bihar, Maharashtra and Madhya Pradesh and the implementation of the scheme is in progress. In West Bengal, a bill has been drafted. In Kerala and Jammu and Kashmir the question of introducing Panchayati Raj was under active consideration.

Eighty nine per cent of the villages in the country are covered by the village panchayats. In West Bengal and Madhya Pradesh the villages covered constituted 28 per cent and 69 per cent respectively of the total number of villages in these States. In the other States the coverage of villages was between 95 to 100 per cent. The Government of West Bengal have drawn up a phased programme for covering all the villages by Panchayats within a period of 3 to 4 years.

The far reaching nature of the reform introduced under the scheme of the Panchayati Raj necessitated constant review of the problems arising from the working of the Panchayati Raj. The Annual Conference of the State Ministers of Community Development and Panchayati Raj held at Hyderabad in July, 1961 reviewed the progress of Panchayati Raj and considered some of the problems like increasing the effectiveness of gram sabhas, mobilisation of local resources by Panchayati Raj bodies. A study of administrative problems arising in the district as a result of the implementation of Panchayati Raj was undertaken by Shri V. T. Krishnamachari at the instance of the Planning Commission.

Welfare of the weaker sections of the village community

The Third Five Year Plan had made pointed reference to organisation of labour cooperatives and fuller utilisation of the rural manpower through works programmes as some of the important measures which could be taken up to the immediate advantage of the weaker sections. The rural works programme was extended to 227 blocks

during 1961-62. The problems relating to labour cooperatives were examined. It was decided to promote the formulation of labour cooperatives in areas covered by the rural works programme.

The Study Group which was constituted under the Chairmanship of Shri Jai Prakash Narain by the Ministry of Community Development, Panchayati Raj and Cooperation to study how far and in what manner the Community Development Organisation and Panchayati Raj Institutions could promote the economic development and welfare of the weaker sections of the community submitted its report in October, 1961.

VIII. IRRIGATION AND POWER

IRRIGATION

The major and medium irrigation schemes of the First and Second Plans are expected to irrigate, on completion and full development, about 37 million acres (gross area) at an aggregate estimated cost of Rs. 1488 crores. The outlay on these schemes in the two Plans amounted to Rs. 670 crores.

The irrigation potential created by these schemes at the end of the Second Plan, as reported by the State Governments, was 12.56 million acres (gross). The actual utilisation was reported as 8.79 million acres (gross). In the Third Plan, some new major and medium irrigation schemes have been included for execution. At the time of formulation of the Third Plan, it was estimated that by March, 1966, these new schemes, together with the schemes of First and Second Plans, would create an irrigation potential of about 29.5 million acres, and the utilisation would be about 22.8 million acres*.

Targets and Achievements

The table below sets out the irrigation benefits accruing at the end of the Second Plan (1960-61), actual benefits at the end of 1961-62, and revised targets at the end of the Third Plan (1965-66):—

(Million acres gross)			
	To end of		
	1960-61 (actual)	1961-62 (actual)	1965-66 revised target
(i) Potential at outlet	12.56	13.63	25.97
(ii) Utilisation	8.79	9.68	20.49
(iii) Percentage utilisation of potential at outlet	70	71	79

*These figures have been revised to 25.97 million acres and 20.49 million acres respectively on the basis of discussions in the Working Group for 1962-63 Annual Plan and Draft Annual Plan for 1963-64.

OUTLAYS

The table below sets out the Third Plan outlay and actual outlay for 1961-62 for irrigation and flood control programmes.

(Rs. crores)			
	Third Plan Outlay	1961-62	
		Budget	Actual
Irrigation	603.15	96.60	91.66
Flood Control	62.97	8.30	11.98
TOTAL	666.12	104.90	103.64

In the past, some projects had been commenced despite incomplete investigations and inadequate surveys which resulted in prolonging their construction period and consequent delay in accrual of benefits from them. Also, the original cost estimates of some of the continuing schemes had gone up, resulting in a larger carry-over into the Third Plan than was indicated by the State Governments in their final reports on their Third Plans. Owing to the increase in the estimated cost of continuing schemes and the need for completing them speedily the amount available for new schemes in the Plan had to be reduced.

Progress of important irrigation schemes is reviewed below:

- (i) *Rajasthan Canal*.—The Naurang-desar distributary of the Rajasthan Canal was inaugurated on the 11th October, 1961 when water was released for the first time into the distributary.
- (ii) *Bhakra-Nangal Project*.—The 740-feet high Bhakra Dam was nearing completion.
- (iii) *Kosi Project*.—On the barrage and head-works, about 94% of the excavations in foundation and 72% of concreting work had been done. Nearly 80% of earth work in the main canal and 90% in the four branch canals and 64% in the distributaries was completed.
- (iv) *Chambal Project*.—Gandhisagar Dam in Madhya Pradesh, the Kotah Barrage and the Right Main Canal in Rajasthan have been completed. Preliminary work on the Rana Pratap Sagar Project, which forms the second stage of the Chambal Project, were in progress.

- (v) *Nagarjunasagar Project*.—The Nagarjunasagar Dam has been raised to a height of 100 feet on the flanks and 50 feet in the spill-way portion.

Progress on some of the projects was retarded owing to shortage of cement and steel and scarcity of foreign exchange required for machinery and equipment. Steps have been taken from time to time to meet these difficulties to the extent possible.

Utilisation of Irrigation

Utilisation of irrigation involves efforts by a number of State departments such as Irrigation, Agriculture, Revenue, Community Development and Cooperation. This entails proper administrative coordination of departmental action. To achieve this, the Planning Commission had suggested to State Governments to set up a Development Committee at the State level comprising the representatives of all the Departments concerned to review, at regular intervals, the progress in the utilisation of irrigation facilities, as and when they become available. All the State Governments have set up such Development Committees, and similar Committees are to be constituted for each project also.

Flood Control

During the monsoon of 1961, many States in the country experienced heavy rainfall. Parts of Kerala, Madras and Mysore States, which are normally not subject to heavy flooding, experienced severe floods. In Maharashtra and Orissa, the flood situation became critical. There were heavy and widespread flood in Assam, Bihar and U.P. Medium to low floods occurred in the Punjab, Andhra Pradesh, West Bengal, Madhya Pradesh, and Rajasthan.

Despite the measures so far taken for flood control by the States, the magnitude of the flood problem facing the country continues to cause anxiety. The States had undertaken preparation of comprehensive Master Plans for flood control for the various river basins, and they have been asked to complete these Master Plans as soon as possible, and to fix priorities for detailed investigations and preparation of schemes in the basins so that the schemes are kept ready in advance for implementation as funds become available for them.

Betterment levy

The target of total receipts from betterment levy set out in the Third Plan is Rs. 39 crores. During 1961-62 the realisations from betterment levy were anticipated to be Rs. 1.53 crores only, as against a target of Rs. 5.1 crores.

Water rates

It was suggested in the Third Plan that the water rates require upward revision and that where water rates are optional, there should be a compulsory water cess. This has been under consideration in the States and is being pursued.

POWER

Outlays

Against the Third Plan total outlay of Rs. 1039 crores in the public sector, the expenditure incurred during the year 1961-62 on the power programme in the public sector, including the power portion of multipurpose projects, is Rs. 136 crores.

Targets and Achievements

The target set as per the Third Plan report for the year 1960-61, 1961-62 and 1965-66, and the actual achievements in 1960-61 and 1961-62 and the anticipated achievements by the end of the plan period as at present reckoned are indicated below:—

Upto end of										As per Third Plan	Achieve- ment
										(million kW)	(million kW)
1960-61	.	.	.	.	.	.	.	.	.	5.70	5.595 (Actuals)
1961-62	.	.	.	.	.	.	.	.	.	6.30	6.18 (Actuals)
1965-66	.	.	.	.	.	.	.	.	.	12.69	13.0 (Antici- pated)

At the time of formulation of the Third Five Year Plan, it was estimated that the total installed generating capacity in the country by the end of the year 1960-61 would be 5.7 million kW comprising 4.7 million kW in the public and private utilities and 1 million kW in self-generating industrial establishments. However, due to delays in commissioning of some power units in the Bhakra Left Power House and Neriamangalam power station in Kerala, the actual achievement upto the end of 1960-61 was only 5.595 million kW. The break-up of the installed generating capacity at the end of the second plan period was as follows:—

										(Million kW)		
										Utilities	Non- utilities	Total
Hydro Plant	.	.	.	.	.	.	.	.	.	1.843	0.002	1.845
Thermal Plant	.	.	.	.	.	.	.	.	.	2.436	0.970	3.406
Oil Plant	.	.	.	.	.	.	.	.	.	0.300	0.044	0.344
										4.579	1.016	5.595

During the year under review, the following additions to generating capacity in the country were made:

	MW
Diesel sets (Assam)	6
Diesel sets (Gujrat)	4
Thermal set (Ahmedabad) (Gujrat)	30
Diesel sets (U.P.)	4
Hydel sets, Rihand (U.P.)	250
Hydel sets, Ganderbal (J.&K.)	9
Hydel set, Neriamangalam (Kerala)	15
Hydel sets, Kundah (Madras)	35
Hydel sets, Tungabhadra (Mysore)	9
Hydel sets, Bhakra (Punjab and Rajasthan)	159
Hydel sets, Kotla (Punjab & Rajasthan)	29
Hydel sets, Ganguwal (Punjab & Rajasthan)	29
Union territories	0.6

579.6

The target for additional generating capacity in 1961-62 set out in the Third Plan report was 604 MW. The capacity actually commissioned during the year amounted to 579.6 kW, which is 24.4 MW, short of the target. The shortfall was due to delay in the commissioning of the following plants:

Hydel set—Chambal (Rajasthan and Madhya Pradesh)	23	MW
Diesel sets—Union territories	1.4	MW
TOTAL	24.4	MW

In West Bengal DVC Bihar region, an emergency cut was imposed on bulk consumers of power because of serious shortages caused by delayed commissioning of three large size units in the D.V.C. and failure of some plants in the Calcutta Electric Supply Corporation. The Government of India had set up a Committee to enquire into the reasons for the failure and delay in commissioning of these units. The Committee submitted its report in September, 1961. As recommended by the Committee, the Planning Commission agreed to the installation of six package units of 1.5 MW capacity each and one 75 MW unit in the Durgapur Coke Oven Power station in West Bengal.

As the major contracted loads in the Rihand power system are not ready to avail of the supply, there is surplus power available in Rihand. Arrangements were made for the utilisation of this surplus

power by diverting the same to the deficit areas of Bengal-DVC-Bihar in consultation with the concerned authorities in the States.

Progress of examination of power schemes in Third Plan

The position at the end of March, 1962 is indicated in the following abstract:—

	Continuing from the Second Plan		New schemes of the Third Plan		Total
	Genera- tion Schemes	Others	Genera- tion Schemes	Others	
Total number of schemes to be taken up in the Third Plan	53	39	78	147	317
Number of schemes accepted by the Planning Commission prior to April, 1961	44	21	23	18	106
Number of schemes accepted by the Planning Commission during 1961-62.	4	8	8	8	28
Total number of schemes approved upto March, 1962	48	29	31	26	134

Additions to the Third Plan power programme

Since the finalisation of the Third Five Year Plan certain additions to the power programme have been made partly due to the delays anticipated in commissioning of some of the Third Plan schemes and partly to meet urgent demands.

The new schemes are:—

- (i) 125 MW—Trombay, Maharashtra.
- (ii) 50 MW—Calcutta Electric Supply Co.
- (iii) 5 MW—Dishargah Electric Supply Co.
- (iv) 75 MW—Durgapur Coke Oven Plant, West Bengal.
- (v) 6×1.5 MW package sets in West Bengal.
- (vi) 2×50 MW instead of 2×30 MW at Barauni, Bihar.
- (vii) 2×30 MW for Kanpur.
- (viii) 2×50/60 MW instead of 1×30 and
MW 1×50/60 MW at Satpura, Rajasthan
- (ix) 50 MW—Durgapur Steel Captive Plant.
- (x) 40 MW—Koyna Dam Power House.
- (xi) 20 MW instead of 10 MW at Kalakote, J&K.

Review of Progress on Projects

In order to ensure speedy implementation and to remove bottlenecks, a Team of senior officers was set up to review the progress of power schemes included in the Third Five Year Plan. The Team visited all the States and has suggested that a realistic schedule of all power projects included in the Third Plan should be drawn up by the States and a periodic review of their progress should be undertaken with a view to discovering and removing bottlenecks in implementation and that the States be requested to complete detailed investigations of projects to be undertaken in the Fourth Plan. In view of the size of power plan to be implemented and the need for proper coordination in matters relating to steel, cement, coal, foreign exchange and import licences as also assistance needed in timely procurement of equipment from indigenous sources, the team suggested that such periodical reviews should be undertaken in future as well.

On the recommendation of the Team, the Ministry of I & P have set up a special unit to devote undivided attention to watch the progress of power projects and for assisting the States in removing the bottlenecks, particularly in respect of procurement of steel, cement, coal, explosives and expeditiously arranging for them foreign exchange, import licences and timely procurement of equipment from indigenous sources.

Due to frequent interruptions in the supply of electricity to consumers in Delhi, the Government appointed a Committee to assess the power requirements in Delhi State and investigate into the reasons for frequent failure of power supply and to recommend measures to ensure adequate power supply to the State.

In order to ensure adequate supply of power for raising coal according to targets, the Ministry of I & P set up a study team to go into the details of power requirements colliery-wise and year-wise.

Coordination of Power and Industry

As industrial and power programmes are intimately linked it is important that proper coordination exists between the two sectors. The State Governments have been advised that when delays in commissioning of new power projects become known, the concerned prospective consumers should be kept informed so that they might readjust their own programmes and plans. It is also necessary to ensure, when licensing new industries, that adequate power would

be available. It was arranged that a representative of the Ministry of I & P would be invited to attend the meetings of the Licensing Committee to watch this particular aspect. The State Governments have also been requested to express a definite opinion regarding the availability of power, whenever a new undertaking or a substantial expansion of existing ones involving demand of over 2,000 kW is sponsored.

All India Load Survey

The detailed load surveys for Assam, West Bengal, Gujarat, Madhya Pradesh, Madras, Maharashtra, Punjab, Rajasthan, Delhi and field surveys of Jammu & Kashmir and Pondicherry were completed. Field survey of Kerala was under way.

Rural Electrification

During the Second Plan period, 15585 towns and villages were electrified bringing the total at the end of Second Plan to 22985 towns and villages. In 1961-62, about 3000 additional towns and villages have been electrified.

Electricity generated and sold in utilities

Electricity generated by the utilities showed progressive increase from 17078 million kW hrs generated in 1960-61 to 20037 million kW hrs in 1961-62, an increase of 17.4 per cent. Electricity sold to consumers increased from 13849 million kW hrs in 1960-61 to 16448 million kW hrs in 1961-62, representing an increase of 18.7 per cent. The units consumed by industrial consumers receiving supply at high voltage increased by 21.7 in 1961-62 over the previous year. Electricity generated and sold in utilities since 1959-60 is given in the following table:—

Units generated and sold in utilities only compared with 1959-60 and 1960-61 in million kW hrs.

	1959-60	1960-61	1961-62	% increase in 60-61 Over pre- vious yr.	% increase in 61-62 over pre- vious yr.
Total units generated*	15,067	17,078	20,037	13.5	17.4
Total units sold	12,407	13,849	16,448	11.7	18.7
Total units sold to industrial consumers at high voltage	6,976	7,956	9,674	14.0	21.7

*Including purchases from non-utilities.

IX. INDUSTRIES AND MINERALS

INDUSTRIES

A beginning was made in the Second Plan period towards building the basic foundations of industrial development through emphasis on iron and steel, heavy engineering, machine building and heavy chemical industries. The Third Five Year Plan aims at accelerating the pace of development in this field further through the establishment of basic, capital and producer goods industries with special emphasis on machine building programmes. This is essential if the growth of the economy in the fields of power, transport, industry and mineral production has to become self-sustaining and increasingly independent of outside aid.

Against the objectives laid down in the Third Plan the progress achieved during 1961-62, the first year of the Third Five Year Plan, has been, notwithstanding shortfalls in certain directions, generally satisfactory. The overall production recorded an increase and along with the growing volume of output the industrial pattern also became more diversified.

Production Trend

Industrial production in 1961-62 recorded a moderate increase over the level attained in the last year of the Second Plan. The average of the monthly indices of production for 1961-62 was 183.1 as compared to 174.4 during the previous year, showing an increase of 5 per cent; if however, the traditional industries, jute and cotton textiles, are left out of account, the increase in production is more substantial. The averages of the monthly indices of production for 1961-62 as compared to those of 1960-61 by major groups of industries are given in Appendix I. While most of the industries recorded an increase in production, the improvement was particularly marked in the case of general and electrical engineering, iron and steel, chemicals and chemical products and footwear and leather industries. The index, however, does not reflect the expansion which has taken place in numerous industries which did not exist in 1951 or whose output was negligible at that time and hence not included in the index.

The production figures for certain selected industries are indicated in Appendix II. It will be observed that there has been considerable increase in production in respect of steel ingots, steel pipes

and tubes, industrial boilers, railway wagons, jeeps, room air conditioners, electric transformers, house service meters, fluorescent tubes, radio receivers, fertilizers, caustic soda, soda ash, rayon filament and staple fibre.

Several new products were manufactured for the first time in the country during the year. Among these may be mentioned hydraulic presses, gear cutting machines, reduction gear units, radio valves, compressors (sealed units), plasticisers, polyvinyl chloride, butyl alcohol and butyl acetate, watches, argon gas and rayon tyre cord.

The achievements in the industrial field have to be viewed in the context of the strains experienced in the economy during this period. Though the overall availability of power in 1961-62 for industries (excluding railway, military and factory power stations) was 11,838 million KWHs as compared to 92,643 million KWHs in 1960-61 representing an increase of 23 per cent, power shortages were experienced, more particularly in the D.V.C., Bengal area. These shortages affected the performance of industries to some extent.

Transport difficulties also affected production. Difficulties of movement were experienced by several industries as in the case of cement factories located in Bihar and Madhya Pradesh. There were also complaints of inadequate supply of coal. Various measures were taken to minimise these difficulties and the position was kept under constant review.

Public Sector Projects

The progress of the various public sector projects is briefly outlined below:—

Bhilai Steel Plant.—With the commissioning of the sintering plant and the oxygen plant in 1961-62 all the units of the plant with a capacity of 1 million tonnes of ingot steel yielding 0.77 million tonnes of saleable products like billets, rails, structurals and merchant sections were completed. The plant was yielding near capacity output during the last quarter of 1961-62. For expanding the capacity of this plant to 2.5 million tonnes of steel ingots, a detailed project report was submitted by Tyazhpromexport in June-July, 1961 and accepted with a few modifications in November, 1961. The contract for the preparation of construction drawings, supply of equipment, deputing Soviet Experts for technical assistance and training of Indian personnel in U.S.S.R. was signed in February, 1962. Preliminary work at site in connection with the expansion project was in progress.

Rourkela Steel Plant.—By the end of 1961-62, the construction and commissioning of this 1 million tonnes steel ingot plant, intended to yield 0.72 million tonnes, of saleable output, was more or less complete except for the third coke-oven battery and the tinning plant. The third coke-oven battery had been ready for several months but has not been commissioned. The three lines of the hot-dip tinning plant were still under construction. The project report for the expansion programme of this plant to 1.8 million tonnes was prepared and submitted in April 1961 by the Central Designs Organisation of the HSL. This was an important step towards self-reliance in steel expansion. Quotations received against tenders for plant and equipment were being evaluated.

Durgapur Steel Plant.—With the commissioning in 1961-62 of the merchant mill, the open hearth furnace No. 7 and the wheel and axle plant, the programme of work of this one million tonnes steel ingot plant, intended to yield 0.8 million tonnes of finished steel and 0.36 million tonnes of saleable pig iron was largely completed. The few units that remained to be commissioned were put into operation in May 1962, namely, the third coke-oven battery, the third blast furnace and the eighth open hearth furnace. The project report for expanding the capacity of this plant to 1.6 million tonnes of steel ingots was also prepared by the Central Designs Organisation of the HSL and submitted in August 1961. Pending approval of the project report, the HSL were advised to issue tenders for some of the items of the expansion plant and equipment.

Alloy & Tool Steel Plant, Durgapur.—By the close of 1961-62, some progress had been made with the preliminary stages of this plant, intended to yield 48,000 tonnes of finished special steel. The bulk of the site land had been taken over from the Durgapur steel project and for the balance of 127 acres required, the West Bengal Government has been approached for acquisition. Construction of site for office building was complete and the work on the boundary wall, water treatment plant and over-head tanks was in progress. Work regarding sub-soil investigations and the test results was completed and the report submitted to HSL. Tenders for site levelling and shop offices were finalised. Tender documents for imported plant and equipment were prepared. Power for construction was arranged and contract for the main office building was awarded.

Bokaro Steel Plant.—The Bokaro Steel Plant was envisaged to have an initial capacity of 1 million tonnes of steel ingots, yielding about 0.72 million tonnes of flat products and 0.35 million tonnes of saleable pig iron. The preliminary project report submitted by

Dastur & Co. in December 1959 was approved by HSL. The site had been selected and parts of the area required have been acquired. The progress of the project was held up mainly on account of uncertainty in regard to external assistance required for its implementation.

Neyveli Pig Iron Plant.—This project is for the production of pig iron based on hard coke produced from Neyveli lignite. During 1961-62 tests were conducted regarding the feasibility of the project. These included pilot plant tests by National Metallurgical Laboratory, Jamshedpur as well as large scale tests in East Germany and Norway.

Heavy Machine Building Project, Ranchi.—The two stages of the plant—designed to produce 45,000 tonnes of machinery per year in the first stage and 80,000 tonnes of machinery in the second stage—are being taken up simultaneously. The machinery items include equipment for the iron and steel industry, heavy cranes, excavators, oil drilling rigs, crushing and grinding equipment etc. By the close of 1961-62, the project had progressed to the stage of commencement of construction. The plant and equipment against the first stage contract with the USSR had begun to flow in substantial amount. The greater part of the working drawings had been received. Major contracts for civil works had been awarded. Column foundations had been completed in some sections. Orders for indigenous equipment for the first stage had been placed including orders for about Rs. 2 crores with Hindustan Machine Tools. A contract for technology and design documentation had also been signed.

Foundry/Forge Plant, Ranchi.—This plant is being set up in three stages—first stage corresponding to 23,000 tons of annual output from Heavy Machine Building Plant (H.M.B.P.), second stage to 45,000 tons annual output and the first phase of the third stage to 80,000 tons requirements of the H.M.B.P. All the stages are now being implemented simultaneously. By the close of 1961-62, the project had entered the stage of civil construction. Bulk of the contract for fabrication of steel structurals had been awarded. Piling, now considered necessary by the Czech Experts in the light of further investigations of the soil data, had commenced. Construction of some auxiliary buildings, storage sheds, supply and sewerage system, had been taken up. Railway siding had been provided. Under contract for technical consultancy, the Czech Experts had helped the setting up of a design office. Working drawings for construction were being prepared in this office and were expected to be made available to contractors well in advance of construction. Delivery of plant and equipment for the first stage had begun. The detailed project report

for the first phase of the third stage had been received. Open tenders had been invited for the 6,000 tons press which forms the most important part of the equipment for the third stage.

Coal Mining Machinery Project, Durgapur.—The plant was originally designed to produce 30,000 tonnes of coal mining machinery, but, later on it was decided to expand the capacity to 45,000 tonnes per year. By the close of 1961-62, the project progressed to the stage of civil construction. The revised detailed project report for an annual capacity of 45,000 tonnes of machinery had been received and examined. Contracts for main production buildings had been awarded and construction of all the units had begun. Contract for ancillary, mainly storage buildings, had been awarded and construction work of all the units had made good progress. Contract for pipe, mainly for water supply and sanitation, was ready to be awarded. Plant equipment against the first stage contract with the Soviet Union had begun to be received. Contract for supply of plant and equipment for the second stage has been signed in July, 1962. Contract for technological and design documentation had been signed. Orders for about one-third of the indigenous equipment required (mainly machine tools) had been placed. Working plans for construction of the main production buildings had been supplied by USSR while those for ancillary buildings had been prepared by the project authorities. The railway siding had started functioning. Master plan for the township had been prepared and approved by the Board. Hostel for foreign technicians had been built and that for apprentices nearly completed. Power for construction and water for drinking and construction had been arranged.

Hindustan Machine Tools, Bangalore.—The expansion of Hindustan Machine Tools (HMT) designed to double the output of this unit from 1,000 machine tools to 2,000 machine tools per annum valued at Rs. 7 crores was completed in a record time in April, 1961. The time required for its completion was only 14 months against 7 years taken for completion of the original factory. The doubling was achieved without any foreign technical collaboration and entirely with the Company's internal resources. The foundry, construction of which began in December, 1959, was also completed in May, 1961. Another notable development was the industrial estate, construction of which started in November, 1960. The first phase of the estate consisting of 32 units was completed. The total output during 1961-62 was about 1,300 machines.

Machine Tool Plant, Pinjore.—This plant is being set up by the HMT and will have a capacity of about 1,000 machine tools valued

at Rs. 3.5 crores. During 1961-62, the Project was in the pre-construction stage. The main developments included selection of site, acquisition of land, and orders for imported plant and equipment.

Heavy Machine Tool Plant, Ranchi.—This plant under the control of Heavy Engineering Corporation will produce 10,000 tons of heavy machine tools in the first stage. During 1961-62, the project was in the pre-construction stage. The Czechs were to supply the project Report by December, 1961. Actually it was received in instalments and the whole of it was available only by about the end of March, 1962. The various parts of the report were referred to the Technical Committee of the Heavy Engineering Corporation for examination.

Praga Tools Corporation, Secunderabad.—The Central Government owns about 51 per cent of the shares of this Corporation. With technical collaboration of 3 British firms, the Corporation intends to increase production by about Rs. 50 lakhs per annum. The Corporation has also entered into an agreement with CEKOP, an organisation in Poland which undertakes the design and supply of complete plants. The rupee expenditure involved under this expansion programme will be about Rs. 1.5 crores and about 2,000 numbers of different types of machine tools will be produced in the first stage. During 1961-62 the project report on expansion was received and was under examination. Orders for portion of the machine tools for the expansion programme were also placed.

Heavy Plate and Vessel Works and Heavy Structural Works, Wardha.—During 1961-62, the main steps in regard to these Projects were the choice of location near Wardha in Maharashtra and discussions with the U.K. firm for collaboration.

Heavy Electrical Plant, Bhopal.—The various stages of the Project upto an annual output of Rs. 25 crores worth of heavy electrical equipment are now being progressed simultaneously. The Project Report for expansion to an annual output of Rs. 50 crores of equipment was received from the British consultants (AEI) and was under examination. During 1961-62 a notable development, has been the emergence of a saleable output for the first time. Though the plant went into production in July, 1960, in 1960-61 there was no saleable output, as the manufacture takes about 12—18 months. A number of new items were taken up for production.

Heavy Electrical Project, Ranipur.—The plant to be built with the Soviet assistance will produce hydraulic turbines and generators, steam turbines and generators and D.C. motors of large horse power.

During 1961-62, the progress consisted of the following, mainly pre-construction, steps:—

- (a) Choice of Ranipur (UP) as the location of the plant.
- (b) Commencement of acquisition proceedings for the site land for the plant and township.
- (c) Finalisation after protracted negotiations of the product pattern.
- (d) Finalisation of the arrangements regarding the financing of the external cost of the project.
- (e) Creation of a nucleus project administration.
- (f) Finalisation of preliminary lay-out, approach road and railway siding.
- (g) Progress with intensive survey, levelling and water supply arrangements.
- (h) Recruitment of engineers for training for supervisory posts.
- (i) Finalisation of plans for the training School and the Guest House and the issue of tenders for the former.

Heavy Electrical Equipment Plant, Ramchandrapuram.—This plant to be built up with Czech assistance will be manufacturing steam turbines and turbo-alternators, as also diesel engines in the ultimate stage. During 1961-62 the following pre-construction steps were implemented:—

- (a) Decision regarding initial product pattern of the project;
- (b) Choice of Ramchandrapuram (near Hyderabad) as the location of the Plant;
- (c) Acquisition of land for the site and the township;
- (d) Negotiation of contract with the Czechs for preparation of detailed project report;
- (e) Start of site-levelling and earth work of the railway siding;
- (f) Start of training school and steps for the recruitment of engineers for the supervisory posts.

High Pressure Boiler Plant, Tiruchirapalli.—This Project was expected to move in step with the Heavy Electrical Project, Ramchandrapuram. The progress in 1961-62 was therefore almost similar to that for the matching electrical plant.

Heavy Pumps and Compressors Project.—During 1961-62 the main work in this project consisted in the collection of data regarding the requirement of pumps and compressors by a Technical Committee appointed for the purpose. The data were finalised and handed over to the Soviet authorities in order to enable them to prepare a techno-economic Report for the production of pumps and compressors in India. A contract for the preparation of the Report was completed.

Expansion of Hindustan Shipyard.—The scheme costing about Rs. 2.44 crores is intended to raise the capacity of the Visakhapatnam Shipyard to total tonnage of 50,000—60,000 DWT per year. In 1961-62, some initial orders were placed. No foreign aid was available for the Project.

Marine Diesel Engine Project.—The Project is for setting up a plant to produce marine diesel engines with a total capacity of 50,000—60,000 H.P. Towards the close of 1961-62, the proposal of the C. & I. Ministry to proceed with the Project and to that end undertake negotiations for technical and financial collaboration, was approved.

Second Shipyard, Cochin.—The Project is for setting up a shipyard at Cochin with an initial capacity of about 60,000 GRT with provision for further expansion to 80,000 GRT. During 1961-62, the main development was the progress with the acquisition of land from the Kerala Government and the private owners.

Precision Instruments Project, Kotah.—This plant will mainly produce electronic and electro magnetic instruments. During 1961-62, the main developments in the implementation of the plant were the finalisation of the scope of the project and the conclusion of a contract with the Soviet organisation for the preparation of the detailed project report and working drawings. The Memorandum of Instructions for the preparation of the detailed project report was finalised and handed over to the Soviet experts. The external cost of the project has been covered by USSR credit of 1,500 m. roubles.

Precision Instruments Project, Kerala.—This project was decided to be included in the Third Plan in 1961-62. Hydraulic, pneumatic and mechanical instruments are the main items proposed for manufacture in this plant. Details regarding suitable site near Palghat town were received from the Kerala Government in February 1962. The scope of the project based on the recommendations received from the Soviet experts in January, 1962 were being discussed at the close of 1962 by a technical committee appointed by the Ministry.

Hindustan Cables (HCL) Expansion.—The project is for expansion of the output of HCL plant at Rupnarainpur to 2,000 miles of dry core cables and 500 miles of plastic insulated city cables on double shift basis. The expansion was under implementation in 1961-62 and was expected to be completed in 1962-63. As a result of the implementation of the project the output of dry core cables was expected to increase from 1,077 miles in 1960-61 to 1,400 miles in 1961-62.

Watch Factory, Bangalore.—The project is for the establishment of a watch factory with an initial capacity of 3.6 lakh watches per annum. Orders for imported machinery were placed and the construction of the factory building was taken up. Construction of press shops, assembly buildings and production shop was started in September, 1961. Production of wrist watches was taken up initially by assembling imported components. The output in 1961-62 was about 15,000 watches.

Rourkela Fertiliser Plant.—The plant is being set up to produce annually 120,000 tons of nitrogen as Calcium ammonium nitrate making use of the coke oven gases of the Rourkela Steel Plant. During 1961-62 the progress mainly consisted of the erection of plant and equipment. By March 1962, 94% of machinery and equipment in respect of ammonia producing plant and 68% in respect of the ammonia processing section had been erected.

Trombay Fertilisers.—The plant is being set up for an annual production of 90,000 tons of nitrogen in the form of 254,000 tons of nitrophosphates and 97,500 tons of urea. The progress in 1961-62 was as follows:—

- (a) of the total of 825 acres of land required, 678 acres have been virtually acquired and a notification issued for the remaining land;
- (b) the survey and soil investigation had almost been completed;
- (c) the site development work was nearing completion;
- (d) contracts for ammonia, urea and nitric acid plant were awarded to a U.S. firm;
- (e) tenders for erection and installation of main and for various ancillary plants had been invited and received;
- (f) contract for annual purchase of 50,000 tons of refinery gas from Burma-Shell and 45,000 tons of petroleum naphtha from Stanvac Refinery were concluded;

- (g) arrangements were made for supply of 35,000 KW of power and for other utilities;
- (h) progress was made with design and engineering of the main plants, auxillary plants, townships etc., and the work was partly completed;
- (i) civil works in the plant area were commenced and considerable progress was made with the construction of township; and
- (j) training of graduate apprentices for the plants was started at Sindri and Nangal.

FACT Expansion.—In the Third Plan, provision has been made for the expansion of the FACT plant from an annual output of 22,000 tons of Nitrogen and 12,000 tons P_2O_5 at the first stage to an annual output of 32,000 tons of nitrogen and 16,000 tons P_2O_5 at the second stage and to an annual output of 70,000 tons of Nitrogen and 36,000 tons P_2O_5 at the end of third stage. In 1961-62, the first stage had been completed and the second stage was nearing completion. As regards the third stage expansion, the project report was ready, tenders for imported plant and equipment had been invited and received and the orders placed for the ammonium chloride plant.

Naharkatya Fertilisers.—The plant has been planned to produce about 40,000 tons of nitrogen, divided about half and half between urea and ammonium sulphate, using natural gas from the Naharkatya oil fields. The 1961-62 programme included soil investigation, site acquisition and clearance and issue of tenders for the main plant, and the award of contracts.

Gorakhpur Fertilisers.—The plant will produce 80,000 tons of nitrogen as urea, using petroleum naphtha from Barauni as feed stock. During 1961-62, much progress could not be made on account of uncertainty regarding the proposed site.

3. Neyveli Fertiliser Plant.—The plant will produce 70,000 tons of nitrogen annually as urea. By 1961-62, the contracts for the supply of equipment and machinery had been concluded with Messrs Linde of Germany and Messrs Ansaldo of Italy. Civil works were in progress and a few consignments of equipment had been received.

Hindustan Antibiotics Expansion.—Provision was made in the Third Plan only for the spillover part of the project for the annual production of 45 tons of streptomycin and 1.5 tons of tetracycline.

However, a few further schemes have since been proposed. These include doubling of the streptomycin plant, vitamin C scheme and hamycin scheme. During 1961-62, the spillover streptomycin and tetracycline schemes were completed and trial runs of the plants were started.

Hindustan Insecticides Expansion.—In the Third Plan no provision was made for the expansion of the two DDT plants of the Hindustan Insecticides at Delhi and Alwaye (Kerala). Since then proposals have been put up for the expansion of the two aforesaid plants. During 1961-62, the two DDT plants at Delhi and Alwaye produced about 1,340 tons of technical DDT each. The expansion proposals were still under consideration.

Synthetic Drugs plant, Sanatnagar; Antibiotic plant, Rishikesh; Surgical Instruments plant, Madras; Phyto-Chemical Plant, Kerala.—The above four projects are being set up with technical and financial assistance from USSR. During 1961-62, a Government Company called Indian Drugs and Pharmaceuticals Ltd. was incorporated to implement these projects. The detailed project reports furnished by the Soviet Organisation during April-June, 1961 were discussed with Soviet experts and finalised in December 1961. Contracts for the supply of plant and machinery were drafted and put to the Government for approval. The acquisition of land and other preliminaries were completed. The preparation of master plans of townships for the projects other than the Kerala project were taken up and the plans relating to the Antibiotics plant and the Synthetic drugs plant were finalised. Some construction work relating to essential residential and office accommodation for the project personnel, stores shed, approach roads and the connected water, sanitary and electrical installations were taken in hand.

Basic Chemicals and Intermediates Plant.—The plant is to produce 47 intermediate compounds required for the manufacture of dyestuffs, drugs and plastics. A company—Hindustan Organic Chemicals Ltd.—had been registered to undertake the implementation of the project. The project is being implemented in collaboration with a consortium of West German firms. The site has been selected at a place about 50 miles from Bombay. About 820 acres of land for the factory have been acquired and handed over by the State Government. The land for township, about 650 acres, had been notified and was being acquired. The contract for site levelling had been placed. Work on temporary construction of offices and residences at site for the engineering staff had commenced. Temporary power and water supply for construction are being arranged.

Raw Film Project: Ootacamund.—The project is for the production of 6·2 millions sq. metres of raw films, photographic papers etc. During 1961-62, some initial progress was made with civil works.

Security Paper Mills, Hoshangabad.—An agreement with Messrs. Portals for the setting up of the Security Paper Mills was signed towards the end of March, 1962. An area of 184 acres was acquired at Hoshangabad (M.P.) and the C.P.W.D. was going ahead with the civil works. The details of the prices and specification of the machinery and equipment to be imported and purchased indigenously were collected and a revised cost estimate of the mill prepared. Necessary arrangements for the deputation of personnel to be trained abroad were taken in hand.

Ophthalmic Glass Project, Durgapur.—The detailed project report submitted by the Soviets was under examination. The project, originally the responsibility of Heavy Engineering Corporation, was transferred to the National Instruments Ltd. Preparatory work was under way on site.

Basic Refractories Plant.—The Soviets prepared a report for setting up refractory plants in the public sector and submitted it to the HSL. The plant near Bhilai was envisaged to be taken up in the third plan period. The report was examined by the technical committee of the HSL and referred to the Government for consideration.

NEPA Mills Expansion.—The expansion programme involves doubling the capacity for newsprint to 200 tons per day and the establishment of ancillary chlorine-caustic soda plant. During 1961-62, the project continued to be in the pre-construction stage. The Government have asked the Mills to prepare a detailed project report. For this purpose the employment by the Mills of four foreign technical experts was approved. These experts visited the Mills during January/April, 1962. Consultations were also held with the Madhya Pradesh Government regarding additional requirements of salai and bamboo for the sustained production of newsprint both for the present and expanded capacity.

Pyrites—Sulphur Project.—The original project was for the extraction of sulphur from the large pyrites deposits discovered at Amjhore (Bihar). As a commercially successful process has not yet been evolved, the pyrites and Chemical Development Company entrusted with the implementation of the project suggested that instead it might be allowed to set up pyrites-based sulphuric acid plants at Sindri and elsewhere. The proposal was accepted in principle.

State Projects

Expansion of Mysore Iron & Steel Works.—The programme of Mysore Iron & Steel Works in the Third Plan comprises mainly the completion of the expansion of the ferro-silicon plant and the expansion of steel making capacity to 100,000 tons. The ferro-silicon expansion scheme was virtually completed towards the end of 1961-62. Orders for plant and equipment had also been placed for the steel expansion programme.

In consonance with the accepted principle of adopting the company form of management in industrial undertakings in the public sector, a new company was formed on 30th June, 1961 to take over the assets of the Mysore Iron & Steel Works.

Expansion of Government Electric Factory, Bangalore.—This scheme envisaged the expansion of the factory for the production of transformers from 60,000 K.V.A. to 200,000 K.V.A. per annum, of electric motors to an aggregate capacity of 60,000 H.P. per annum and of switchgears to 40 lakhs per annum. The proposal was approved for implementation in principle during 1961-62. Foreign collaboration for the implementation of the scheme has been arranged.

Doubling of the Durgapur Coke Oven Plant.—Most of the preliminary work connected with this doubling programme was completed during 1961-62 and orders for plant and equipment were placed. It is also proposed to set up a coal washery as part of this expansion programme. The expansion of the coke oven plant including the washery is expected to be completed in the latter half of 1964.

The construction of the gas grid from Durgapur to Calcutta progressed satisfactorily during 1961-62. The construction of the tar distillation plant also was nearly complete by the end of the year.

Fertilizer Plant, Durgapur.—The fertiliser factory is proposed to be set up near the coke oven plant and would undertake the manufacture of urea and ammonium phosphate. Discussions were held during 1961-62 with prospective foreign collaborators for financial and technical assistance for the setting up of the factory. Preliminary works including water supply arrangements were also undertaken during the year.

Fertiliser Factory, Gujarat.—It is proposed to set up a fertiliser factory in Gujarat during the third plan period. A preliminary Project Report on this scheme has been prepared. The scope of the project and steps for obtaining foreign collaboration and for financing of the scheme were under review during 1961-62.

Expansion of Government Cement Factory, Churk.—This expansion programme was virtually completed during 1961-62.

Expansion of Andhra Paper Mills.—This scheme envisages the expansion of capacity of Andhra Paper Mills from 10 tons to 60 tons of paper per day. Orders for plant and equipment were placed during 1961-62 and the construction of buildings and other civil works were started. The plant is expected to go into production during 1963-64.

Private Sector

Conditions were generally favourable for industrial investment. This is reflected in the increased number of applications received for licences under the Industries (D. & R.) Act. The number of applications considered by the Licensing Committee in 1961-62 was more than 4,000 as compared to about 3,500 in 1960-61. The actual number of licences issued under the Industries (D. & R.) Act during the period April, 1961 to March, 1962 exceeded 1000. The applications received during the year covered a wide range of industries such as cotton textiles, fertilisers, automobile components, light and heavy electrical equipment, chemicals, special types of paper and a large variety of components and parts.

The licensing policy during the year continued to be guided by the overall priorities indicated in the Third Plan and the requirements of the foreign exchange situation. It was decided to carry out a review at six monthly intervals of the progress of licensing in respect of different industries. As a result of these reviews, several industries in which adequate capacity in relation to the Third Plan targets had been licensed were put on the banned list. In order to speed up implementation in high priority industries a list of industries in which licences could be issued without reference to the Licensing Committee was also drawn up. According to the lists which were in force till September 30, 1962, 19 industries like hand tools and small tools, boilers, cotton seed oil etc. were included in the free list and 178 industries consisting of 74 engineering and 104 non-engineering industries were kept on the banned list. It was also decided to adopt a more strict scrutiny of applications in relation to the availability of power and transport. Only such projects which would save or earn foreign exchange are given priority in licensing.

The licensing of capital goods also reflects the general policy of

expending the available foreign exchange resources for the development of only essential industries. The total value of capital goods, applications in respect of which were approved by the C.G.H.F.P. Committee during 1961-62 amounted to Rs. 191.4 crores. Some of the applications approved by the Committee are not likely to result in actual imports due to various difficulties which entrepreneurs are coming across while finalising the arrangements for setting up the industries. A large share of the capital goods approved is in respect of paper and pulp, chemicals, textiles other than cotton, automobiles and engineering industries. Due to foreign exchange difficulties it has been possible to allow import of capital goods only (a) to the extent assistance is available from friendly countries and (b) where the import of capital equipment is covered by foreign equity capital or long-term loans. Release of foreign exchange from "cash" resources for import of capital equipment was only marginal.

The progress in regard to major groups of industries is discussed below.

Metallurgical Industries

The production of finished steel increased to 2.9 million tons in 1961-62 as compared to 2.4 million tons in 1960-61. Production of saleable foundry pig iron was about 1 million tons. The additional output in regard to finished steel was achieved largely as a result of increased production in the public sector. Though the expansion programme of the main producers of steel in the private sector was virtually completed by the end of the second plan period, output corresponding to capacity was not achieved during 1961-62. Apart from difficulties arising from inadequate supplies of suitable grades of coal, the time factor in achieving the coordination of various operations to peak efficiency accounts for the lag in production.

Several schemes were approved during the year for the manufacture of alloy and tool steels in the private sector. Taking the long gestation period and the complicated know-how it was decided to license capacity for alloy and tool steels corresponding to the Fourth Plan requirements. Most of the schemes licensed were still in preliminary stages at the close of the year. The capacity for aluminium increased by about 10,000 tons with the completion of the expansion programme of the Indian Aluminium Company. The production of aluminium was also significantly higher in 1961-62 as compared to the level achieved in 1960-61. The expansion of the smelter of Indian Aluminium Corporation of India at Asansol and the construction of the 20,000 tons smelter at Rihand by the Hindustan Aluminium Corporation were nearly complete by the end of the year.

The requirements of aluminium were reassessed by a Committee which placed the demand in 1965-66 at about 115,000 tons. On the basis of this revised estimate it was decided to license additional capacity for aluminium and two schemes for setting up aluminium smelters at Sharavathi and Amarkanthak were accepted in principle.

Engineering Industries

Production of industrial machinery showed an upward trend during the year. The production of sugar machinery increased to Rs. 4.8 crores, of industrial boilers and cement machinery to about Rs. 1 crore each and of agricultural machinery to Rs. 2 crores. Other types of machinery such as chemical and pharmaceutical machinery, paper machinery, tea machinery and printing machinery also registered a substantial increase in production.

The AVB Project at Durgapur for the manufacture of boilers, cement machinery and mining machinery went into initial production during the year. Two firms have taken up for the first time the manufacture of complete large scale paper plants.

The production of machine tools increased from about Rs. 7 crores in 1960-61 to Rs. 8.5 crores in 1961-62. The public sector contributed nearly 50% of the output. The manufacture of new machine tools like ram turret milling machines, foundry moulding machines, gear cutting machines etc. were started during the year. An important development in this field was the establishment of a machine tools institute at Bangalore, with the assistance of the Czechoslovakia Government. The institute would not only design machine tools, but provide training and research facilities.

Production in electrical engineering industries showed an appreciable increase. In capital goods items such as power transformers and electric motors, A.C.S.R. Conductors and winding wires, there was a significant increase in output. Production in consumer items like electric lamp, radio receivers, etc. also were higher in 1961-62 compared to 1960-61. The total output of electrical items during 1961-62 is estimated at around Rs. 60 crores.

An important development during the year relates to steps taken to change over to aluminium in the manufacture of conductors in place of copper. This is expected to minimise to a considerable extent the import of copper and thus save foreign exchange.

In the case of the radio industry some advance was made in the use of more indigenous components like loud-speakers, potentiometers, condensers, band change switches. The manufacture of radio

valves was also undertaken at Bharat Electronics, Bangalore during the year. This is a significant step towards achieving self-sufficiency in the matter of radio components.

Keeping in view the objective of increasing the production of heavy electrical equipment to meet the increasing requirements, a few expansion proposals for the manufacture of higher ratings of transformers and switchgears in the private sector was approved. A scheme for the establishment of a factory, in Kerala for the manufacture of power transformers with Japanese Collaboration was also approved. A Committee appointed to assess the requirements of heavy electrical equipment was reviewing the whole position regarding requirements. This Committee has since submitted its report.

In respect of automobiles whereas production of jeeps, station wagons and passengers cars showed an increase, there was a shortfall in the production of commercial vehicles. The production of motor cycles and scooters showed an appreciable increase.

The provision of foreign exchange for the import of capital equipment for the expansion of the automobile industry was considered in considerable detail in consultation with the industry. In the context of Third Five Year Plan, within the limited foreign exchange available, it was decided that priority should be given in the development of the automobile industry to (a) the achievement of as high an indigenous content as possible within the shortest possible time so as to reduce the expenditure of foreign exchange on current account for the imports of components and (b) expansion of capacity for commercial vehicles. In the light of these broad principles, approval was given to the import of capital equipment to the extent of Rs. 23.8 crores by the main producers of automobiles. It is proposed to review the position after some time.

The production of railway wagons increased substantially during 1961-62. The wagon industry, however, experienced difficulties in obtaining adequate quantities of steel. The need for creation of additional capacity for railway wagons was under examination.

Several schemes were approved during the year for the manufacture of steel castings, steel forgings, cast iron pipes and steel pipes.

Chemical and Allied Industries

The production of nitrogenous fertilisers increased from 0.97 lakh tons in 1960-61 to 1.42 lakh tons in 1961-62 (in terms of Nitrogen). The production of Nangal Fertilisers which was commissioned towards the end of the second plan period was 41,000 tons during the

year. The production of phosphatic fertilisers increased from 51,400 tons in 1960-61 to 64,700 tons in 1961-62 (in terms P2 O5). A number of new units for the manufacture of superphosphate went into production during the year.

Proposals for setting up nitrogenous fertiliser factories at Tuticorin and Mangalore were approved during the year. It was also decided that a private party should set up the fertiliser factory at Kothagudem which was originally envisaged to be taken up in the public sector.

The progress in respect of the fertiliser factories licensed in the private sector in most cases was confined to negotiations for obtaining foreign collaboration and foreign exchange.

There was a substantial increase in the capacity and production of sulphuric acid and caustic soda. The production of soda ash also showed an appreciable increase.

The production of drugs and pharmaceuticals was higher than in the previous year. The production of penicillin increased from 40 M.M.U. in 1960-61 to 50 M.M.U. in 1961-62. The manufacture of new items like vitamin B6 and C was undertaken. Some improvement was recorded in extending manufacture from imported intermediates to basic raw materials.

Considerable preliminary work in connection with the development of heavy organic chemicals and petro-chemical industries was undertaken during the year. The Petro-Chemical Committee which made a detailed study of the scope for the development of Petro-Chemicals submitted its report. Several applications for the production of plastics and heavy organic chemicals based on raw materials of petroleum origin were received and were under scrutiny. A Committee set up to assess the requirements of methanol submitted its report. On the basis of the demand assessment made by this Committee, the licensing of capacity for methanol was under consideration.

During the year under review shortage of explosives was felt by the mining industry. As a result the requirements of explosives were carefully re-assessed and on the basis of the revised demand estimate, it was decided to license additional capacity for the manufacture of explosives.

Production and capacity in the cement industry recorded a moderate increase during 1961-62. The production of cement during the year was 8.2 million tons. As this was inadequate to meet the domestic demand, shortages were felt and available supplies had to be allotted on a strictly priority basis.

The production of paper and paper board showed a moderate increase by better utilisation of capacity. Several of the licences issued for the establishment of small paper plants were revoked as the progress was considered unsatisfactory. A few schemes for the manufacture of special varieties of papers, which are at present imported, were approved.

The demand for automobile tyres and tubes was reviewed during the year and it was decided to revise the capacity target for 1965-66 to 4.5 million numbers.

Textiles.—Cloth production in the mill sector showed a moderate increase during the year from 5,048 million yards in 1960-61 to about 5,200 million yards in 1961-62. The production of cotton yarn correspondingly increased. The requirements of additional spindleage during the third plan period was carefully assessed by a Committee and it was decided to license in the first instance 3 million spindles. Of this 1 million spindles are earmarked for allotment to uneconomic and imbalanced textile mills; the remaining 2 million spindles have been allocated to various States on a regional basis.

The jute industry was faced with shortage of raw jute during the year under review. Successive crop failures during the previous two years contributed to the shortage. The position had, however, improved towards the close of 1961. With increased supply of jute, the working hours of the mills were progressively increased and the complement of sealed looms progressively reduced. A Committee was set up by Government to suggest steps to increase the export of jute goods.

The production of rayon filament and staple fibre showed an appreciable increase during the year. There was also a corresponding increase in the installed capacity. A significant development during the year was the establishment of capacity for the manufacture of rayon tyre cord. Another new development in the synthetic fibre industry was the licensing of a scheme for the manufacture of terylene.

Consumer Goods Industries.—The production of sugar in 1961-62 is estimated to be 2.7 million tons. Though this is somewhat lower than the production achieved in 1960-61, the stocks at the end of 1961-62 season were higher than in the previous year. As a result of over production it has been decided not to licence any new units in the sugar industry for the time being. The position will be reviewed in due course.

Though appreciable advances were made in 1961-62 in certain selected industries, the rate of increase in industrial production declined in 1961-62 as compared to the previous year. The progress in the installation of capacity in basic fields was also inadequate. It will be necessary to lay greater emphasis in the coming year in **key** sectors if shortfalls are to be avoided in the targets for basic industries in the **Third Plan**.

APPENDIX 'I'

Average of the monthly indices of Industrial Production
(Base 1951 equal to 100)

	1960-61	1961-62
I. Mining and quarrying	173·1	170·6
II. Manufacturing (General)	171·5	180·7
1. Cotton Textiles	114·5	118·5
2. Jute Textiles	125·7	121·3
3. Foot wear and leather	162·5	191·2
4. Plywood	216·0	235·1
5. Paper & Paper board	261·3	273·9
6. Rubber products	244·4	24·5
7. Chemicals & Chemical products	261·0	289·1
8. Non-metallic mineral products except products of petroleum and coal	245·6	254·1
9. Basic metal industries	222·5	241·5
·01. Iron & Steel	222·9	271·7
·02. Non-ferrous metals	330·0	232·4
10. General Engineering & Electrical Engineering	359·8	428·5
·01. Metal products	295·3	371·3
·02. Machinery	570·8	626·1
·03. Electrical Equipment	390·8	446·3
·04. Transport Equipment	299·9	298·3
III. Electricity Generated	282·2	337·7
IV. General Index (Crude)	174·6	183·3
V. General Index (seasonally adjusted).	174·4	183·1

APPENDIX 'II'

Production figures of some selected industries

Industry	Unit	1	2	3	4	5	6	7	8
				Production 1959-60	Production 1960-61	Production 1961-62	Production 1965-66 (Target)	% increase of production of 1960-61 over 1959-60	% increase of production of 1961-62 over 1960-61
1. Steel ingots	. . . million tons			2.6	3.3	4.3	9.2	26.9	30.3
2. Finished Steel	. . . "			2.0	2.4	2.9	6.8	20.0	20.8
3. Saleable pig iron	. . . "			0.8	1.1	0.97	1.5	37.5	—11.8
4. Aluminium	. . . '000 tons			17.2	18.2	19.4	80.0	5.8	6.6
5. Steel castings	. . . "			29.0	34.0	40.0	200	17.2	17.6
6. Steel pipes and tubes	. . . "			68.4	109.4	142.3	450	60.0	30.0
7. Steel wire ropes.	. . . "			2.8	3.3	3.5	40	17.9	—24.3
8. Copper	. . . "			8.0	8.8	8.6	20	10.0	—2.3
9. Ferromanganese	. . . "			66.6	89.3	103*	200	34.1	15.3
10. Machine Tools (organised sector)	. Rs. crores			4.39@	7.24@	8.5	30	64.9	17.4
11. Sugar mill machinery	. . . "			3.0	4.4	4.8	14	46.7	9.1
12. Industrial Boilers	. . . "			0.08@	0.53@	1.14	25	562.5	115.1
13. Railway wagons	. . . Nos.			10245	11768	19014*	117144 (for 5 years)	14.9	61.6

I	2	3	4	5	6	7	8
14. Railway locomotives	Nos.	279	272	248	1470 (for five years)	-2.5	-8.8
15. <i>Automobiles</i>							
(a) passenger cars	'000 Nos.	14.39	20.79	21.78	30	44.4	4.8
(b) commercial vehicles . . .	"	22.4	28.6	25.5	60	27.7	-12.2
(c) jeeps	"	5.4@	5.5@	7.3	10	1.9	32.7
16. Diesel engines (stationary) . .	"	31.34	43.21	43.28	66	37.9	neg.
17. Power driven pumps	"	85.0	105.0	125.4	150	23.5	19.4
18. Ball bearings	million nos.	1.8	3.2	3.2	15	77.8	nil
19. Typewriters (organised sector) .	'000 nos.	18.3	23.5	29.1	90	28.4	23.7
20. Bicycles (organised sector) . .	million nos.	1.03	1.06	1.04	2	2.9	-1.9
21. Sewing machines (organised sector) .	'000 Nos.	266.7	297.3	323.0	700	11.5	8.7
22. <i>Refrigerators and other coolers</i>							
(a) Domestic refrigerators . . .	"	5.72	11.67	9.86	50	104.0	-15.5
(b) Room air conditioners . . .	"	7.8	11.6	21.2	50	48.7	82.8
(c) Water coolers	"	2.36	2.23	2.56	20	-5.5	14.8
23. Electric transformers (33 KV & below)	million KVA	1.01	1.39	1.98	3.5	37.6	42.4
24. Electric motors (200 HP & below)	million HP	0.57	0.73	0.86	2.5	28.0	17.8
25. V.I.R. & P.V.C. cables . . .	million yds.	174.4	214.2	244.2	600	22.8	13.0
26. Electric fans	million nos.	0.79	1.06	1.07	2.5	34.2	neg.
27. Electric house service metres . .	Do.	0.39	0.51	0.67	2.1	30.8	30.8

I	2	3	4	5	6	7	8
28. <i>Electric lamps</i>							
(a) GLS and others	millions nos.	34.90	41.82	46.7	68	19.8	11.7
(b) Fluorescent tubes	Do.	1.17	1.66	2.14	6	41.9	28.9
29. Dry batteries	Do.	192.0	214.2	210.0	350	16.8	-1.8
30. Storage batteries	'000 Nos.	469.4	521.2	534.4	800	11.0	2.3
31. Radio receivers	Do.	226	280	348	800	23.9	25.0
32. <i>Fertilisers</i>							
(a) Nitrogenous (in terms of nitrogen) '000 tons		72.7	97.2	142.3	800	33.7	46.4
(b) Phosphatic (in terms of P_2O_5)	Do.	47.9	51.4	64.7	400	7.3	25.9
33. Sulphuric acid	Do.	308.2	353.9	423.0	1500	14.8	19.5
34. Caustic soda	Do.	79.8	96.7	122.9	340	21.2	27.1
35. Soda ash	Do.	101.7	145	187	450	42.6	29.0
36. Industrial alcohol	million gallons	15.4@	19.9@	22.9@	60	29.2	15.1
37. Cement	million tons	7.2	7.8	8.2	13	8.3	5.1
38. Sugar+	Do.	2.42	2.97	2.7*	3.5	22.7	-9.1
39. Paper and paper board	'000 tons	312	343	362.8	700	9.9	5.4
40. Petroleum products	million tons	5.1@	5.7@	6.0@	9.86	11.8	5.3
41. <i>Cotton textiles</i>							
(a) Yarn	million lbs.	1717	1766	1920*	2250	2.9	8.7
(b) Cloth (mill made)	million yds.	4929	5084	5200*	5800	3.1	2.3
42. Jute	'000 tonnes	1091.5	1022.5	1000*	1300	-6.3	-2.2

1	2	3	4	5	6	7	8
43. Woollen fabrics	million yds.	15.6	14.6	15.4*	35	—6.4	5.5*
44. Rayon							
(a) filament	million lbs.	38.0	47.0	52.9	140	23.7	12.6
(b) Staple fibre	Do.	44.8	48.0	61.4	75	7.1	28.0
45. Refractories	lakh tons	5.1	5.5	6.0*	15	7.8	9.1
46. Plywood	million sq. ft.	153.9	160.7	175.8	220 to 240	4.4	9.0
47. Paints & varnishes (organised sector)	'000 tons	51.9	52.5	56.78	140	1.2	8.1
48. Automobile tyres	million nos.	1.23	1.49	1.58	3.85 (revised target)	21.1	6.0
49. Vanaspati	'000 tons	329.6	334.9	337.2	375	1.0	0.7
50. Soap (organised sector)	Do.	128.6	141.4	147.0	220	9.9	4.0

*Estimated.

@Relates to calendar year.

+Production refers to sugar season November—October.

MINERALS

Coal

As compared with a production during 1960-61 of 55.51 million tonnes (54.62 million tons), an output of 57.46 million tonnes (56.54 million tons) was visualised during 1961-62. Actual production, the sector-wise distribution of which is given in the table below, fell short of the expectation by 2.24 million tonnes and also fell short of the production achieved in the last year of the Second Plan by about 0.3 million tonnes.

		(Figures in million tonnes)	
		1960-61	1961-62
Private sector	.	44.88	46.34
N. C. D. C.	.	8.06	6.05
Singareni	.	2.57	2.83
TOTAL		55.51	55.22

While the private sector and the Singareni collieries had increased their production in 1961-62 by about 1.46 millions tonnes and 0.26 million tonnes respectively over their production in 1960-61, that from the N.C.D.C. collieries was 2 million tonnes less than in 1960-61. This was mainly due to deliberate curtailment of production necessitated by the large accumulation at pits-head with the result that the N.C.D.C. could not reach the level of production they achieved in 1960-61. The result is that with one year of the Third Plan having passed by, production has not reached the level fixed for the Second Plan. Apart from the restriction of output, the production from N.C.D.C. collieries was affected by the outbreak of a fire in Gidi-A and Kurasia towards the end of May, 1961. While the fire in Gidi-A could be put out and the mine was re-opened for production within a short period, the Kurasia mine had to be sealed for practically the whole of the year and this meant loss of production of a little over 100,000 tonnes a month in an area, wherefrom transport of coal is comparatively easy—Kurasia colliery is conveniently situated to meet the requirements of western India and there are no transport difficulties in this region.

Though the output during 1961-62 did not show any increase over that in 1960-61, supplies to consumers during 1961-62 were larger than in the previous year by a little over 3 million tonnes. Apart from the fact that production during 1961-62 did not show any

Increase over that in 1960-61, the quality of coal raised during 1961-62 showed a deterioration as indicated in the table below:

				(in million tonnes)	
				1960-61	1961-62
Selected—A	.	.	.	7.68	7.32
Selected—B	.	.	.	10.24	9.23
Grade I	.	.	.	18.48	20.67
Grade II	.	.	.	9.60	8.25
Grade III	.	.	.	5.47	5.58
Others	.	.	.	4.04	4.17
TOTAL				55.51	55.22

A statement showing (a) distribution, fieldwise, viz. Bengal-Bihar and outlying fields, of production during 1960-61 and 1961-62, and (b) grade-wise and quality-wise, viz. coking and non-coking. production during the two years is given at the end of this chapter.

From (A), it will be seen that in the case of outlying fields, there was a general increase in production in 1961-62 except in the case of Grade-II coal and in the case of Bengal-Bihar fields total production as well as the production of the selected grades showed a drop in 1961-62 as compared with that in 1960-61.

Statement (B) will show that while the total output of coking coal showed an increase, the increase was mainly in Grade-I quality, the production of selected grades and Grade-II dropped while in the case of non-coking coal, total output as well as the output of selected grades showed a drop in 1961-62 as compared with that in 1960-61.

Occasional shortage of explosives and power were experienced during the year but they were not of such magnitude as to affect production. Steps were taken during the year to make an assessment of the requirements of explosives for the coal mining industry and to ensure adequate availability of explosives. The requirements of power for the coal mining industry were assessed by a small Study Group which recommended measures to ensure availability of power during the next two somewhat tight years.

Rail transport available during 1961-62 was on the whole better than in the previous year and the total despatches by rail were about 2 million tonnes more. Total despatches (including despatches by rail and by means other than rail) during 1961-62 were 3.30 million tonnes more than in 1960-61. The increased transport available

during the year did not result in an increase in production as the larger transport availability during the year helped mainly to liquidate the large stocks which had accumulated at the pits-head by the end of the Second Plan.

With a view to getting over the rail transport difficulties in moving coal to consumers in western and southern India, it was decided that an additional one million tonnes of coal should be moved by the rail-cum-sea route, i.e. a total of 2 million tonnes by coastal movement. On account of the shortage of coastal shipping and the difficulties imposed by the limited draught in Calcutta port, this target of moving 2 million tonnes by the coastal route could not be achieved during the year.

Measures were also under consideration for the substitution of coal by furnace oil, particularly by consumers situated in western and southern India. To begin with, this substitution is to be implemented in certain selected cement factories. Further details of the programme of substitution are being worked out.

In the Third Plan, the N.C.D.C., has been allocated an additional production of 17 million tons over its Second Plan target of 13·5 million tons, i.e. its target of production for the last year of the Plan is 30·5 million tons (30·985 million tonnes). As against this target, the N.C.D.C. has (a) the capacity built up during the Second Plan, and (b) the programmes for the Third Plan, which are in different stages of preparation or implementation. The position during 1961-62 in respect of (a) and (b) is briefly summarised below:

As against a target of production of 13·5 million tons set for it in the Second Plan, the N.C.D.C. raised in March 1961, 1·25 million tons—a rate equivalent to an annual production of 15 million tons. Subsequently, however, they had to lay down reduced targets of production for each one of their projects. The position, however, is that the N.C.D.C. has a developed capacity more or less commensurate with the target set for it in the Second Plan, though this capacity is now set at 12·684 million tons on account of certain practical difficulties met in raising coal from some of the projects. It may reasonably be assumed that provided adequate transport is made available, the N.C.D.C. will be able to step up production at short notice to utilise the capacity already developed.

In regard to the additional production, which it has to raise, the N.C.D.C. has under consideration 26 projects. Of these 6 projects

with a total production potential of 6.05 million tons were approved by the Expenditure Finance Committee. These are:

Korba	1.7 million tons
Jarangdih	0.15 million tons]
Bisrampur	2.5 million tons
Korea Block-II	0.7 million tons
Kotma	0.5 million tons
Bokaro/Kargali additional	0.5 million tons
TOTAL	6.05 million tons

In addition, the N.C.D.C. finalised project reports in respect of 7 more projects, viz.

Bhurkunda (additional)	0.1 million tons
Korea Block I (additional)	0.3 million tons
Norty Balandra	1.0 million tons
Kamptee-Umrer	1.0 million tons
West Balandra	0.5 million tons
South Balandra	1.0 million tons
Kathara (additional)	1.5 million tons
TOTAL	5.4 million tons

In other words, the N.C.D.C. completed the preparation of project reports in respect of an additional production of 11.45 million tons, out of which project reports in respect of 6.05 million tons were approved. Besides, arrangements were concluded with the Government of Poland for the preliminary steps to be taken for the Sudamdih project, while the feasibility report on the Ramgarh project by an American team was approved and the team was requested to prepare a detailed project report. The other projects for the balance quantity of about 7 million tons were in different stages of investigation.

In the case of the Singareni collieries, which are to contribute an additional production of 3 million tons during the Third Plan period, a firm programme was drawn up in respect of 2 million tons, while in respect of the balance of 1 million tons, prospecting was under way.

A Working Group was set up to draw up a detailed programme of production and transport for the coal programme in the Third Plan. The Working Group made recommendations in regard to rail and road transport facilities required in the last year of the Third Five Year Plan keeping in view not only the transport facilities required for the coal target in the Third Plan, but also the need for advance action to provide adequate transport for coal movement in the early years of the Fourth Plan.

A loan of 35 million dollars (equivalent to about Rs. 17 crores) was negotiated with the World Bank to provide the foreign exchange requirements of the coal programme in the private sector. A Technical Screening Committee and Financial Screening Committee for scrutinising the applications from individual collieries for assistance from the World Bank loan were set up and a small cell was created in the Coal Controller's office to process these applications.

With a view to giving an incentive to collieries to do manual picking and thereby encourage the production of low ash coking coal, a revised classification of cooking coal was drawn up and a price structure based on this revised classification was notified. Under the revised classification, the price differential between the highest and the lowest grades of coking coal has been increased, and this is expected to encourage manual beneficiation and thereby increase the production of low ash coking coal.

A Committee of technical experts was set up to examine the procedure for the sampling and grading of coal and to advise Government on steps to be taken for making the procedure adopted by the Coal Board as scientific as possible, consistent with practical and administrative requirements. This Committee is also expected to examine the grading of non-coking coal on the basis of its useful heat content.

Coal Washeries

During 1961-62, adjustments were made to enable Kargali Washery capable of working to its full capacity and the erection of the washery at Dugda (capacity 2.4 million tons) was completed. Trial runs of the Dugda washery revealed certain short-comings of the plant and necessary steps were taken to rectify them. These are expected to be completed by about October, 1962, when it would be possible for the washery to go into full production. The work on the erection of the Washery at Bhojudih (capacity 1.2 million tons) and preliminary work in connection with the washery at Pathardih (capacity 2.0 million tons) both of which are Second Plan projects, continued during the year. In regard to the expansion by 0.8 million tons of the Bhojudih washery which is included in the Third Plan, a quotation was obtained from Messrs GOPPEE Company and the recommendations of the Hindustan Steel Limited on this were awaiting approval by Government. In regard to the expansion of the Dugda Washery, which is also included in the Third Plan, washability tests on coal from the collieries, which are to feed the new units, were completed and detailed specifications for the washery were drawn up.

Negotiations were completed with the Russian authorities for the establishment of a 3 million tons input capacity washery by 1965 at Kathara, and an agreement was signed with them. Discussions were also held with a team of Polish specialists for the establishment of a washery at Karanpura (2.8 million tons input capacity). The preliminary project report was expected in April 1962. The washery is expected to be commissioned by 1965. The German experts working with the N. C. D. C. took preliminary steps for planning the expansion of the Kargali washery to wash the coal from the mine to be opened in Chalkari area.

Central Workshop

The Central Workshop at Barkakhana was almost completed during the period under review, and the Workshop manufactured spare parts of the value of Rs. 9 lakhs and fabricated steel structurals of the value of Rs. 8 lakhs, apart from overhauling diesel engines and undertaking other miscellaneous repairs of the value of Rs. 8 lakhs.

An agreement was executed with the U.S.S.R. authorities for preparation of working drawings for the three principal shops for the Central Workshop to be established at Korba and an agreement for the supply of the plant and machinery negotiated and approved by the National Coal Development Corporation.

Central Ropeways Scheme

Of the 6 ropeways to be set up, contracts were awarded in respect of one ropeway in Jharia and 3 rope-ways in Raniganj. Proposals for the award of contracts for the remaining ropeways were under consideration of Government.

SOUTH ARCOT LIGNITE MINING PROJECT (NEYVELI)

Mining Scheme

Earth moving operations continued during the year in the first mine cut with the help of conventional as well as specialised mining machinery—the latter consisted of 2 small and 2 large bucket-wheel excavators, 2 spreaders and the requisite conveyors. A total of 5.1 million cubic yards of over-burden were removed during the year, and this took the total quantity removed since the initiation of stripping operations in 1957 to 22.32 million cubic yards. Though for achieving the target of production of 3.5 million tons of lignite, 27 million cubic yards of over-burden will require to be removed, for mining the lignite required to meet the requirements of the first 2 units of the thermal power station, it would be enough if 20

million cubic yards are removed—the quantity removed by the end of March 1962 was 2 million cubic yards more than what was actually required. A small strip of lignite was exposed in August 1961 at a depth of 180 ft. as a part of the sequence of the mine cut and 2000 tons of lignite were removed and furnished to the Government of Madras for detailed pilot plant tests.

Under ground water control scheme, 15 more pump wells were drilled and equipped during the year and in addition 8 more wells drilled earlier were equipped with pumps. The 53 wells drilled and equipped so far are expected to take care of the requirements of ground water control till the end of 1962 or early 1963.

During the period, the Corporation also undertook the preparation of estimates for the expansion of mine output from the Second Plan target of 3.5 million tons to 6 million tons envisaged in the Third Plan.

Thermal power scheme

The erection work relating to the first unit of the power station was in full swing and trial runs were made towards the end of the year. Pre-assembly of the parts of the second unit was in progress. The plant and equipment for the third unit started to arrive at site. Most of the thermo-mechanical drawings of units 3, 4 and 5 were also received during the year.

Fertiliser plant

The main activity related to civil works connected with the fertiliser plant. A few consignments of equipment were also received during the year.

Briquetting and Carbonisation plant

Civil works connected with the scheme were in progress and a part of the equipment, which was ordered from the State Electricity Commission, Victoria, Australia, was received.

Clay Washing plant

The clay washing plant was commissioned towards the end of December 1961.

Special arrangements were made for training personnel to handle the different constituent projects of the integrated scheme. Three civil engineers who had been deputed for training in latest methods of open cast mining in the German Democratic Republic, returned in September 1961. In order to enable the employees of

the Corporation to acquire some prior training in the operation and maintenance of boilers and turbines before they could be put on operation of the first unit of the power station, a selected number of employees were sent for training in existing power stations at Madras and Trombay. Similar training arrangements were made in respect of the personnel required to handle the fertiliser plant and the briquetting and carbonisation plant.

As against an estimated cost of the integrated project of Rs. 94 crores, the Corporation has estimated that the total cost of the project would go up to Rs. 112.67 crores owing to the increase in customs duty and ocean freight in respect of the imported equipment and due to the increase in cost of construction material which correspondingly increase the cost of civil works pertaining to the various schemes.

MINERAL OIL

Oil and Natural Gas Commission

The work done by the Oil and Natural Gas Commission during 1961-62 is briefly summarised below:

(1) 18 geological field parties were employed. The parties completed 306 sq. miles of detailed geological mapping, 8956 sq. miles of semi-detailed geological mapping and 948 linear miles of traversing.

(2) 10 gravity-cum-magnetic parties and 12 seismic parties were engaged in conducting geophysical and seismic investigations. No new structures were discovered, but the work done during the year confirmed one structure which was roughly delineated during the previous year. Besides, the German seismic team obtained some interesting results in the Kishanganj area of Bihar and West Bengal.

(3) By the end of March 1962, the Commission was operating 15 deep drilling rigs, 4 structural drills and 4 work-over rigs. Drilling was in progress at the various drilling sites. In Cambay, drilling and testing of 19 wells were completed of which 6 indicated oil, 10 gas and the remaining 3 were dry. 30 wells were drilled in Ankleshwar bringing the total number of wells drilling so far to 36; of these, 27 were found oil-bearing, 2 were dry and the rest in the process of being tested. Of the 3 wells drilled in Kalol, 2 were found to be oil-bearing and the remaining one was under test. In Assam, one of the two wells taken up during the year struck oil, while in Punjab the Janauri deep well was completed—this is the deepest well so far drilled by the Commission—and the well was under test. Drilling of another well was in progress.

A number of structural wells were drilled, 2 in Uttar Pradesh and 3 in Gujarat.

During the year, the Oil and Natural Gas Commission proposed an accelerated programme of exploration for oil which was estimated to cost Rs. 202 crores, as against the Plan outlay of Rs. 115 crores. This proposal was accepted in principle.

Experimental production of crude oil was started in the Ankleshwar oil-field on 15th August 1961 and the oil produced was despatched at an average of 100 tons per day to the Burmah-Shell Refinery at Bombay. From about the middle of February, 1962, despatch of crude oil from Ankleshwar to the refineries at Bombay was stepped up to 600 tons per day.

Gujarat Refinery

On the basis of the data collected so far and the estimate of oil reserves in the Gujarat area, it was decided to set up a refinery in Gujarat. A site was selected at Koyali. An agreement was signed between the State Oil Organisation in U.S.S.R. and the Oil and Natural Gas Commission for setting up this refinery in two stages.

Lubricating Oil plant project

Two contracts, one with M/s. Badger N. V., the Hague, and another with M/s. E. N. I. of Italy were concluded for the preparation of a techno-economic survey and project report for a lubricating oil plant in the public sector with a capacity of 100,000 tons of lubricating oil. The report from M/s. Badger was received and the other report was awaited.

Oil India

An agreement was signed in July 1961 with the Burmah Oil Company, as a result of which Government of India and the Burmah Oil Company became equal shareholders in the Oil India Limited. Based on this agreement, Oil India was to be granted exploratory licence over an additional area of 1886 sq. miles, but on account of the dispute on the question of royalty, the State Government did not grant the prospecting licence to Oil India. This resulted in one working season being lost to Oil India for exploration in this area.

A total of 32 wells were drilled, and 2.5 million barrels of crude oil and 3200 million cubic feet of gas were produced during 1961-62. This takes the total number of wells drilled so far to 123, of which 84 are oil producing, 3 gas producing, 15 dry and 21 awaiting further testing. The latest assessment of reserves of crude oil and natural gas proved and indicated are 48.1 million tons and 740.426 million cubic ft. respectively.

Oil India pipeline

The first stage of the pipeline from Naharkatiya to Nunmati was completed and fully tested. Work on the second stage of the pipeline was in progress.

Indian Oil Company

The Company acquired the defence tankage at Bombay, Cochin and Vishakhapatnam and took up the construction of bulk storage facilities and up-country depots at a number of places. Depots at 20 sites were completed and commissioned. Besides, 62 consumer pumps were also established. The Company started handling from 1st February, 1962, the output from Nunmati refinery.

NATIONAL MINERAL DEVELOPMENT CORPORATION

Kiriburu iron ore project

The main items of work programmed for 1961-62 were (i) removal of over-burden and preparation of mining faces, (ii) construction for the installation of the crushing plant, service centre, water supply works etc., and (iii) procurement action for machinery and equipment.

Of a total quantity of 4.2 lakhs cubic meters of over-burden to be removed by the end of 1962, about 1.4 lakhs cubic metres were removed by the end of March, 1962. Though this fell a little short of the target set for the year, it was not expected to alter materially the time-schedule for this item of work.

Excavation for the crushing plant was completed and concreting work for the main plant building was in progress. Work on the belt conveyor, stock-pile, loading hopper etc. was also in progress.

Work was also in progress on the township to accommodate 500 workers and 100 other staff and their family. Of a total of 650 quarters of different types to be put up in the township, about one-third of the work on 514 quarters of E and F types was completed. A training institute for operatives and junior supervisory personnel started functioning in February 1961 with 20 trainees of the operatives category and the number of trainees is proposed to be increased to 40 of the operative category and 10 of the supervisory personnel.

Orders were placed for machinery and equipment worth about Rs. 3 crores required for the project. The plant and machinery are expected to be received during the course of 1962-63.

Among other items of work, the project took up the exploration of the Meghahataburu area of their leasehold with a view to confirm the availability of sufficient reserves of iron ore to enable the development of a new mine for meeting the requirements of the proposed steel plant at Bokaro.

Bailadila iron ore project

The Indian Bureau of Mines started exploration on deposits 5 and 10. This work was originally scheduled to be completed early in 1962, but the latest assessment of the progress made so far indicate that this work may not be completed before the end of 1962. The Corporation set up a base camp with a nucleus staff at Bailadila for initiating the preliminary work relating to the organisation of the project.

Khetri copper project

In May 1961, an agreement was signed with M/s Western Knapp Engineering Company who were appointed as Consultants for the project. The consultancy services included in the agreement comprised three phases.

Phase I: Exploratory work and preparation of project report,

Phase II: Preparation of designs and detailed engineering drawings and specifications,

Phase III: Installation, construction and initial operation of the total installed plant.

In January 1962 the Consultants submitted their project report which was considered by the Board of Directors of the Corporation and submitted to Government for approval. The project report was based on the material furnished by the Indian Bureau of Mines who had prospected this area and on certain assumptions made by the Consultants in regard to the continuity of the ore body in depth. The Consultants recommended putting down 3 deep bore holes to confirm the assumptions they had made. One of these deep bore holes was completed and the results obtained confirmed the assumptions made by the Consultants.

A Camp office was established to attend to preliminary work and work on the provision of temporary accommodation to the Consultants was completed. A site for the township was selected and action was being taken to acquire the land required.

Daribo copper project

The main item on this project was the continuation of the exploratory work initiated earlier.

Panna diamond mining project

On the basis of the prospecting work done by the Indian Bureau of Mines and subsequently by the Corporation in the area covered by the prospecting licence, two project reports were prepared, one in respect of the Ramkheria mine for a production target of 12,500 ratties of diamond per annum (estimated cost Rs. 46 lakhs) and the other in respect of Majhagwan mine with a production target of 30,000 ratties of diamond per annum (estimated cost Rs. 90 lakhs). Both the schemes were approved by Government. The Corporation initiated procurement action for machinery and equipment and other items of preliminary work. M/s. John Taylor & Sons were appointed standing consultants for these projects for two years in the first instance.

During prospecting operations, 1011 diamonds weighing 577.61 carats were recovered of which 331 diamonds weighing 171.4 carats were of the industrial quality.

Geological Survey of India

One major development was the reorganisation of the Department and the establishment of three regional Directorates, one each for Eastern, Southern and Northern Region.

The Department completed regional mapping of an area of 37,120 sq. kilo meters and large-scale mapping of 8830 sq. kilo metres. Regional prospecting for coal and detailed mapping of coal-fields were continued. The investigations conducted during the year added a total of 2616 million tonnes to the reserve ascertained earlier; the bulk of this (2600 million tonnes) was in Singrauli. Detailed large-scale mapping, chemical sampling and drilling of the copper deposits in the Singhbhum copper belt Dhanota-Udaipur area and the Alwar district (Rajasthan) were continued. Drilling was also continued in the Mamandur area (Madras) for assessing the quality and quantity of lead, zinc and nickel ore in this area. The detailed geological mapping and sampling of the lime-stone deposits in the Shahabad district in Bihar was completed and drilling for flux grade limestone initiated.

Indian Bureau of Mines

The more important investigations conducted by the Indian Bureau of Mines during 1961-62 related to the detailed prospecting for coal and the detailed proving of the iron ore deposits in Bailadila and Meghahataburu areas. The Department proved about 610 million tonnes of additional reserves of coal during the year 1961-62 bringing the total reserves of coal proved since the programme was

started to about 2210 million tonnes. One significant achievement was the discovery of metallurgical coal in the North Karanpura coal-field where about 50 million tonnes were proved.

The pilot plant for beneficiation of low grade ores was commissioned at Nagpur and another pilot plant was set up at Daribo to treat the copper ore from the Daribo project.

STATEMENT A

Grade-wise raisings of coal

(million tonnes)

1960-61

1961-62

Name of the Coal-field	Selected A	Selected B	1960-61			1961-62			Total					
			Grade I	Grade II	Grade III	Grade I	Grade II	Grade III						
West Bengal and Bihar . . .	7.68	9.81	16.28	6.39	4.55	..	44.71	7.32	8.44	18.19	5.85	3.75	0.33	43.88
Out-lying Coal-fields	0.43	2.20	3.21	0.92	4.04	10.80	..	0.79	2.48	2.40	1.83	3.84	11.34
TOTAL . .	7.68	10.24	18.48	9.60	5.47	4.04	55.51	7.32	9.23	20.67	8.25	5.58	4.17	55.22

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STATEMENT B

Quality-wise and grade-wise coal production

1960-61

1961-62

	Selected			Grade			Total	Selected			Grade			Total
	A	B		I	II	III		A	B		I	II	III	
Coking Coal.	2.51	4.14	6.84	2.75	..	..	16.24	2.34	4.06	8.09	2.70	..	..	17.19
Non-Coking Coal.	5.17	6.10	11.64	6.85	5.47	4.04	39.27	4.98	5.17	12.58	5.55	5.58	4.17	38.03
TOTAL	7.68	10.24	18.48	9.60	5.47	4.04	55.51	7.32	9.23	20.67	8.25	5.58	4.17	55.22

X. VILLAGE AND SMALL INDUSTRIES

Outlay

In the Third Five Year Plan, an outlay of Rs. 264 crores has been proposed in the public sector for development of village and small industries. The outlay proposed for 1961-62 was about Rs. 42.30 crores, but the actual expenditure is anticipated at about Rs. 38.19 crores, representing about 14 per cent of the total outlay for the Third Plan period. Industry-wise break-up of the outlay for the Third Plan and the allocations for 1961-62 together with the anticipated expenditure is shown below:—

(Rs. crores)

Industry	Third Plan outlay	1961-62		Col. 4 as percentage of Col. 2.
		Allocation	Anticipated expenditure	
(1)	(2)	(3)	(4)	(5)
Handloom industry	34.0	5.35	5.12	15.58
Powerlooms in the handloom sector	4.00	0.76	0.75	18.75
Khadi-traditional Ambar }	92.4	16.45	16.19	17.52
Village industries				
Sericulture	7.0	1.11	0.59	8.43
Coir industry	3.2	0.40	0.26	8.12
Handicrafts	8.6	1.25	0.92	10.69
Small scale Industries	84.6	11.72	10.83	12.79
Industrial estates	30.2	5.26	3.43	11.42
• TOTAL :	264.0	42.30	38.19*	14.40

(A detailed statement is given in Appendix)

The slow pace of development expenditure in 1961-62 may be attributed mainly to delays in formulation of the schemes and their sanction by the concerned Departments of the State Governments and the Administrations of Union Territories. Progress was especially slow in implementation of the schemes involving acquisition of land, construction of building or acquisition of plant and equipment, etc.

*Includes a provision of Rs. 0.10 crore for Uttar Khand Area in Uttar Pradesh.

Improvements of skill and productivity.—For provision of training facilities to rural artisans, almost all the State Governments took up schemes to set up in selected areas cluster-type institutions serving groups of villages for providing courses in allied trades like blacksmithy, carpentry, etc. Special schemes for training in village industries, industrial management, handicrafts etc. were also taken up. A Central Small Industry Extension Training Institute was set up at Hyderabad which is initially to run training courses for middle-level officers of the Central and the State Governments engaged in extension work.

The Proto-type production and Training Centre at Rajkot designed certain machine tools and also commenced a training programme. At the other Proto-type Centre at Okhla (New Delhi), about 82 persons had completed an advanced training course and another 114 were under training by the end of March 1962. About 47 mobile workshops fitted with modern machine tools attached to the Small Industries Service Institutes toured rural areas to demonstrate modern machinery and techniques to small artisans and entrepreneurs. For other industries also including handloom, village industries, small scale industries, handicrafts, etc., schemes were taken up for introduction of improved appliances, equipment and also research.

The industrial extension service comprising the Small Industries Service Institutes and the Extension Centres continued to provide technical advice to small scale industries. A work-study of one of the institutes was carried out during the year under review. Since the issues studied were considered to be of an all-India character, a special team was set up in the Central Small Industries Organisation to implement various suggestions that emerged from the work-study in respect of all the Institutes. More important of these suggestions related to keeping the technical officers free from routine administrative work and also to expedite technical advice.

Credit and finance.—Of the total anticipated expenditure of about Rs. 8 crores on the development of small scale industries in the States and Union Territories, about Rs. 3 crores were estimated to have been granted as loans under the State Aid to Industries Acts. Most of the States earmarked portion of their funds to be disbursed under these Acts to artisans in rural areas. As regards the banking and financial institutions, the credit limit sanctioned by the State Bank of India increased from Rs. 8.85 crores at the end of March 1961, to Rs. 10.38 crores by the end of March 1962. Under the Pilot Credit Guarantee Scheme of the Reserve Bank of India introduced in July 1960 initially for a period of two years, guarantees for loans amounting to about Rs. 7.63 crores had been issued by the end of March 1962,

as against about Rs. 2.0 crores at the end of 1960-61. The scheme initially introduced in 22 selected districts was extended to 52 districts. The working of the Credit Guarantee scheme during the pilot period of two years was reviewed by the Reserve Bank and its extension to the whole of the country on a permanent footing was recommended. The Reserve Bank also continued to provide credit facilities to the Central Cooperative agencies for meeting the working capital requirements of the handloom industry. Credit limits to the extent of about Rs. 13.13 crores had been sanctioned upto the end of 1961-62, as against Rs. 9.44 crores upto the end of 1960-61. The Life Insurance Corporation also agreed to advance loans to industrial cooperatives and joint stock companies formed for setting up industrial estates.

Role of subsidies, sales rebates, etc..—In accordance with the objective of reducing the role of subsidies, sales rebates and sheltered markets in the Third Plan, the sales rebates in the case of village oil industry and cottage soap industry and production subsidy in the case of hand-pounding of paddy industry were replaced by tapering management grants. It was also decided to reduce the rebates on sales of silk and woollen khadi from 19 nP to 10 nP per rupee from the beginning of 1962-63.

Industrial development in rural areas and small towns.—In pursuance of the objective of dispersal of industries to rural areas, small towns as well as less developed areas most of the State Governments initiated schemes for setting up of cluster-type training institutions for groups of villages, common facility workshops, rural industrial estates, provision of credit to rural artisans etc. A Committee on Dispersal of Industries set up in the Ministry of Commerce & Industry in April 1960, submitted its report in November 1961. The Committee has suggested certain criteria for determining the backwardness of an area and also made recommendations for certain direct and indirect assistance and facilities for attracting entrepreneurs to such areas. These recommendations are under consideration of the Government.

Industrial cooperatives.—With a view to consolidating the organisation and finance of the existing cooperatives and bringing more workers within the cooperative fold, assistance continued to be provided for covering expenditure on managerial and supervisory staff, subsidisation of the rate of interest charged by the Central Cooperative agencies for loans to the primary cooperative societies and also the rate of interest charged by the State Bank of India for advancing loans to societies, in those areas where the Central Cooperative financing agencies were either not functioning or were not in a

position to provide the necessary finance, for strengthening the share base of industrial cooperatives by Government participation in share capital or provision of loans to members of the societies, for construction of godowns and establishment of sales depots and expansion of facilities for training in industrial cooperation of personnel of various levels. Central cooperative agencies were encouraged to earmark part of their funds for industrial cooperatives and to set up special committees for considering loans applications. A small nucleus organisation was set up at the Centre for ensuring coordinated implementation of the programmes for the promotion of industrial cooperatives and it was also suggested to the States to set up a Standing Committee as well as a small cell for the same purpose. In April 1961, an all-India seminar was organised to discuss various problems. The total number of industrial cooperatives was estimated at about 29,220 by the end of June, 1960. It is reported that since then, there has been an increase of about 12 per cent in their number.

Arrangements for coordination.—The need for taking a unified view of the entire problem of rural industrialisation has been emphasised in the Third Plan. In pursuance of this, a high-level Committee known as the 'Rural Industries Planning Committee' was set up with the object of reviewing the progress of industries in rural areas, advising on problems of policy and planning relating to them and recommending programmes for intensive development of village and small industries in rural areas including coordinated areas and regional plans of development and pilot projects. The Committee has recommended taking up of projects for the intensive development of small industries in selected rural areas so that effective techniques, methods and programmes could be evolved and extended progressively to other areas which have a large incidence of unemployment and under-employment. The projects are to be directed to industries which can be developed in rural areas and activities ancillary to them which have to form part of a wider and coordinated plan of local development in a selected area covering agriculture, power communications, social services etc. In the first series, such projects are proposed to be taken up in about 40-50 selected areas.

A Committee was set up by the Ministry of Commerce & Industry in September 1961 to review the functions of the different organisations for development of small scale industries, both at the Centre and the State levels, and to make suitable recommendations with a view to reducing the multiplicity of organisations and to eliminate overlapping of functions. The Committee submitted its report early in 1962 and the Government's decisions on its recommendations were announced in May 1962.

Pattern of assistance.—With a view to rationalising the pattern of assistance in respect of different types of schemes for village and small industries, the Coordination Committee of Small Industries had appointed a Sub-Committee towards the end of the Second Plan period, which submitted its report in August 1961. The recommendations and conclusions of the Sub-Committee were taken into account in revising the procedure and the pattern of Central assistance for 1962-63.

Handloom and Powerloom Industries.—Of the total production target of 9,300 million yards of cloth envisaged for the last year of the Third Plan period, the share of the decentralised sector, namely, the handloom, powerlooms and khadi industries has been fixed at 3,500 million yards. While it is envisaged that the major portion of the additional production will come from the handloom industry, no precise allocation of it between these different sections has been made. The production of handloom cloth during 1961-62 was estimated at about 2,100 million yards, as against 1,930 million yards in 1960-61. About 25.92 million yards of cotton handloom cloth valued at Rs. 4.79 crores was exported in 1961, as against 28.84 million yards valued at Rs. 5.01 crores in the preceding year.

With a view to enabling the handloom weavers' cooperative societies to obtain larger funds from institutional agencies, it was decided to raise the maximum value of share capital from Rs. 50 to Rs. 100 for cotton looms and from Rs. 100 to Rs. 200 for silk looms. It was also decided to enhance loan assistance for working capital for production and marketing of cotton handloom cloth from Rs. 300 to Rs. 500 per loom. In consultation with the Reserve Bank of India, certain steps were recommended to the State Governments to revitalise those dormant weavers' cooperative societies which had reasonable chances of revival. As regards other societies, it was proposed to liquidate them and form new ones. It was also suggested to the State Governments to arrange financial assistance for working capital to the handloom weaving industry outside the co-operative fold from the State Financial Corporations or by establishing a separate Corporation for the purpose.

The bulk of the programme for the development of the handloom industry was implemented by the State Government and the Administrations of Union Territories. Besides schemes for financial assistance for share capital and rebate on sales other important schemes taken up by them aimed at technical improvement and also establishment of cooperative spinning mills and sales depots, etc. The Handloom Board arranged for advanced training facilities to

the weavers, provision of technical assistance on matters pertaining to production and marketing and also undertook publicity in internal and foreign markets. The Weavers' Service Centres at Bombay, Madras, Varanasi and Calcutta and the sub-centre at Kancheepuram continued to render technical and other services to the handloom weavers including supply of new designs.

It was envisaged earlier that the programme of a conversion of the handlooms into powerlooms on a cooperative basis undertaken in the second plan period, would be continued in the third plan period. The programme was reviewed towards the middle of the year under review and it was decided to discontinue the programme, except in respect of those schemes for which irrevocable commitments had already been made by the State Governments.

Khadi.—The Khadi and Village Industries Commission commenced reorganisation of its programme under which the main emphasis is to be on intensive efforts to secure integrated rural development of selected compact areas or "gram ekais". The progress during 1961-62 was slow owing to the time taken in selection of the areas, conducting of preliminary surveys of the selected areas, making arrangements for necessary staff etc. In addition to 18 regional *vidyalayas* and 6 *mahavidyalayas* already set up, the Commission set up two regional planning institutes, one at Sevagram and another at Kallupatti, to train workers in organisation of "gramekais". The total number of Khadi institutions increased to 1402 (consisting of 866 registered institutions and 536 cooperatives) by the end of 1961-62, as against 1139 (720 registered institutions and 419 cooperatives) as at the end of 1960-61. The total production of all varieties of khadi increased from about 64.78 million yards valued at about Rs. 14.23 crores in 1960-61 to about 74.16 million yards valued at Rs. 17.37 crores during 1961-62. The retail sales of Khadi increased from Rs. 14.07 crores in 1960-61 to Rs. 16.19 crores in 1961-62. With a view to clearing the accumulated stock, a special rebate of 6 nP in the rupee was allowed in addition to the normal rebate on retail sales of Khadi during the period September—November 14, 1961. It is estimated that about 60 to 70 per cent of the stocks accumulated worth Rs. 6 to 7 crores were cleared during the period.

A Committee known as the Khadi Marketing Committee which was set up in January, 1961, continued its deliberations during the year. The Committee has been set up with view to suggesting measures for (a) increasing sales of Khadi and handspun yarn and increasing the quantum of purchase of Khadi by Government Departments (b) improvements necessary to ensure production of Khadi cloth of good standard quality, (c) steps to be taken for production

of standard quality of handspun yarn which could be increasingly used by the handloom weavers, and (d) other measures which would result in greater utilisation of Khadi and handspun yarn. The Committee submitted its report in June 1962.

Village Industries.—The programme of the Khadi and village Industries Commission for the development of village industries made slow progress in 1961-62 owing to the time taken in selection of “gramekais”, conducting of surveys, etc. Of the total amounts disbursed for village industries, village oil and processing of cereals and pulses industries accounted for nearly one half of the total disbursements made during the year. The total number of persons trained for different village industries was smaller than those trained in the preceding year owing mainly to the changes carried out in the training programme which envisaged more intensive training over a longer period. While production of village leather and cottage match industries showed a sizeable increase, those of other village industries registered a marginal increase.

Sericulture.—The bulk of the programme for the development of sericulture industry was implemented by the State Governments and the Administrations of Union Territories. The schemes taken up during the year under review aimed at reducing the cost of production, creating a suitable marketing organisation and increasing the exports. Programmes for research were organised by the Central Silk Board. The Central Sericultural Research Institute Channapatna (Mysore) and the Hill Rearing Station, Coonoor (Madras) were brought under the control of the Central Silk Board. The Central Silk Worm Seed Station, Srinagar, conducted experiments with a view to determining suitable strains of silk worms and also distributed 12,128 disease-free layings to the States in 1961, as against 2,300 layings in 1960. Production of raw silk, both mulberry and non-mulberry increased from about 3.3 million lbs. in 1960 to 3.5 million lbs. in 1961. Prices of indigenous raw silk and cottage basin raw silk and charkha raw silk registered a downward trend. The Government Spun Silk Mill, Channapatna, restarted working from April 1961 and the Assam Spun-Silk Mill went into production in December, 1961.

Coir Industry.—The coir industry faced considerable difficulty due to abnormal increase in the prices of coir yarn, which affected not only the manufacturing sector of the industry but also indirectly resulted in the decline of exports of manufactured goods. While the exports of coir fibre and yarn increased from about 49,970 tons valued at Rs. 5.46 crores in 1960-61 to about 56,735 tons valued at Rs. 7.95 crores in 1961-62; the exports of coir manufactures declined from about 19,835 tons in 1960-61 to about 18,125 tons in 1961-62. However,

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due to higher prices of coir during the year, the value of coir manufactures exported during 1961-62 was Rs. 3.40 crores, as against Rs. 3.21 crores in 1960-61. A scheme was introduced whereby manufacturers-cum-exporters of coir yarn became eligible for licences for importing raw materials, such as, dyes, chemicals, and sisal yarn required for the manufacture of coir goods, upto a certain percentage of their export earnings. To curb malpractices like supply of sub-standard goods, the Coir Board evolved a scheme to regulate the export of coir mats and matting by making it obligatory for the exporters to deposit certain percentage of the value of the exports which are returned to the exporters at the end of every month taking into consideration their actual performance. To popularise the use of coir manufactured goods in foreign countries, the Coir Board participated in a number of exhibitions abroad.

For promoting technical improvements, five pilot plants were set up at Kuttiada in Kerala for producing mattresses and bristle fibre. A similar plant was set up by the Andhra Pradesh Government. The Coir Board sponsored for adoption an improved pedal-operated spinning machine for production of coir yarn.

Handicrafts.—The All India Handicrafts Board arranged training courses for handicrafts cooperative organisers and also for salesmen, etc. A Regional Handicrafts Training Institute for Women was started at Calcutta. On the recommendations of the Cooperative Advisory Committee and the Regional Seminars the Board formulated specific target for each State for the development of handicrafts cooperatives. Assistance was given to a number of craftsmen for designing their products and traditional designs were supplied to craftsmen for reproduction. Technical advice continued to be rendered to the Central Social Welfare Board for development of handicrafts in the Welfare Extension Projects. Economic surveys of several handicrafts were carried out. A survey to assess the availability of raw wool for the carpet industry, its price structure, etc., was completed during the year. Experiments were continued for producing cheap variety of hooked rugs for exports. Research and experimental work in colours and glazes for pottery and experimental earthenware was continued and production centres for ceramics were also set up to popularise the results of these experiments. With a view to giving adequate publicity, a number of brochures, etc., relating to handicrafts were brought out. Show cases were erected at railway stations and other places.

Under a special export promotion scheme for brass-ware, *jari* and carpets, about 240 exporters of these crafts were registered and another 236 exporters of other crafts were enrolled. A special rebate

of 20 nP. per kilogram in the excise duty on mill-spun yarn used for exportable carpets was granted by the Government. Exports of handicrafts including carpets were valued at Rs. 11.46 crores in 1961-62, as against Rs. 9.69 crores during 1960-61.

Bulk of the schemes taken up by the State Governments and the Administrations of Union Territories were for providing marketing assistance especially for provision of adequate working capital for emporia, training facilities, assistance to cooperatives of artisans and design extension centres, some production and common service facilities centres. Some of the State Governments also undertook schemes for quality-marking.

Small scale industries.—Small Industries Service Institutes and Extension Centres continued to provide technical assistance in improved methods and techniques of production and training in handling of modern tools and equipment, etc. At the end of the year, 16 institutes (one in each State and one in Delhi) and 4 Branch Institutes were functioning. Besides, 60 Extension Centres, including 2 Production Centres, a Central Footwear Training Centre a Surgical Instruments Workshop, and a Carpentry Model Demonstration Workshop were also functioning at the end of the year. During the year about 41,390 parties were given technical advice, about 23,530 parties were assisted in setting up new industries, about 46,400 visits were paid to small scale units by the Technical Officers of the Institutes, for rendering on-the-spot advice. Further, 112 technical bulletins, 570 model schemes and 'prospect sheets' for about 60 industries were also prepared. A National Institute for Industrial Designs was registered in September, 1961 for providing training facilities in industrial designs and also research facilities. The Inventions Promotion Board accepted 72 applications and sanctioned an amount of Rs. 1.09 lakhs during the year under review. The Board also awarded 25 cash prizes, 2 silver medals and 4 certificates of merit.

The Committee on Ancillary Industries appointed in April 1959 submitted its report in September, 1961. The Committee's recommendations included establishment of industrial estates for small ancillary units in collaboration with the industrial undertakings in public sector, extension of special preferential terms for supply of machinery on hire-purchase terms to ancillaries in the private sector, ensuring supply of full requirements of essential raw materials, arrangements for panel of consultants for providing technical assistance, collection of detailed information regarding specifications parts and components required by large undertakings, provision of adequate facilities for testing and designs and reviewing the present

procedure for consideration of applications for licensing of industries, etc. These recommendations are under consideration of the Government.

The National Small Industries Corporation supplied machines on hire-purchase terms valued at about Rs. 1.81 crores during 1961-62 as against Rs. 1 crore during 1960-61. The Corporation continued to provide assistance to small units in securing contracts from the Central Government Departments including the Railways. The value of such contracts secured by small units was about Rs. 3.9 crores in 1960-61 and Rs. 7.9 crores in 1961-62. A Committee was set up to examine the difficulties impeding the progress of the Government Stores Purchase Scheme. Some of the important recommendations made by the Committee related to the procedures, distribution of tender sets, issue of competency certificates, price preference reservation of items exclusively for small scale units, credit facilities, expansion of the activities of the National Small Industries Corporation to other Central Purchase organisations and expansion of the programme to cover the purchase programmes of the State Governments. These recommendations are now under consideration. The Corporation continued to provide assistance in import and distribution of cycle components and knitting needles.

In the States, besides the scheme for loan assistance under the State Aid to Industries Act, Small Industries Corporations were set up by some of them. The functions of these Corporations envisage running raw materials depots and emporia, taking over the production units set up by some of the State Governments, management and construction of industrial estates, etc. Other schemes taken up were for establishment of common facilities centres, rural workshops and provision of assistance to industrial cooperatives. Since a number of these schemes involved construction of buildings and installation of plan and equipment, the progress was generally slow.

Complete and up-to-date data relating to the production in the small scale sector is not available, but it was reported that the capacity could not fully be utilised especially of newly set up units, mainly because of shortage of certain basic indigenous and imported raw materials. However, import restrictions continued to provide an impetus to the growth of these industries.

Industrial estates.—The progress of the programme for industrial estates varied from State to State. While some States were able to finalise the location and a few also acquired the sites, most of the others were not able to do either, in respect of all their estates. A

number of industrial estates are being set up in selected rural areas. Some schemes have also been taken up to provide developed sites to be offered to small entrepreneurs to erect their own factory buildings. In some of the States, industrial estates are proposed to be set up by private agencies including cooperatives and companies of small entrepreneurs. During the year under review, 93 schemes for establishment of industrial estates were approved.

At the end of March 1962, of 89 industrial estates completed, 68 had started functioning. In these industrial estates, 1,227 factories occupying about 1,595 sheds were working, these employed about 16,700 workers and produced goods worth about Rs. 16 crores. As against this, by the end of March 1961, about 66 estates had been completed, of which about 52 with about, 1,050 worksheds employing about 13,200 persons were functioning.

Employment.—On the basis of total investment under the Third Plan, it is estimated that development programmes for village and small industries will provide part-time employment or fuller employment for about 8 million persons and whole-time employment to about 9 lakhs persons. It is roughly estimated that during 1961-62, additional whole-time employment was created for about 1.1 lakh persons.

Progress of expenditure under different village and small industries during 1961-62

(Rs. crores)

Industry	Third Plan outlays			(Allocations)			1961-62 (Actual expenditure)		
	States and Union Territories	Centre	Total	States and Union Territories]	Centre	Total	States and Union Territories	Centre	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Handloom Industry	31.00	3.00	34.00	4.96	0.39	5.35	4.56	0.56	5.12
Powerlooms in the handloom sector . . . . .	..	4.00	4.00	..	0.76	0.76	..	0.75	0.75
Khadi-traditional Amber Village Industries } }	3.40	37.00 32.00 20.00	92.40	0.37	16.08	16.45	0.49	15.70	16.19
Sericulture	5.50	1.50	7.00	0.95	0.16	1.11	0.47	0.12	0.59
Coir Industry	2.40	0.80	3.20	0.34	0.06	0.40	0.19	0.07	0.26
Handicrafts	6.10	2.50	8.60	0.87	0.38	1.25	0.47	0.45	0.92
Small Scale Industries	62.60	22.00	84.60	9.46	2.26	11.72	7.91	2.92	10.83
Industrial Estates	30.20	..	30.20	5.26	..	5.26	3.43	..	3.43
TOTAL	141.20	122.80	264.00	22.21	20.09	42.30	17.62*	20.57	38.19*

*Includes a provision of Rs. 0.10 crore for Uttarakhand Area in Uttar Pradesh.

XI. TRANSPORT & COMMUNICATIONS

The upward trend in traffic carried by the railways was maintained during 1961-62. The traffic in terms of originating tons increased from 153·8 million tons in 1960-61 to 158·0 million tons in 1961-62. However, the transport situation remained generally difficult throughout the year and difficulties were specially experienced in the movement of coal from the Bengal-Bihar fields. The transport problems of coal were studied carefully early in the year and several decisions were taken in April, 1961 to ease the situation. It was decided to step up the coastal movement of coal from 1 million tons to 2 million tons per annum and Government undertook to subsidise the higher freight by the sea route. The conditions with regard to movement of coal by road were liberalised and steps were taken to increase the wagon availability for coal by better utilisation of wagons and increased loadings on Sundays and holidays. The Planning Commission constituted a Working Group in August, 1961 to study carefully the transport requirements of the coal industry in the Third Plan. The entire system of allotment of wagons for coal was revised in December, 1961, with a view to ensuring the allotments according to the transport capacity available for movement in various directions. The railway development programme was reviewed by the Planning Commission in consultation with the Railway Board in January, 1962 and an additional programme costing Rs. 120 crores was agreed to enable the railways to provide adequate capacity for coal traffic in the Third Plan.

RAILWAYS

The following table shows the increase in traffic in various categories of commodities in 1961-62 as compared with 1960-61:

	Tons originating (millions)		
	1960-61	1961-62	Target for 1965-66
Steel and raw materials other than coal for steel plants,	14·0	16·9	34·0
Coal	49·7	53·1	90·0
Cement	6·4	6·6	12·0
General Goods including			
Railways own material other than coal	16·7	14·6	22·5
Iron ore for export	3·4	3·3	11·0
All other goods	63·6	63·5	75·5
TOTAL	153·8	158·0	245·0

At the time of presentation of the railway budget for 1961-62, it was estimated that the originating traffic during the year would be of the order of 168·8 million tons. Of the shortfall of about 10·8 million tons in actual traffic during the year, about 3 million tons were accounted for by the traffic relating to the steel plants whose requirements did not increase according to expectations, another 3 million tons by the dislocation of train services caused by the Goa operations and about 1 million tons on account of the reduced availability of coal in the Kurasia colliery (Central India coalfields) caused by the fire there. Besides, the wagon loadings were adversely affected due to the floods and breaches during September and October, 1961 and the unprecedented cold wave in Northern India during the months of December, 1961 and January, 1962.

As regards movement of coal, the railways were able to meet the full demands of the steel plants and washeries. Further, the demands for wagons from the outlying coalfields were also met in full. The demands for wagons for consumers other than the steel plants from the Bengal and Bihar coalfields, however, could not be met fully. On the whole, during the year 1961-62, additional 182 wagons per day were provided for the users other than the steel plants from the Bengal-Bihar fields—the average daily loadings increased from 3,398 wagons in 1960-61 to 3,580 wagons in 1961-62 as against the target of 3,700 wagons for 1965-66 i.e. the last year of the Third Plan.

In addition to coal movement from the Bengal-Bihar fields, the transport shortage was felt during the year in the case of cement factories located in Bihar and Madhya Pradesh, and movement of foodgrains and fertilizers particularly in parts of the western and the southern India, U.P. and Punjab. The outstanding registrations at the end of each month from April to October, 1961 were higher both on the broad gauge and the metre gauge than those at the end of the corresponding months of the preceding year. In subsequent months, however, the outstanding registrations showed some decline and at the end of March, 1962 they amounted to about 5 days' loadings on the broad gauge and about 3·2 days' loadings on the metre gauge.

As regards passenger traffic, the number of passengers originating increased from 1,594 millions in 1960-61 to 1,692 millions in 1961-62 i.e. an increase of 6·2 per cent. Suburban traffic recorded an increase of 11·6 per cent and non-suburban only 2·1 per cent.

Progress in railway development programmes

As against the total cost of Rs. 1,325† crores of the railway development programme originally included in the Third Plan, the expenditure during the year 1961-62 was of the order of Rs. 233·88† crores.

†Inclusive of outlay incurred for meeting current depreciation.

The table below shows the expenditure on the various categories of schemes.

(Rs. crores)			
	Total Estimated cost	Expenditure in 1961-62	
		Budget Estimates	Actuals
Rolling stock	510.00	100.89	84.24
Workshops, machinery & plant	62.00	18.17	5.96
Track renewal	170.00	41.22	42.37
New lines	147.00	48.51	31.45
Electrification	70.00	11.83	9.06
Traffic facilities (line capacity works)	183.00	49.52	42.72
Bridge works	25.00	10.03	5.75
Other works	158.00	18.45	12.33
TOTAL	1325.00	298.62	233.88
Probable savings . . . . .	..	—38.62	..
		260.00	

The rate of expenditure on the schemes pertaining to workshops, plant and machinery, new lines and electrification was slow in 1961-62, but steps were taken by the railway during the year with a view to stepping up the tempo of these works in the subsequent years.

Rolling stock

The following table shows the rolling stock procured by the railways during the year 1961-62.

Rolling Stock	Third Plan target	Receipts in 1961-62	Col. (3) as percentage of col. (2)
(1)	(2)	(3)	(4)
(a) Locomotives			
Steam	1215	243	20.0
Diesel	559	47	8.4
Electric	76*	5	6.6
Total locomotives	1850	295	15.9
(b) Coaches	8068	1610	20.0
(c) Wagons (in terms of 4-wheelers)	124695	19114	15.3

* Excluding electric locos and E.M. Us included under "Electrification Projects."

The rate of procurement in respect of diesel and electric locomotives was slow during the year but steps were taken to expedite the ordering of further locomotives. Concerted efforts were made by the railways to step up indigenous production of wagons with the result that the production increased from about 12,000 wagons (in terms of 4-wheelers) in 1960-61 to about 19,100 wagons in 1961-62. The Ministry of Railways were assisted by the other Ministries concerned, namely, Steel & Heavy Industries and Commerce & Industry in ensuring better supplies of the requisite materials and components for the manufacture of wagons. The limitations of supplies of components however, continued throughout the year.

Line Capacity Works

As against the target of doubling of 1,600 miles in the Third Plan (and this was increased in January, 1962 by 275 miles when an additional programme was accepted by the Planning Commission), work was completed during 1961-62 of doubling of 422 miles of track and at the end of the year 1,138 miles of doubling were in various stages of construction. The sections on which major doubling work was in progress included Itarsi-Hoshangabad, Vijayawada-Yerupalayam on the Central Railway, Patratu-Tori-Kumandih-Barwadih on the Eastern Railway, Khanalampura-Moradabad, Varanasi-Zafarabad, Allahabad-Kanpur and Tundla-Ghaziabad on the Northern Railway, Kharhagola Road-Katihar on the North-Eastern Railway, Ratlam-Nagda on the Western Railway, Durg-Kamptee, Anuppur-Katni, Vizianagram-Gopalapatnam on the South-Eastern Railway and Vijayawada-Gudur, Arkonam-Renigunta, Madras-Gudur, Waltair-Rajamundry and Jalarpet-Erode on the Southern Railway.

Electrification

During the year 1961-62, the Asansol-Sini-Tatanagar-Rourkela and the Gomoh-Gaya sections were electrified. In all electrification was completed on 327 route miles during the year as against the target of 1,100 miles for the plan period. Work was in full progress on other priority sections including Gaya-Moghalsarai on the Eastern Railway and Tatanagar-Kharagpur on the South Eastern Railway.

New Lines

New lines covering 278.7 miles were opened to public traffic during 1961-62, as against the target of 1,200 miles for the period of Plan. New lines totalling 1394.6 miles were either under construction or sanctioned during the year under review.

The lines which were completed and opened to traffic during the year 1961-62 included (i) Baraset-Basirhat-Hasnabad, (ii) the Bukhtiarpur-Bihar Sharif portion of the Bukhtiarpur-Rajgir line, (iii) the Rangapura-North Dhalaibil portion of the Rangagapara-Lakhimpur line, (iv) the Garhwa Road-Nagar Untari portion of the Garhwa Road-Robertsganj line, (v) the Bauridand-Karonji coal line, (vi) the coal line of 7 miles taking off from Bauridand-Karonji line, and (vii) the broad gauge line from Barsoi to Silliguri and from Barauni to Samastipur parallel to the existing metre gauge lines between these stations.

The conversion of the metre-gauge line from Katihar to Singhabad, and from Kumedpur to Barsoi was also completed during the year. With this, a direct broad gauge line from Calcutta to Silliguri has been established.

Track Renewals

The following table shows the work on track renewal carried out during the year 1961-62 as against the target for the Third Plan.

(in miles)			
(1)	Third Plan		Col.
	target	Achievement in 1961-62	(3) as percentage of col. (2)
(1)	(2)	(3)	(4)
Complete track renewals	5000	768	15.4
Through rail renewals	2500	155	6.2
Through sleeper renewals	2250	319	14.2

Review of the Railway Plan

At the time the report on the Third Five Year Plan was prepared, detailed direction-wise movement of coal from the coalfields to the various destination points could not be worked out. It was not, therefore, possible to tie up closely the development programme of coal with that of the railways. In January, 1962, on the basis of the information supplied by the Coal Controller regarding anticipated direction-wise movements of coal, the Railway Board proposed certain additional programme to enable them (a) to cater for short-distance movement of coal from the mines to the washeries and the washeries to the steel plants to the extent that these movement had not been already provided for in the Third Plan, (b) to meet the requirements of coal traffic on important sections in keeping with

the estimates supplied by the Coal Controller, and (c) to accelerate completion of the works relating to electrification on the more important sections. This additional programme was estimated to cost Rs. 120 crores and was accepted by the Planning Commission. The programme envisages, *inter alia*, doubling of additional 275 miles of track and procurement of about 50,000 wagons and about 350 locomotives over and above the targets originally laid down in the Plan.

ROADS

The roads programme included in the Central Sector in the Third Plan was estimated to cost Rs. 80 crores, of which Rs. 48·5 crores is for the national highways, Rs. 1·5 crores for roads in Sikkim and Rs. 30 crores for the roads of inter-State and economic importance. The road programmes in the State Sector were estimated to cost Rs. 244 crores. During the year 1961-62 the International Development Association agreed to give a loan of about Rs. 29 crores for certain selected road works in West Bengal, Bihar, Orissa and Maharashtra and it was agreed to treat this amount as additional to the provision included in the Plan. A sizeable addition was thus made to the road programmes in the Plan.

In 1961-62, an expenditure of about Rs. 11·37 crores is estimated to have been incurred on the national highways programme; the physical achievements include the construction of 70 miles of missing links, 5 major bridges and improvement of 300 miles of the existing highways. The major works on the national highways sanctioned in the first year of the Third Plan include (i) widening of the highly congested Ahmedabad-Baroda section of the National Highway No. 8 to two-lane carriageway, (ii) construction of a bridge over the river Yamuna behind Humayun's Tomb in Delhi and (iii) construction of a bridge over the river Sarju at Ayodhya on the National Highway No. 28 in Uttar Pradesh. Among other schemes, progress continued to be made on the ancillary works at the Jawahar Tunnel such as the construction of diversion and provision of water supply and lighting and fire fighting equipment, etc. The two tubes of the main Jawahar Tunnel have already been completed and thrown open to traffic.

Under the programme relating to development of the Inter-State roads or the roads of economic importance, 124 miles of roads were constructed or improved and six minor and two major bridges were completed during the year. An expenditure of about Rs. 3·48 crores is estimated to have been incurred in 1961-62 under the programme.

It is roughly estimated that a total addition of about 4,000 miles was made during 1961-62 to the road mileage in the country as against the five-year target of 25,000 miles. A large part of the road programme in the Third Plan falls within the purview of the State Governments. An expenditure of about Rs. 50.72 crores is estimated to have been incurred in the first year of the Plan against the total outlay of Rs. 244 crores for road development in the State Plans. During the year, the Works Departments in several States were engaged more on completing the road works carried over from the Second Plan than on starting new works. Some States like Bihar and Mysore had to meet unforeseen expenditure for repairing flood damages on the roads.

While the tempo of work on the schemes already in progress was increased, preliminary work was also undertaken on new schemes in almost all the States. The road building organisations were strengthened in several States. Among the difficulties experienced in road construction during the year, mention may be made of the inadequate supply of road-making machinery, and high tensile steel for bridges, etc., as also the seasonal and local shortage of labour.

ROAD TRANSPORT

It is estimated that as against the target of addition of 7,500 vehicles to the fleets of nationalised undertakings in the Third Plan, about 1,000 vehicles were added in the year 1961-62. The expenditure on nationalised undertakings during the year came to Rs. 3.5 crores as against the plan provision of Rs. 26 crores. Two more States set up road transport corporations, namely, Mysore and Madhya Pradesh; thus bringing the total number of road transport corporations in the country to 9.

With a view to stepping up the manufacturing capacity of vehicles in the country and to enable the industry to increase the indigenous component of vehicles the Planning Commission agreed towards the close of the year 1961-62 to release foreign exchange of the order of Rs. 24 crores for the automobile industry. Measures to assist the road transport industry continued to receive attention and important decisions taken during the year, include provision of special incentives for encouragement of formation of viable units and provision of credit facilities to the industry from commercial banks and the industrial finance corporations in the States.

TOURISM

In the year 1961-62, efforts were mainly concentrated on the completion of the schemes carried over from the Second Plan. An expenditure of Rs. 39 lakhs is estimated to have been incurred in the

Central sector and of Rs. 47 lakhs in the States, under the tourism programme, against the five-year outlay of Rs. 3.50 crores and Rs. 4.14 crores respectively.

SHIPPING

During the year 1961-62, the Indian tonnage in operation crossed the target of 9 lakh GRT which was fixed for the Second Plan. The foreign exchange difficulty in the way of acquisition of tonnage from abroad continued during the year. The Indian owned tonnage in February, 1962 stood at about 9.08 lakh GRT, of which 3.40 lakh GRT was employed on the coastal trade and 5.68 lakh GRT on the overseas trade. The increase in the coastal tonnage was due to diversion of some vessels from the overseas trade in order to cater to increased movement of coal on the coast. As a result of shortage of rail capacity for the movement of coal, it was decided by Government to increase the volume of coal to be moved by sea from about 1 million tons to about 2 million tons per annum. To reach this target, some foreign vessels were obtained on charter in the later part of the year. Altogether from May, 1961 to March, 1962 the tonnage of coal moved by the coastal route came to 1.40 million tons.

Under the shipping programme, an expenditure of Rs. 7 crores was incurred during 1961-62 on the acquisition of shipping tonnage, and about Rs. 2 lakhs for marine engineering institutions. Under the commitments made for acquisition of additional ships during the year, a total tonnage of 327,219 GRT was arranged for as against the target of procurement of 375,000 GRT set in the Third Plan.

LIGHT HOUSES

A provision of Rs. 6 crores has been made in the Third Plan for the development of light houses and other aids to navigation in the Third Plan. Against this, a sum of Rs. 121 lakhs is estimated to have been spent during the year. New lights were exhibited at several places in Maharashtra, Gujarat, Kerala and in the Minicoy and Amindivi group of islands. A new MF Radio beacon has started functioning at Dolphin's Nose and Diu Head. The Decca Navigator chain on the West Coast comprising 4 land based transmitting stations started functioning on 1st November 1961. The construction of new light house towers at Rajpuripoint, Ratnagiri, Veraval and East point was completed. Optical, power supply, and fog signal equipment was installed at several places. Radar was installed at Khanderi island. The construction of a light house workshop-cum-laboratory-cum training centre at Calcutta was completed.

INLAND WATER TRANSPORT

A programme costing Rs. 6·5 crores has been drawn up for inland water transport schemes in the Third Plan in the Central Sector. In addition, small provisions amounting to Rs. 1·5 crores have been made in the State Plans for development of inland water transport schemes. During 1961-62, an expenditure of about Rs. 6 lakhs is estimated to have been incurred on inland water transport schemes in the Central sector and about Rs. 7 lakhs in the State sector. The work on the construction of the Pandu port was continued during the year. The Government of India entered into an agreement with the Joint Steamer Companies operating between Calcutta and Assam for the grant of a loan of Rs. 2 crores for the rehabilitation of the fleet by 1966-67.

PORTS AND HARBOURS

A programme costing Rs. 96·5 crores has been drawn up for development schemes at major ports in the Third Five Year Plan. In 1961-62, a budget provision of Rs. 22·6 crores was made and against this, the expenditure is estimated at Rs. 13·62 crores.

Calcutta:

The river training works at Fulta Hooghly point were completed and the construction of groynes at the Diamond Sands at the Balari Bar made substantial progress. As a result of intensive dredging, the depth over the Bar has improved. The diversion of the railway line at Budge Budge, and the reconstruction of the Majerhat bridge were expected to be completed shortly. A Hydraulic Study Department to carry out a systematic hydraulic study of the river Hooghly was in the process of being set up.

Bombay:

The Dock Modernisation Scheme at Bombay port was finalised. The contract for the first two stages of the scheme for dredging of the Bombay Harbour was awarded to a Netherlands firm. The contractors brought their plant and equipment to the site by the end of December, 1961 and work is at present in progress. The contract for the reconstruction of the Rim Bascule Bridge at Alexandra Dock Lock Entrance was also awarded.

Madras:

The construction of the new 6 berths wet dock scheme has made considerable progress during the year and more than half the work

on the sidewalls of the Dock, and about threefourths of the excavation work was completed. The work relating to the entrance of the wet dock was expected to be completed by the middle of 1962. The berths were expected to be commissioned by the end of 1962. The construction of transit shed at the Dock was in progress and the sheds also were expected to be ready by the end of 1962.

Cochin

The construction of 4 additional wharf berths in the Ernakulam channel at an estimated cost of Rs. 224 lakhs made substantial progress and the berths were expected to be brought into commission by October, 1962.

Visakhapatnam

The major schemes included in the Third Plan at this port are: (1) the construction of 4 additional berths, 2 for general cargo and 2 for ores and (2) the mechanisation of 2 ore berths by the installation of an ore loading plant for handling of 6 million tons of iron ore per annum. The contract for the construction of the 4 berths had been awarded and the work was in progress. Tenders for the supply and installation of the ore loading plants were received and scrutinised during the year.

The scheme for the deepening and extension of the dry dock at the port was started in November, 1960. The earth and rock excavation in the extended portion was completed. Masonry side walls were being constructed and the deepening of the dry dock was in progress.

Kandla

The problem of improving the conditions over the Bar at the entrance to the Kandla Creek continued to engage attention during the year. The Breach channel which was dredged and brought into use in August, 1960 continued to remain in use. A suction dredger was ordered and was expected to be received during 1962.

Mangalore and Tuticorin

Technical investigations required for the development of the Tuticorin and Mangalore as major ports were in progress. Fluorescent studies were conducted at Mangalore to collect data for determining the site of the proposed major port. Similarly, a programme for further borings in the Tuticorin sea-bed to determine the alignment of the proposed new harbour was prepared. On completion of the investigations and surveys detailed designs and estimates would be prepared for the two ports.

CIVIL AIR TRANSPORT.

Civil Aviation Department

The Plan provision for Civil Aviation Department, the budget estimate for 1961-62 and the revised estimate for 1961-62 are given below.

(Rs. lakhs)

Item	Plan provision	Budget estimates 1961-62	Actual expenditure 1961-62
1. Works at Aerodromes	1850.00	332.00	258.00
2. Department of Aeronautical Communications Service	500.00	60.00	30.00
3. Training and Education	84.00	11.88	7.00
4. Research and Development Equipment	16.00	1.40	1.00
5. Air routes and Aerodrome Equipment	100.00	18.98	8.00
TOTAL	2550.00	424.26	304.00

During the year under review new aerodromes were opened at Tulihal and Phoolbagh. The construction of new aerodrome at Raxaul in Bihar was almost completed and the work on the construction of aerodrome at Behala in West Bengal was in progress. Development works were almost complete at Bombay (Santa Cruz), Calcutta (Dum Dum), Delhi (Palam) aerodromes to make them suitable for use by heavy inter-continental jet air-craft. A scheme for the development of Madras airport for Boeing aircraft operations was taken up during the year.

The progress of schemes relating to aeronautical communication services and air routes and aerodrome equipment was slow on account largely of difficulties of foreign exchange and the late delivery of equipment from abroad.

The shortfall in expenditure on the programme of the civil aviation department in 1961-62, was due mainly to delay in receipt of stores and other equipment, slow progress in acquisition of land, postponement of certain works due to change in specifications and delay in the payment of cost of certain stores and equipment received in the closing months of the year.

Air Corporations

The expenditure on the development programme of Air India in 1961-62 came to about Rs. 7.04 crores as against the plan provision of Rs. 14.5 crores. Two Boeing aircrafts were added to the fleet of

the Corporation in March—April, 1962, bringing the total number of jet aircraft with the corporation to six. It was agreed to hand over 9 Super-Constellation aircrafts with the Corporation to the Indian Air Force. The construction of the jet engine overhaul workshop and jet engine test house at Santa Cruz was taken in hand by the Corporation during the year under review.

The figures in the following table indicate the increase in capacity and the volume of traffic carried by Air India during 1960-61 and 1961-62.

	1960-61	1961-62
1. Available Tonne Kilometres (millions)	161.45	216.64
2. Total Revenue Tonne Kilometres performed (millions)	76.30	94.52
3. Overall Load Factor	47.3%	43.7%

In the case of Air India, during 1961-62 the anticipated increase in traffic has not materialised. This was mainly due to two factors—restrictions on foreign travel imposed by the Government of India and the policy of the U.S. Government to conserve its dollar resources. The overall load factor dropped appreciably from 58.2 per cent in 1959-60 to 47.3 per cent. in 1960-61 and was reduced further to 43.7 per cent in 1961-62.

Indian Air Lines Corporation

As against the plan provision of Rs. 15.0 crores the expenditure on the Indian Airlines in 1961-62 came to Rs. 2.26 crores. During the year the Corporation purchased four second-hand Viscounts and related spares at a total cost of Rs. 142 lakhs. Five Fokker Friendship aircrafts ordered during the second plan period were delivered in April—May, 1961 and negotiations were concluded during the year for the purchase of 5 additional Fokker Friendship aircraft. These were expected to be delivered by March, 1963.

The figures in the following table indicate the increase in capacity and the volume of traffic carried by the Indian Airlines Corporation during 1960-61 and 1961-62.

	1960-61	1961-62
1. Available Tonne Kilometres (millions)	113.05	120.79
2. Total revenue Tonne Kilometres performed (millions)	83.20	87.42
3. Overall Load Factor	73.68%	72.4%
4. No. of passengers carried	7,87,187	800,000 (Estimated)

INDIAN METEOROLOGICAL DEPARTMENT.

The expenditure on the schemes of the Indian Meteorological Department remained very low largely because of shortage of foreign exchange. The actual expenditure in 1961-62 was Rs. 16 lakhs, as against the plan provision of Rs. 300 lakhs. The Kodaikanal observatory continued its work in the fields of solar physics, stellar physics and radio astronomy. Considerable progress was made in the workshop at Kodaikanal observatory. The microseismograph station at Visakhapatnam was opened during the period under review.

POSTS AND TELEGRAPHS DEPARTMENT.

The Plan provision and the expenditure incurred in 1961-62 on the programme of the Posts and Telegraphs Department are given in the table below.

(Rs. in lakhs)

Scheme	Third Plan Provision	B.E. 1961-62	Actual Expendi- ture 1961-62
1. Local Telephone service	3500	609	631
2. Trunk Telephones	600	80	158
3. Co-axial cables etc.	860	101	54
4. Telegraph Service	200	35	54
5. Demands from other administrations	200	110	80
6. Buildings	1100	130	66
7. Miscellaneous	200	35	10
8. Railway Electrification	1100	190	148
TOTAL	7760	1290	1201

The extent of achievement of physical targets in respect of more important items is indicated in the table below.

	Third Plan target	Achievement in 1961-62
1. Post Offices	17,000	5384
2. Telegraph offices	2000	200 (Estimated)
3. Number of Telephones installed	3,00,000	52,000

The opening up of post offices in rural areas continued to be governed by the liberalised policy which came into force from 1st March, 1959. During the year under review, 5084 post offices were opened in rural areas and 300 post offices in urban areas. In addition about 450 branch offices and experimental sub-offices were converted into departmental sub-offices, during the year. About 200 additional telegraph offices were opened during the year. Telex and international services opened between Bombay and London in June, 1960 have since been extended to 31 other countries. About 245 telephone exchanges were expanded during the year and about 52,000 telephones were installed. Also 247 long-distance public call offices and 250 new exchanges were opened. The laying of the coaxial cable in Asansol-Sasaram section was completed during the year. The major portion of the work of laying the cables on section Sasaram-Varanasi was also completed. With the improvement in the supply of indigenous cables, the pace of progress on this scheme was expected to be accelerated.

As regards railway electrification, the laying of communication cables on 515 kilometres of the railway routes was completed, and the sections Gomoh-Gaya, Asansol-Sini, and Tatanagar-Rourkela were commissioned during the year.

BROADCASTING.

The Plan provision for the All India Radio and the likely expenditure in 1961-62 are given below.

(Rs. lakhs)

Scheme	Plan Provision 1961-66	Budget 1961-62	Anticipated actuals 1961-62
1. Carry forward schemes from Second Plan :			
(a) Medium wave Plan Part I . . .	166.00	117.75	80.63
(b) Other Second Plan Schemes . . .	276.00	106.10	54.70
2. Extension of Medium wave service Part II . .	148.00	107.15	16.19
3. Installation of 100 kw sw transmitters at Delhi for external services.	200.00	..	..
4. Community listening scheme	40.00	8.00	8.00
5. Other schemes	266.00	19.01	6.76
TOTAL	1096.00	358.01	166.28

The bulk of the installation equipment for the medium wave transmitters was obtained during the year under review. The acquisition of land and construction of buildings was in progress.

The Second Plan projects completed during the year included the installation of one 50 kw. sw. transmitter at Tiruchi, one sw. transmitter at Jammu and one 2·5 kw. transmitter at Madras. The construction of a broadcasting house was completed at Calcutta. A recording studio at Imphal was nearly completed and construction of studios and office buildings at Tiruchi, Bombay, Srinagar and Jullundur was in various stages of completion.

XII. EDUCATION

I. GENERAL EDUCATION AND CULTURAL PROGRAMMES

Outlay

The table below indicates the progress of expenditure by main heads at the Centre and in the States in the first year of the Third Plan.

Progress of development expenditure under education

(Rs. crores)

Head	1961-66 (Plan out- lay)			1961-62 (Budget)			1961-62 (Actual)		
	Centre States Total			Centre States Total			Centre States Total		
	1	2	3	4	5	6	7	8	9	10
Elementary . . .	3.9	204.0	207.9	0.1	22.0	22.1	..	20.9	20.9
Secondary . . .	13.2	77.4	90.6	0.3	11.3	11.6	0.2	11.5	11.7
University . . .	44.2	37.5	81.7	10.3*	6.3	16.6	8.8*	6.3	15.1
Social education . . .	0.8	5.4	6.2	0.1	0.8	0.9	0.1	0.6	0.7
National Council for Edu- cational Research & Train- ing . . .	9.4	..	9.4	0.5	..	0.5	0.3	..	0.3
Others . . .	10.6	11.7	22.3	1.8	2.2	4.0	1.1	1.3	2.4
TOTAL . . .	72.1	336.0	408.1	13.1	42.6	55.7	10.5	40.6	51.1
Cultural Programmes . . .	6.0	4.0	10.0	0.7	0.8	1.5	0.7	0.7	1.4
GRAND TOTAL . . .	78.1	340.0	418.1	13.8	43.4	57.2	11.2	41.3	52.5

At the centre there was a shortfall of Rs. 2.6 crores. Similarly, there was a shortfall of Rs. 2 crores in the States, which was due to the delay in the formulation of schemes and appointment of teachers and slow progress on the construction of buildings. Relatively larger shortfalls were reported by the State Governments of Bihar, Madhya Pradesh and Punjab. On the other hand an excess expenditure of about Rs. 3 crores was reported by West Bengal Government.

*Includes Rs. 1.53 crores for departments of engineering and technology of universities.

The main targets for the Third Plan and for 1961-62 and achievements during the first year of the Third Plan are indicated in the table below. Progress in physical terms had been satisfactory.

Targets and Achievements

Enrolment	1960-61 (Position)	Third plan targets 1965-66 (Position)	1961-62 target (addl.)	1961-62 achievement (addl.)	1961-62 (position)
1	2	3	4	5	6
1. Primary					
Classes I-V (in lakhs)	352	505	28	32	384
Percentage of age group 6—11	62.6	77.8	..	..	66.7
2. Middle					
Classes VI-VIII (in lakhs)	66	101	7	10	76
Percentage of age group 11—14	24.0	29.6	..	..	26.8
3. High/Higher Secondary					
Classes IX-XI (in lakhs)	29	45	3	2	31
Percentage of age group 14—17	11.4	15.3	..	..	12.3

Elementary education

As against the target of enrolling 28 lakhs additional children in classes I—V during 1961-62, 32 lakhs children were enrolled as a result of special efforts made by different States like enrolment drives, opening of new schools in new areas, provision of midday meals etc. Against the Third Plan target of additional enrolment of 86 lakhs girls in classes I—V about 17 lakhs additional girls were enrolled in 1961-62.

At the middle school stage, 10 lakhs additional children were enrolled during the period under review as against the target of enrolment of additional 7 lakhs children.

Basic education

While the number of new primary and middle schools opened in 1961-62 was about the same as planned, the target of conversion of Primary Schools into junior basic schools had been exceeded during the period under review.

The position at the end of the Second Plan and the progress during 1961-62 are given below.

Progress of basic education institutions

	1960-61 (Position)	1965-66 Target	1961-66 (addl.)	1961-62 Target (addl.)	1961-62 Achievement (addl.)
I	2	3	4	5	6
(i) primary/jr. basic schools (in lakhs)	3.36	4.05	0.69	0.26	0.27
(ii) junior basic (in lakhs)	0.64	1.16	0.52	0.07	0.11
(iii) (ii) as % of (i)	19.00	28.6	75.4	26.9	40.7
(iv) middle/sr. basic schools (in lakhs)	0.41	0.55	0.14	0.04	0.04
(v) sr. basic schools (in lakhs)	0.14	0.21	0.07	0.01	0.01
(vi) (v) as % of (iv)	34.1	38.2	50.0	25.0	25.0

The orientation programme for teachers in position initiated during the Second Plan was further expanded during 1961-62. Out of 1111 training schools in 1961-62, 853 i.e. 77 per cent of the total number of training schools have been converted to the basic pattern.

To produce cheap text-books for primary schools it has been planned to set up two printing presses with West German Aid during the Third Plan. To discuss various matters in connection with the setting up of printing presses for publication of children's books, a delegation of two German experts arrived in New Delhi during the last quarter of 1961-62. Printing presses are being established at Chandigarh in Punjab and in Mysore state.

Secondary education

The position at the end of the Second Plan period and the progress made since is indicated in the following table.

Progress of secondary education—institutions

Year	high/higher secondary schools.	higher se- condary schools*	multi-purpose schools (with high and higher secondary)
I	2	3	4
1. 1960-61 (position)	16,988	3,121	2,115
2. 1961-66 (addl.)	5,176	3,269	331
3. 1961-62 targets (addl.)	1,046	957	35
4. 1961-62 achievement (addl.)	2,247	1,199	164

*Includes 997, 372, 74 and 14 Intermediate Colleges or Higher Secondary Schools in U. P. for 1960-61, 1961-66 (addl.) 1961-62 target (addl.) and 1961-62 achievement (addl.) respectively.

In Madras, Kerala, Maharashtra, Gujarat and U.P. multipurpose schools are of high school standard. In other States multipurpose schools are of higher secondary pattern. The State Governments are experiencing difficulties in regard to the availability of qualified and adequately trained staff, equipment, buildings etc. To augment the supply of teachers for the higher secondary schools the States have taken up programmes like improving the salary scales of teachers, increasing the intake of science students at university stage, arranging short-term diploma courses for teachers in subject content, particularly science subjects and pedagogical training and offering scholarships to teachers for undergoing post-graduate education.

Multipurpose schools

As against the Plan target of converting 331 high schools into multipurpose schools 164 high schools have been converted into multipurpose schools during 1961-62. The State Governments experienced almost the same difficulty as in the conversion of high schools into higher secondary schools. The Ministry of Education have taken preliminary steps to set up 4 regional training colleges for training of teachers for staffing multipurpose schools. The sites for colleges have been selected and work on preparing the building plans has been taken in hand at 3 places. At the fourth the land is being acquired.

University education

Five new universities—2 in Punjab and 3 in West Bengal were established in 1961-62 bringing the total number of universities to 53. The number of colleges increased by 246 during 1961-62 from 1537 in 1960-61 to 1783. The enrolment of arts, science and commerce students which stood at 8.5 lakhs in 1960-61 increased to 9.27 lakhs in 1961-62. The number of science students in 1961-62 was 3.4 lakhs as against 3 lakhs in 1960-61.

With a view to enabling the University of Delhi to conduct correspondence courses a bill to amend the Delhi University Act was introduced in the Lok Sabha and was passed by the Parliament. It was brought into force with effect from 1st February, 1962. New Departments for modern Indian languages were created in the Universities of Delhi and Banaras. The U.G.C. approved the construction of library buildings at the universities of Vikram, Mysore, Utkal, Marathwada and Jabalpure and Indian Institute of Sciences, Bangalore. Tagore Chairs were established in 9 universities and Tagore lectureship were instituted in 4 universities. The University Grants Commission sanctioned construction of womens'

hostels at six universities and those for men at 4 universities at a total cost of Rs. 45 lakhs. A sum of Rs. 34 lakhs was sanctioned for staff quarters. Gandhi Bhavans were under construction in 5 universities and proposals for the establishment in 6 universities were approved by the U.G.C.

A large number of schemes for the establishment of Science Departments in the universities were approved by the Commission during the period under review.

Two new Rural Institutes, one each at Wardha and Hanamanu-mathi (Mysore), were started during 1961-62. The post-diploma courses in co-operation were started in rural institute at Coimbatore.

Scholarships

A number of scholarship programmes are being implemented by the Ministry of Education. Under the National Scholarships for Outstanding Students for post-matric Education, 2400 scholarships are awarded annually which include 1800 on the result of the school leaving examination, 400 on the results of PUC/Intermediate examination and 200 on the results of the 1st Degree Examination. Under the scheme "Scholarships for the children of primary and secondary school teachers for post-matric studies", 500 awards were made during 1961-62. Under the schemes: Research Scholarships in Sanskrit, Post-graduate Scholarships in Humanities, Post-Graduate Merit Scholarships in Science and Scholarships in Residential Schools, 20, 80, 150 and 70 scholarships were respectively awarded during 1961-62. Under the schemes "Scholarships for Post-matric studies in India for Scheduled Castes/Scheduled Tribes and other Backward Classes", the number of scholarships awarded in the year is about 61,000. Scholarships were awarded to 100 students for higher studies in Hindi for students from non-Hindi speaking States. A large number of scholarships were awarded during the period under review under the Schemes: "Commonwealth Scholarships and Fellowships", "Teachers Training Nurseries", "French Fellowship Schemes", "Indo-German Industrial Cooperation" and "Reciprocal Scholarships scheme."

Other schemes

Progress of programmes relating to pre-primary education, youth welfare, physical education, education of the handicapped, propagation of Hindi and Sanskrit, especially in the States had been slow.

Cultural activities

An Act declaring the Salarjang Museum together with the Salar-jang Library in the State of Andhra Pradesh, an institution of

National importance was passed by the Parliament and came into force with effect from the 1st July, 1961.

The three Akademies—Sahitya, Sangeet, Natak and Lalit Kala—moved into their new building, 'Rabindra Bhavan'. Tagore Centenary Celebrations were held throughout India in 1961. An International Library Seminar was organised by the Indian Council for Cultural Relations in collaboration with Sahitya Akademi on the occasion of the Tagore Centenary celebrations.

During 1961-62, 12 district *gazetteers* were approved for publication and 8 Distt. *gazetteers* were in the press. The Distt. *gazetteers* of Madurai (Madras), Broach (Gujarat), Palman (Bihar), Faizabad (U.P.) and Trivandrum (Kerala) have been published.

The Indian Council for Cultural Relations organized the first Asian History Congress in collaboration with the Indian International Centre and the Indian History Congress.

II. TECHNICAL EDUCATION

The table below indicates the budgeted outlay and anticipated expenditure for programmes of technical education in the States and under the Ministry of S.R.&C.A. during 1961-62.

(Rs. crores)

Sector	Third plan provision	1961-62		Col. (4) as % of Col. (2)	Col. (4) as % of Col. (3)
		Budget	Actual expenditure		
1	2	3	4	5	6
States	71.60	11.23	7.92	11.1	70.5
Centre	69.94	15.05	9.45	13.5	62.8
TOTAL	141.54	26.28	17.37	12.3	66.1

The shortfall in respect of States' outlay was largely due to difficulties experienced in procurement of building materials and in obtaining foreign exchange for the import of equipment. The delay in finalising certain procedural matters which had to be worked out during the initial year of the Plan and in persuading States to accept schemes like increase in teachers' salaries were in the main

responsible for the slow progress of central and centrally sponsored schemes.

Programme of Expansion

During the year under report, 11 new engineering colleges started functioning of which 4 institutions organised courses in architecture and allied subjects at degree level. Three Regional Engineering Colleges were started at Allahabad, Surat and Kozhikode with a sanctioned admission capacity of 250 students each. The College of Engineering & Technology, New Delhi, admitted 141 students for degree courses in civil, mechanical, electrical and chemical engineering and textile technology. The Governments of West Bengal and Orissa established engineering colleges at Jalpaiguri and Rourkela respectively. Under the revised open-door policy, a private engineering college was approved at Kothamangalam, Kerala. In addition to these new institutions, the admission capacity of 12 existing colleges was increased, with particular reference to the facilities for chemical engineering. By the end of 1961-62, a total of 111 engineering colleges were functioning in the country with a sanctioned admission capacity of 15,690 students.

At the Indian Institutes of Technology, at Kharagpur, Bombay, Madras and Kanpur, a total number of 723 students had been admitted to the first year and 240 students to the second year of the five-year integrated degree course. The Kharagpur and Bombay Institutes also conducted 34 and 16 post-graduate courses respectively in different branches of engineering and technology for about 330 students.

The Institutes of Technology Act, 1961 was passed by Parliament in December, 1961 declaring the four Institutes of Technology as institutions of national importance. The Act provides, among others, for the regulation of the administration and management of the affairs and finances of the Institutes. For purposes of laying down general policy and overall co-ordination, the Act provides for the setting up of a Council. Each Institute will, however, have a large measure of autonomy and will be administered by its own Board of Governors.

At the diploma level, 15 polytechnics were opened in 1961-62 with an admission capacity of 1910 students. Some of the existing polytechnics were also expanded and re-organised. The total number of polytechnics is now 210 with an admission capacity of 27,690 students.

Progress of technical education in terms of the number of institutions, admission capacity and outturn is indicated in the following table :

Year	Degree courses			Diploma courses		
	No. of institutions	Admission capacity	Outturn	No. of institutions	Admission capacity	Outturn
1	2	3	4	5	6	7
1960-61 . .	100	13860	5700	196	25570	8000
1961-62 . .	111	15690	7000	210	27620	10350
1965-66 (target) .	119	19090	12000	271	38290	19500

The Third Plan lays particular stress on organisation of part-time and correspondence courses in engineering and technology. Under a scheme approved by the Planning Commission and the Ministry of S.R.&C.A., the Defence Technical Training Association organised during 1961-62 part-time courses leading to the professional examinations in engineering. Nearly 2550 students including 1300 non-Defence personnel availed of these courses; 1900 for the examinations of the Institutions of Engineers, 354 for those of the Institution of Tele-communication Engineers and 288 for Aeronautical Society of India Examinations.

A centre for a sandwich course in mechanical engineering was approved at Coimbatore in addition to the existing centres at Madras, Calcutta and Visakhapatnam. The Ministry of S.R.&C.A. deputed an officer to study systems and practice of part-time and correspondence courses in U.K., U.S.A., U.S.S.R. and Sweden and his recommendations for the development of such courses during the third plan period is under consideration.

During the year under report 17 additional Junior Technical Schools were started, three in Madras, two in Andhra Pradesh, eight in Madhya Pradesh and four in Kerala. Four girls' polytechnics were also established—two in Andhra Pradesh and one each in Kerala and Mysore.

The Expert Committee set up by the Government of India in November, 1959 to review the problems of post-graduate engineering education and research submitted its report in August, 1961. The Committee is of the view that post-graduate courses should be so re-organised as to serve the immediate objective of training engineer specialists in narrow fields who would readily apply their

advanced knowledge of the field to industrial operations. The long-term objective should be to train engineers with a deeper understanding of scientific principles who can undertake research and make fundamental contribution to the advancement of technology. They have accordingly recommended the provision of 1250 seats for a two year M.Sc. course, 500 seats for a 1 year post-graduate diploma course and 100 research places for Ph.D. work in engineering and technology. A Board of Post-graduate Studies in Engineering and Technology is being set up as recommended by the Expert Committee to formulate a detailed plan for the development of post-graduate engineering education and its implementation along the lines suggested by the Expert Committee.

The Third Plan has emphasised the need to provide additional facilities for specialised branches of engineering and technology such as chemical engineering, metallurgy, etc., so that the likely demand for these personnel in the Fourth Plan could be met. The question is being considered on an all-India basis by the different Boards of Studies of the All India Council for Technical Education. For chemical engineering, the facilities at 10 existing colleges were doubled in 1961-62 and detailed schemes are being worked out for new centres as well as for special courses of shorter duration for graduates in science.

In the field of mining, according to the recent estimates of the Coal Council of India, the existing facilities at the degree level appear to be adequate to meet the likely additional requirements of First and Second Class Mine Managers in the Fourth Plan but at the level of surveyors and overmen it would be necessary to expand facilities. This question is being examined by a Sub-Committee of the Coal Council in consultation with the Ministry of S.R.&C.A.

Project report has been prepared for the National Institute for Training in Industrial Engineering which would train engineers and technicians in work measurement, production planning and control, sales organisation including market research, method study including plant layout and material handling and other aspects of industrial engineering. The Institute has been registered under the Societies Registration Act, 1860 and its administration and management are vested in a Board of Governors.

The All India Institute of Management at Calcutta has arranged collaboration of the Massachusetts Institute of Technology for its development. The Boards of Governors for this Institute as well as for a similar Institute at Ahmedabad have been set up with the Chief Ministers of the State concerned as Chairmen.

The scheme for establishment of a National Institute for Foundry and Forge Technology Ranchi, prepared by an Expert Committee of the A.I.C.T.F., has been approved. The capital investment would be Rs. 85.5 lakhs and the annual expenditure Rs. 10.5 lakhs. About 150 engineer specialists and technicians would be trained annually for the foundry and forge industry under a sandwich course which includes practical training in the Heavy Foundry and Machine Building plant under the Heavy Engineering Corporation.

During 1961-62, a detailed report for the setting up of a Central Institute of Printing was prepared. The Institute would provide for an admission capacity of 100 executive personnel and specialists for printing industry. The total cost of the Institute is estimated at Rs. 1.42 crores non-recurring and Rs. 9.2 lakhs per year recurring.

During the year under review, the scheme for practical training stipends to engineering graduates and diploma holders was continued and 2,200 training places secured in various industrial undertakings. An additional 150 senior stipends and 100 junior stipends were also instituted. For mining, stipends were made available on a cent per cent basis. In order to organise, supervise and co-ordinate the practical training of mining students on an all-India basis, a Directorate of Practical Training in Mining was set up in December, 1961 at Dhanbad.

During 1961-62, Rs. 67 lakhs were estimated to have been spent on scholarships and stipends to engineering students. This is inclusive of the provision for the merit-cum-means scholarships of the Ministry of S.R.&C.A. under which 1700 new scholarships were sanctioned and 1970 scholarships renewed. There are at present 708 Indian scholars studying in various technical fields in 22 foreign countries. Under various programmes of the Ministry of S.R.&C.A., 310 scholarships were awarded to Indian scholars for post-graduate study, research and practical training and 107 scholarships to foreign students for study/training in India. Over 250 foreign students are currently studying in India.

Teachers

The revised salary scales recommended by the All-India Council for Technical Education have been introduced in Andhra Pradesh, Assam, Madhya Pradesh, Punjab and Rajasthan. The technical teacher training programme which was being run at five centres in 1960-61 has been extended to the Institute of Technology, Bombay and in 1961-62, 105 trainees were selected of which 67 joined. There were in all 234 teachers undergoing training during the

year under report; 23 trainees completed their training and were posted to different institutions on regular teaching assignments. For teachers of Polytechnics, a Working Group has been set up by the All-India Council for Technical Education to formulate a detailed programme.

Craftsmen's Training

The actual expenditure during 1961-62 on craftsmen training schemes sponsored by the Ministry of Labour and Employment is shown in the following table.

(Rs. crores)			
Sector	Third Plan provision	1961-62 Actual expenditure	Col. 3 as percentage of Col. 2.
I	2	3	4
States	16.97	0.96	5.7
Centre	32.22	1.45	4.5
TOTAL	49.19	2.41	4.9

During the third plan period, the number of industrial training institutes/centres is to be increased from 167 with an admission capacity of 42,690 in 1960-61 to 318 with about 1 lakh seats. These targets were reviewed in 1961-62 and it is now expected that 156 new institutes would be established so that by 1965-66 there would be 323 institutes with an admission capacity of 108,000 students. The progress achieved during 1961-62 is indicated below.

Year	No. of institutes sanctioned	Admission capacity sanctioned	Outturn
1960-61	167	42690	14530
1961-62	220	50820	36130
1961-66 (target)	323	108000	100000

The National Council for Training and Vocational Trades conducted all-India trade tests in April, 1961 and January, 1962 in engineering trades and in July, 1961 in non-engineering trades. The Parliament passed in December, 1961, the Apprentices Act with a view to regulating the programme of practical training in industry in such a way as to conform to prescribed standards, period of

training, etc., and also to fully utilise facilities available in industry for imparting practical training. The Act which applies to both the public and private sectors came into force from 1st March, 1962. A number of industries which can provide facilities for apprentice training have been specified and the provisions of the Act are made applicable to them. Such industries include important branches of engineering like mechanical, electrical, chemical and manufacturing industries; electricity generation, transmission and distribution industries; automobiles; heavy machinery industries; etc. A Central Apprenticeship Council has been set up, as laid down in the Act and steps are being taken to frame relevant rules for implementation of the Act at an early date. During 1961-62, 2159 additional seats were sanctioned under the existing apprenticeship scheme bringing the total number of seats to 4850. The four Central Training Institutions for training of craft instructors were expanded during 1961-62 with an admission capacity of 820 as against 530 in 1960-61. The C.T.I. at Konibilaspur has been shifted to Calcutta.

In order to bring uptodate the technical knowledge of the senior instructors in the industrial training institutes, a refresher course of three months' duration has been introduced in the Central Training Institutes. Initially 80 seats were provided under the course from October, 1961 at the Institutes at Calcutta and Poona-Aundh.

The scheme of evening classes for training of industrial workers was introduced in the Second Plan with the object of improving their theoretical knowledge. During the year under report, 1095 additional seats were sanctioned bringing the total sanctioned seats to 3837 as against a target of 11,292 by the end of the Third Plan.

XIII. SCIENTIFIC AND INDUSTRIAL RESEARCH

National Laboratories

During the year, the Council of Scientific & Industrial Research took over the Central Board of Geophysics and the number of national laboratories and institutes under the Council thus increased to 27. A new unit for research in Genetics and Biometry was created and a decision was taken to take over the Visvesvaraya Industrial & Technological Museum, Bangalore.

In the expanded research programmes of various national laboratories, special emphasis was laid on the development of research results to the stage of commercial utilization. Many new processes were studied under pilot plant conditions and their feasibility for commercial exploitation was examined. Demonstrations of new processes and products were arranged by some of the laboratories at various centres at the express desire of the industries. Training courses in special fields were organised in some of the laboratories for personnel in industry and a beginning was made in the exchange of technical personnel between national laboratories and industry. Some project reports were prepared at the request of industry. Eighty research projects financed by government departments and industries were under investigation in eleven national laboratories.

Expansion of Research Activities.—A Seed and Fruit Herbarium was set up at the National Botanical Gardens, Lucknow.

Pending the construction of the buildings of the Laboratory, the Regional Research Laboratory, Assam, set up four research units, two at the Regional Research Laboratory, Jammu—one for research on medicinal plants and the other for research on utilization of forest products; a unit at the Central Food Technological Research Institute, Mysore for research on fruit technology; and a unit at the University of Roorkee for research on earthquake engineering.

The Indian Institute of Petroleum set up temporary laboratories in the premises of the Central Road Research Institute, New Delhi, to deal with problems of distillation and refining of crudes, and testing of refined products.

Bureaus of Processes and Products to deal with problems of production and consumption of petroleum products and economics of

petroleum industry have started functioning. At the instance of the Oil and Natural Gas Commission, the Bureaus undertook market study of the petroleum products and analysis of Ankleswar and Gandhinagar crude oils to provide data for the designing of the proposed Gujarat Refinery.

A techno-economic study of the cost of refining kerosene fractions from Nahorkatiya crude oil was taken up at the instance of the Indian Refineries Ltd.

The Central Scientific Instruments Organisation, New Delhi has set up a unit for optical computation in collaboration with the Defence Science Laboratory. A scheme for establishing development centres at the works of instrument manufactures has been finalised.

The Birla Industrial & Technological Museum, Calcutta has added a new gallery on 'Motive Power' containing charts, models and actual objects depicting the development of motive power.

A Planning Committee for the Central Board of Geophysics has been formed.

Pilot Plants.—The following pilot plants were installed at the National Metallurgical Laboratory, Jamshedpur:—Low shaft furnace plant (capacity 15 tons/day); Electrolytic manganese metal and manganese dioxide (capacity 100 lb./day each); Hotdip aluminising of steel wires and strips; Beneficiation of low-grade manganese, chrome and other ores ($\frac{1}{2}$ ton/hr); Production of refractories; Thermal beneficiation of low-grade manganese and chrome ores; and recovery of vanadium pentoxide from vanadiferous magnetite ores; Pilot plants for beneficiation of low-grade manganese ores (capacity, 25 tons/day); production of magnesium metal and magnesium powder (capacity, 25 lb./day) and smelting furnace for production of ferro-alloys (capacity, 1 ton/day) are under installation.

The erection of a 20-ton per day prototype low temperature carbonisation plant was completed and put into operation at the Central Fuel Research Institute, Jealgora. A Lurgi pilot plant for pressure gasification of coal (0.8 ton/hr) was completed and trial runs were started. A 10 ton/day briquetting plant for briquetting Kashmir lignite using lime was under erection.

A rotary kiln for making surkhi for use as partial replacement of cement in cement concrete works was under construction at the Central Road Research Institute, New Delhi.

Research Papers.—Five hundred and seventy-two research papers incorporating the results of researches carried out in national laboratories were published during 1961. Of these 110 were published in foreign journals.

Some Achievements

National Physical Laboratory, New Delhi.—A new wave-shearing interferometer for testing microscope objective has been designed. A colorimeter for visual testing of colours of agricultural products has been developed and brought into use. A precision test chart for testing photographic lenses has been prepared.

National Chemical Laboratory, Poona.—Methods have been worked out for the recovery of calcium formate and anhydrous formic acid from sludge obtained as by-product in the manufacture of chloroform from chloral alcoholate. Pilot plant work has been taken up for the production of hexachloro-ethane from ethylene and chlorine, thiodiglycol, and alkaloids from opium.

National Metallurgical Laboratory, Jamshedpur.—Magnesium required for the production of light alloys has been produced on a laboratory scale. Two general purpose bimetals for use in temperature controlling devices, circuit breakers and thermal relays have been developed. Nickel-free stainless steel developed in the Laboratory has been found to possess the necessary springy characteristics for use in pressure cooker bodies and lids. Nickel and cobalt-free heating elements based on iron, chromium and aluminium have been developed. Using the low-shaft furnace pilot plant, studies have been carried out on the production of foundry grades of pig iron from raw materials available in different States, and without the use of metallurgical coal. Pilot plant studies were undertaken for the beneficiation and sintering of representative samples of iron ores from Bolani, for use in Durgapur steel plant and other units of the Hindustan Steel Limited. A process has been developed by which an enriched sized ore and sinter, low in silica and alumina content, could be obtained.

Central Fuel Research Institute, Jealgora.—Smokeless coke for domestic use was produced by briquetting and low temperature carbonisation of weekly or non-coking slack coals, such as those from Raniganj and Argada areas. It has been shown that Giridih coal after washing can be used for producing hard coke with low ash and low phosphorus content, required for manufacturing calcium carbide. A 20 ton/day prototype low temperature carbonisation plant was operated and the data collected are being utilized to project commercial plants in West Bengal, Bihar and Madhya Pradesh.

A simple method has been developed for the rapid determination of both ash and surface moisture of washed coal.

Central Glass & Ceramic Research Institute.—The possibility of making super-duty refractories from high alumina non-plastic clays with or without addition of plastic clays by using proper forming methods and firing techniques has been evolved. Optimum conditions for the production of glass-bonded mica used for electrical insulation purposes have been worked out, using a suitable glass composition developed at the Institute. Mica paper sheets have been prepared from wet-ground mica powder. They have low dielectric loss and have electrical characteristics, practically equivalent to those of natural mica.

Central Food Technological Research Institute, Mysore.—An insecticidal formulation based on Lindane DDT and Dutrex (a petroleum by-product) and a process for impregnating gunny bags used for storage of foodgrains with the formulation have been developed. Spraying of paddy and jowar prior to harvest with a low dosage of Malathion (8 p.p.m.) has been found to be as good as the costly process of fumigation for controlling infestation of stored grains in rural areas. The precursor of the active principle and the enzyme of garlic have been obtained in dry form. A mixture of these two components is effective in the treatment of rheumatism, flatulence, dyspepsia and bacillary dysentery.

Central Drug Research Institute, Lucknow.—A number of medicinal plants have been screened for their therapeutic use. The crude extract of *calotropis procera* (madar) is effective as an anticoagulant of rabbit and human plasma. An extract of *Brassica oleracea* (wild cabbage) is useful for preventing histamine and phnylbutazone peptic ulceration. Intra-testicular administration of a single dose of cadmium chloride has proved efficacious in the sterilization of male rats, rabbits, goats and rhesus monkeys.

Indian Institute for Biochemistry and Experimental Medicine, Calcutta.—Epidemiological investigations on cholera, using the phagetyping technique developed at the Institute, have revealed a simultaneous two-day change in cholera vibrios isolated from epidemics in Calcutta. In former years the predominant type was Ogawa type 1, whereas now it is Inaba type 3. A parallel change has been observed in strains isolated from the 1961 epidemics in Patna and neighbouring districts which started later than in Calcutta. This phage-typing technique has also been used for differentiating El Tor vibrios from *Vibrio cholerae*. Investigations on the complement-fixation test using lepromina as antigen has been developed at the

Institute. It has been found to be more reliable and specific for diagnosis of leprosy than the conventional haemagglutination test. Pharmacological investigation of a new alkaloid (L60) isolated from the stem bark of *Alangium Lamarchii* has indicated the possibility of its use in the treatment of high blood pressure.

Central Electrochemical Research Institute, Karaikudi.—Cheap process, suitable for adoption prior to painting, consisting of treatment of phosphoric and chromic acids has been developed for preventing corrosion of materials. A new method of electrolytic cleaning of rusted engineering stores, using common salt solution or synthetic sea water as electrolyte, has been worked out. Conditions have been standardized for the preparation of iodoform from alcohol using electrodeposited lead on graphite in place of the expensive platinum anode. A monitor for indicating the percentage of hydrogen in chlorine gas produced in chlor-alkali cell has been designed.

Central Salt & Marine Chemicals Research Institute, Bhavnagar.—Processes have been developed for the manufacture of light basis magnesium carbonate, sodium sulphate and potassium chloride from mixed salts; hydrated calcium sulphate and precipitated calcium carbonate from mineral gypsum; syngenite (a double sulphate of potassium and calcium) which can be used as a fertilizer heavy basic magnesium carbonate conforming to ordnance specifications; and agar from sea weeds. Surgical plaster has been prepared from gypsum, available from Rajasthan and Kashmir and from salt pans.

Central Leather Research Institute, Madras.—Buffalo and cow hides and goat and sheep skins of different breeds collected from Orissa and coastal Andhra Pradesh have been studied for biological characteristics, structural make up and leather-making properties. A quick and economic process for East India tanning of leathers has been developed utilising indigenous tanning agents. Processes have been developed for the manufacture of chrom-retan hydraulic leather from buffalo hides, grain garment and gloving leathers by semi-chrome process, and football and sports goods leather.

National Botanic Gardens, Lucknow.—High-grade palmitic acid, acceptable to the pharmaceutical industry for producing vitamin A Palmitate, has been obtained in workable yield from the fat of *Madhuca butyraceae* (Phylwara) nut. Cucurbitacins B and E have been prepared in good yields (about 8 per cent from *Luffa echinata* and *L. gravelloensis*). A powerline-oil emulsion which kills and eradicates the parasite, *Dendraphthoe falcata*, without appreciably harming the host has been developed.

Central Building Research Institute, Roorkee.—A process for the production of bloated clay aggregate (light weight aggregate) from silt has been worked out on a pilot plant scale. Building bricks with satisfactory compressive strength and drying shrinkage have been prepared from fly ash and clinker in admixture with 10 per cent cement. As improved design of brick kiln has been developed and a reverberation chamber for full scale test on acoustical materials has been constructed.

Central Road Research Institute, New Delhi.—Two processes for the preparation of road binders utilising pitch from tar obtained by low temperature carbonisation of coal have been developed. Laboratory tests have shown that the binders are comparable to conventional products. Road aggregates from about 120 quarries in various Indian States have been collected and tested for use in bituminous road construction. Field surveys in Rajasthan and Bihar States for locating major clay deposits which yield reactive pozzolanas (surkhi) have been completed. Creep strength of Indian clays has been determined and suitable designs for embankment foundations on tidal swamps have been recommended.

Central Electronics Engineering Research Institute, Pilani.—The following instruments have been designed and built:—transistorised sound level meter, RF signal generator, stabilized power supplies, d.o. amplifiers, pulse-generators, constant current generator, 1/20 h.p. motor and random noise generator for statistical analysis of control systems. A miniature condenser microphone for high quality sound systems and for measurement of sound pressures has been designed and fabricated.

Central Public Health Engineering Research Institute, Nagpur.—The Institute has developed an oxidation pond method of sewage purification. The method reduces the biochemical oxygen demand from 300 to 40 parts per million.

National Aeronautical Laboratory, Bangalore.—Complete specifications for compressed air storage required for studies in high speed aerodynamics and propulsion have been drawn up. A 2 in. x 2 in. blow down tunnel has been designed for pilot test work to help development of larger tunnels for the proposed wind tunnel project.

Central Mining Research Station, Dhanbad.—A survey of illumination in various mines in India has been carried out. With a view to assess the desirable levels of illumination for various underground tasks, a small wind tunnel for calibration of air velocity measuring

instruments, such as anemometers and velometers, has been fabricated and installed. A methane indicator which can estimate viscometrically methane in methane-air has been constructed.

Regional Research Laboratory, Hyderabad.—A process has been developed for the production of castor wax and 12-hydroxystearic acid from castor oil. These products are used in the manufacture of lubricating greases, paints, varnishes and cosmetics. Fuller's earth suitable for bleaching lubricating oils has been developed for earth found in Korvi (Mysore). A process has been developed for the preparation of illuminating fuels from low temperature tar fractions produced on a pilot plant scale in Laboratory. The enamel compositions formulated by Laboratory using titanium dioxide instead of tin oxide (which is imported) have given satisfactory performance under factory trials.

Regional Research Laboratory, Jammu.—A garden of medicinal and aromatic plants representing about 1,300 species and geographical races has been established. A new species of *Streptocyne*, *S. Monicaeny*, possessing a broad antibacterial spectrum, has been isolated from the soil. It is active against strains of *staphylococcus aureus* which are resistant to penicillin, streptomycin, chloramphenicol, tetracycline and erythromycin.

Regional Research Laboratory, Assam.—A paper adhesive of satisfactory strength properties has been prepared from the hemi-cellulosic fraction of the shells of *Nahor* (*Mesua ferrea*) fruits. Chemical investigations of the *ekra* (*Erianthus revennae*) reeds have lead to the preparation of the following products from them: paper adhesive of satisfactory strength from the hemi-cellulosic fraction, furfural, rayon grade pulp containing 90 per cent of alphe-cellulose. A method has been developed for the complete extraction of caffeine, from Assam tea waste, at the same time recovering the tannine, thereof in the form of an alkaline cutch. A surface coating enamel for wooden bobbins has also been developed from the alkaline cutch. A solid wax extract has been prepared from the fruit pulp of *Terminalia belerica* (*Bohera* of Assam); the product as such and in suitable blends can be used for tanning.

Research Schemes and Research Centres

Four hundred and fifty three research schemes were in progress during the year in about a hundred centres. The number of research scientists working on these schemes was 381; of these, 67 were Senior Research Fellows, 36 Senior Research Assistants, 214 Junior Research Fellows, and 64 Junior Research Assistants. Besides, 641 Research

Fellowships were awarded ad-hoc in various national laboratories, universities and research institutions.

A grant of about Rs. 3.45 lakhs was given to the Earthquake Engineering Research and Training School, Roorkee University; Gas Turbine Research Centre, Kanpur; Essential Oils Research at some special centres and to the School of Dyestuffs Technology, Bombay.

The budget provision during 1961-62 for various grants-in-aid schemes was Rs. 53 lakhs. Actual expenditure during 1960-61 was Rs. 40 lakhs.

In order to develop new fields of research in the country and provide opportunities for young Indian scientists who have specialised in specific fields abroad to continue their work in India, a scheme for establishing research groups in special fields of science has been formulated.

The Rain & Cloud Physics Research Unit, New Delhi investigated the growth of cloud droplet, in different seasons, using a high power meteorological radar, and studied certain distinguishing features of rain processes in clouds.

A gas turbine engine of unique design suitable for high-speed aircraft was fabricated by the Gas Turbine Centre, Kanpur. The Earthquake Engineering Research and Training School, Roorkee, has carried out a survey of Seismic areas in northern U.P., Himachal Pradesh, Punjab and Kashmir. A sensitive pressure gauge and a shaking table for vibration measurements on models, were designed and used for gauging earthquake intensities.

Processes for the production of several industrial chemicals have been worked out at the Shri Ram Institute for Industrial Research, Delhi. Mention may be made of colourless resin for use in glass reinforced laminated articles; toluene diisocyanate used in the preparation of polymethanes and flexible and solid foams used in making cushions, carpet underlays, airplane wing tips, surface coatings, etc., and glycerol dichlorohydrin and its acetylene ester for use in crosslinking fabrics. A new strain of sulphate-reducing bacteria, *Desulpho virbrio*, has been isolated from Calcutta City sewage at the Jadavpur University. A larger collection of fossil mammals (6,000 specimens) has been made from a site close to Chandigarh in the Siwalik hills. The specimens so far studied give a fair picture of the large and varied mammalian population and its habitat.

Cooperative Research Associations and Industrial Liaison

The Indian Plywood Manufacturers Research Association was registered and the formation of Cooperative Research Associations

for research in tea and in wool and in automobile industry was under consideration.

Industrial liaison work of the national laboratories was strengthened. The Liaison Section at Headquarters and the regional offices at Madras, Bombay and Calcutta which had been set up as an experimental measure were terminated.

A Regional Extension Service Centre of the Central Leather Research Institute was established at Calcutta and the Institute arranged demonstrations in various States of new and novel processes. Casting and erection of shell units was demonstrated by the Central Building Research Institute Roorkee at Madras. The Regional Research Laboratory, Jammu, supplied Mentha suckers and seeds to agricultural stations and colleges and cultivators. Seeds of *Dioscorea deltoia* and *D. prazeri* were supplied to the Soviet Union Medical Plants Institute, Moscow.

Sixty-six processes were made available to industry for commercial development and of these, 6 processes developed by the national laboratories were utilised by industry for production during the year. 15 processes were ready for industrial utilisation.

Scientific Personnel

National Register Unit: The total registration in the General Register reached the figure of 1,10,000. The total in the "Indians Abroad" Section went upto 6,090.

Scientists' Pool: More than 500 scientists, technologists and engineers were selected during 1961 for temporary placement, bringing the total number of candidates selected for the Pool to 860. Of these 300 scientists have been suitably placed and placement of 200 is at the stage of finalisation. Thirty-five Pool officers are now working in 16 national laboratories.

Publications

The total number of periodicals issued by the Council is 21. Work on the Wealth of India is proceeding and the sixth volume of the Dictionary of Raw materials (L-M) comprising 250 monographs was sent to the press.

The Journal of Scientific and Industrial Research was awarded 'Certificate of Merit' in the category: Periodicals (other than Annuals)—English, for excellence in printing and designing in the competition organised by the Ministry of Information and Broadcasting for 1961.

Survey of India.—During the year under review, about 80 per cent of the field potential was engaged on departmental surveys, to meet the immediate requirements of the State, the remaining twenty per cent was engaged on extra-departmental jobs in different States of India. As regards extra-departmental surveys, special mention may be made of large scale surveys for Barauni oil Refineries Site and Township, Singh Project (M.P.), Sono High Level Canal (Bihar), Bhakra Nangal Project (Punjab), Mandi Salt Mine Survey (H.P.), and Reclamation of little Rann of Kutch. The Survey of Dalli Rajhara Iron Ore Area in M.P. was taken up on a high priority basis. Four additional field parties were sanctioned. The Northern Circle was redesignated as Northern Directorate with jurisdiction over all the border area. The work done by the Survey of India is of highly specialised nature and the Department participated in important conferences etc. to keep abreast of developments elsewhere. Two officers of the Department were currently undergoing advanced training in photogrammetry at the International Training Centre for Aerial Survey, Delft, the Netherlands. This would facilitate adoption of latest techniques in surveying and mapping.

A Reviewing Committee was set up to assess the work done in the Survey of India and the National Atlas Organisation.

National Atlas Organisation

During the year under report, ten plates of the population fascicule and two plates of the physical fascicule and a map of the Parliamentary Constituencies of India were published.

An Advisory Board for National Atlas and Geographical Names has been set up. The functions of the Board are to advise the Government of India on matters concerning:—

- (a) The preparation and publication of the National Atlas of India, and
- (b) Standardising domestic and foreign geographic names and ensuring uniformity in the spelling of names appearing in all the publications of the Survey of India and the National Atlas Organisation.

Botanical Survey of India

A Reviewing Committee for the Botanical Survey of India was set up.

The research projects carried on at the Headquarters include the following: Phyto-Chemical Survey of West Bengal, Examination of

plant materials, Study of alkaloids, Sand-dune Ecology, Salt Lake Ecology, Pharmacognostic studies.

The following Herbarium studies were carried out:—Monographic Studies; Nomenclature catalogue; studies of Local Floras; Identification services. Under the last project more than 6,900 specimens have been identified, more than 8,400 Wallichian sheets have been checked and about 4,000 specimens have been accessioned and incorporated. About 1,200 herbarium sheets have been sent on loan to different herbaria for research work. The Central Botanical Laboratory studied Biological Flora of the Gangetic Plains. Chromosomo numbers of 19 species of grasses were determined, and studies on Sal forest communities of Madhya Pradesh have been completed. Similar studies were being undertaken for sal forests of U.P.

A temporary shed was set up for housing about 680 specimens representing 29 general and about 100 species. An enumeration of 322 species of orchids collected from different parts of Eastern India is ready for publication.

The pilot scheme for critical ecological studies in the gingeli area of Madras State was completed and a second area in Kudirameli R.F. of Madras State was taken up. More than 15,000 specimens were collected and added to the herbarium of the Northern Circle during the year under report, and about 1,400 plants were identified. As many as 820 species of medicinal importance with suitable notes are maintained. A total of 2,900 species represented in the herbarium have been card indexed with suitable data in regard to localities of collection and period of flowering etc.

Zoological Survey of India

A Committee to review the work of the Zoological Survey of India was set up.

Faunistic Survey.—The following areas were surveyed for collection and study of the fauna of the region:—

- (a) Assam-Shillong and Cherapunji for termites; Dhing, Bibru and Poba reserved forest for research of white-winged duck.
- (b) Gujarat-Baroda and Lothal for prehistoric animal remains.
- (c) Madhya Pradesh—Muki Block, Balaghat Forest (M.P.) for collection of small mammals and birds.
- (d) Orissa.—Chilka Lake and Cuttack, for collection of birds, etc. for addition and replacement of exhibits in the Indian Museum Galleries and for Collection of termites.

- (e) *Uttar Pradesh*.—Varanasi for collection of deep-well dwelling crustacean; Dehra Dun, for census operation of Chital (Spotted deer).
- (f) *West Bengal*.—Sunderbans for collection of ship worms and other wood-borers; Calcutta and its environs for collection of insects, Amphibia, freshwater protozoa, and of marine fourlers and borers in Kidderpore Docks.
- (g) Andaman and Nicobar Islands, Madras, Mandapam, Trivandrum, Palk Bay, Gulf of Mannar etc., for marine fauna.

Research work.—Research on various problems of systematics, animal Ecology, Zoogeography, etc., were continued in different Scientific Sections. Several new species were discovered and the work on the revision and re-descriptions of mainly Indian species were being carried out. Discoveries of a new species of marine borer (Moullusca : Teredinidae), a new species *Stethorus keralicus* (Coloopetera : Coccinellidae) feeding on arecanut palm mites in Kerala and also some new species of spiders (Arachnida) of the family Thomisidae were reported.

The studies on population, dynamics of Desert Locust, and systematic studies of Indian fauna specially termites, Coccinellid beetles, sponges, Crustacea, cowries, fishes, Amphibia, Reptila, birds and mammals, the soil fauna, the marine fauna and the prehistoric animal remains, were carried out. In addition, the six Regional Stations with their headquarters at Shillong, Dehra Dun, Jodhpur, Jabalpur, Poona and Madras continued to survey and collect local fauna of their regions. The white-winged Wood Duck in Assam and Census operation on Chital in Uttar Pradesh were carried out in collaboration with the respective State Forest Departments.

National Research Development Corporation of India,

The main function of the Corporation is to stimulate development of patents and inventions arising out of the researches conducted in research institutions financed out of public funds and, where feasible in the public interest, of patented inventions made by individuals also. During 1961-62, 26 new inventions were reported for development, thus bringing the total number of inventions reported for development to 610. Seven Indian patents were obtained. Two new applications for patents in India were filed.

Commercial production of the following nine processes was established:—Silver Mica Capacitors, Ceramic Capacitors, Cation Exchange Resins from Cashewnut Shell liquid, Can Sealing Composition, Diogenion from Diosorea Tubers, Indelible Ink, Improved Water

Meter, Improved Vacuum Tester of canned foods and Improved Moisture Meter.

Department of Atomic Energy

The year witnessed steady development and expansion of the activities of the Department in the peaceful uses of atomic energy in India. The setting up of a medical isotope centre, where medical workers may be trained in the handling of radioisotopes in research, diagnosis and therapy is one of the schemes included in the Plan. Government have decided to transfer the Tata Memorial Hospital and the Indian Cancer Research Centre, Bombay, to the administrative responsibility of the Department of Atomic Energy from the Ministry of Health. This will facilitate the rapid development of fundamental and applied research in diverse aspects of cancer and several other diseases with the help of radioisotopes, radiations, radiomimetic substances and chemical mutagens.

The main achievements of the year were the completion of the testing programme of the Canada-India Reactor, the preparation for the first time in India of thorium metal by calcio-thermic reduction, the installation of a 5.5 Me V (million electron volt) Van de Graaff accelerator for basic research in nuclear physics, the increased production of radioisotopes and electronic instrumentation, and the completion of the new buildings of the Tata Institute of Fundamental Research.

A National Committee on Space Research has been constituted under the auspices of this department.

The Atomic Energy Establishment, Trombay, expanded considerably during the year. About 400 additional scientific and technical personnel were recruited during 1961-62, thus bringing the total strength of the staff under this category close to 2,500, with over 1,000 professional staff. The establishment was re-organised, for administrative convenience, into six distinct groups. The building programme was stepped up.

Apsara worked for a total of 1.45 million kilowatt hours. About 1,900 samples were irradiated either for isotope production or for biological work. The testing of CIR was completed and the safe and satisfactory operation of the reactor at the maximum power level of 40,000 KW established. The reactor is now being run at power levels needed at present for research and for irradiation. Zerlina has proved to be an extremely useful tool for testing new combinations of fuel and moderator assemblies. It was also used to determine different organic coolant-to-fuel ratios to arrive at the optimum core design for the NUHMOC reactor which is being studied and designed at the atomic energy establishments, Trombay.

The Reactor Engineering Division continued its sodium potassium loop experiments to obtain data on heat transfer and other variables. The design and fabrication of a cancer treatment unit using radioactive caesium of 100 curies strength was taken up by the Reactor Engineering Division.

The Nuclear Physics Division installed a 5.5 Me V Van-de-Graaff accelerator which will be used for the study of various nuclear reactions. Fundamental studies in the fields of inelastic scattering of neutrons, crystal structure and nuclear reactions, particularly fission physics, were carried out by using the reactors. Several neutron spectrometers of various types were built with electronic automation. Production of BF₃ neutron counters was increased to meet the demand of various laboratories.

The Technical Physics Division increased its production of crystal scintillators, vacuum pumps and mass spectrometers. The production of standard electronic instruments was considerably extended. During the year about 1,500 instruments of 17 different types were produced as compared to 1,300 instruments during the previous year. In addition to production of standard equipment, the Electronics Division continued research and development work in the design and fabrication of highly specialised nuclear electronic instruments.

The Health Physics Division expanded its activities in the fields of radiation hazards control, air monitoring and radiological measurements. It took part, with the Reactor Engineering Division, in the survey of suitable sites for a second atomic power station. A special Body Measurement Laboratory is being developed and a sixty ton steel room is being installed to detect, analyse and locate the activity in human body by gamma ray spectroscopy.

The systematic measurement of nuclear fall-out and air-borne contamination in the various laboratories was continued by the Division. Samples of air, rainwater, milk and other food materials were collected from various parts of the country and analysed. The level of radioactivity over the whole country increased during the months of September and October but was well within the tolerable limits.

The Analytical Division analysed 3,700 samples involving approximately 23,000 determinations as against 2,600 samples and 15,800 determinations in the preceding year. The special analytical problems encountered related to deposits in the coolant channels of CIR, geochemical prospecting for uranium, radioactive disequilibrium in minerals and testing high purity chemicals and special uranium alloys.

The Chemistry Division developed a new method for removing the deposits formed in the CIR fuel rods. A semi pilot plant on exchange unit was set up and kilogramme quantities of very high purity rare earths were separated and supplied to other institutions in the country. At the request of Indian Rare Earths Ltd., studies were undertaken, and conditions established, for the preparation of ceriarouge and misch metals.

The Remote Handling Section was engaged mainly in the designing of light remote handling equipment and of master-slave manipulators.

The Radiochemistry and Isotope Divisions were amalgamated into one Division. The production of radioisotopes doubled and 697 consignments were sold as against 359 last year. The supply of organic compounds labelled with radioactive carbon for specialised research work was started. The basic chemistry of the actinide elements continued to be studied with special emphasis on plutonium. Three hundred fuel elements were fabricated by the Fuel Element Fabrication Plant as a replacement charge for CIR.

Development work was undertaken on ceramic fuels, which possess greater dimensional stability, resistance to attack by coolants and higher melting points, as it is intended to investigate the feasibility of using uranium dioxide, amongst others, as a fuel for the NUHMOC Reactor.

The Metallurgy Division, in addition to the production of fuel elements, also carried out various investigations in the fields of physical and extractive metallurgy and ceramics. Studies were mainly directed towards improving the radiation resistance of uranium and other ancillary materials for reactor operations.

The Biology Division extended its cytogenetical experiments in the induction of mutations by radiations, and continued studies of the modes of elimination of chromosomal aberrations and radio-sensitivity of plant species. This revealed several interesting and unsuspected controlling factors. Various aspects of irradiation of foodgrains and fruits were investigated for prevention of insect infestation and for prolongation of storage-life. Work on newer types of compounds for the control of malignant diseases revealed two more compounds which promise good anti-tumour properties.

The Medical Division, in addition to carrying out annual medical examinations of the staff and providing general medical attention, carried on studies, in mammalian radiobiology and clinical research with radioisotopes.

Radiometric survey and surface fields investigations were undertaken in Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Madras, Mysore, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh and in selected areas in the Himalayas. High radioactivity was found at Chhinjra in the Parbati Valley in Kulu. Search for radio-active coals in the Garo Hills District of Assam brought to light a bigger coal seam, about a mile in length, in the Ronju River than that found at Nangwal Bibra last field season. Samples are being collected for tests.

XIV HEALTH

The principal developments that took place during the year 1961-62 in the expansion of health services related to such fields as provision of medical facilities and services, control and eradication of communicable diseases, training of medical and para-medical personnel, water supply and family planning.

There has been a progressive increase in the expenditure on health schemes since the First Plan was initiated. As against an estimated expenditure of about Rs. 12 crores in 1951-52, the expenditure in 1961-62 had increased to Rs. 58 crores.

The following table shows the outlay for different health programmes for the plan period as a whole together with the budget and the anticipated expenditure for 1961-62.

(Rs. in crores)			
Programme	Plan outlay 1961-66	1961-62	
		Budget	Actual
1. Water Supply and Sanitation (Rural & Urban)	105.27	20.41	19.92 (18.8)
2. Primary Health Units, Hospitals, and Dispensaries	61.69	8.24	8.00 (13.0)
3. Control of Communicable Diseases	70.46	14.98	15.54 (22.0)
4. Education, Training and Research	56.31	9.42	9.59 (17.0)
5. Indigenous Systems of Medicine	9.82	1.10	0.89 (9.0)
6. Family Planning	26.98	2.96	2.43 (9.0)
7. Other schemes	11.27	1.34	1.60 (14.2)
TOTAL	341.80	58.45	57.97 (16.9)

Figures in brackets indicate the percentage of actual expenditure to the total plan outlay for health.

WATER SUPPLY AND SANITATION

Urban

Most of the 664 water supply and drainage schemes estimated to cost Rs. 112 crores during the first two plans have been completed; the rest to be completed during the third plan period. During the year 1961-62 a provision of Rs. 12.21 crores was made in the budget of the Ministry of Health for assisting the State Governments in the implementation of this programme. From the progress reports received from the various State Governments for 1961-62 it is seen that adequate attention has not been given to the drainage schemes. During the year 1961-62 against 115 new water supply schemes proposed by the State Governments, only 20 schemes related to drainage.

Rural

By the end of the Second Plan, in addition to the schemes of rural water supply implemented under the programmes for Community Development, Local Development Works and the Welfare of Backward Classes, about 228 schemes with an estimated cost of Rs. 20 crores were taken up under the Health Plan. During the year 1961-62 a budget provision of Rs. 116 lakhs (Rs. 60 lakhs to the States and Rs. 56 lakhs to the Union Territories) was made in the budget of the Ministry of Health for executing the schemes that were continued from the Second Plan period as well as for taking up new schemes under the programme; 15 new schemes estimated to cost Rs. 33 lakhs were approved during the year. In addition to the provision made under the Health Plan, a sum of Rs. 5 crores was allocated to the various States on the basis of rural population under the local Development Works Programme for village water supply schemes. In spite of requests made to State Governments to implement the recommendation made in the Third Five Year Plan, that proper survey should be undertaken in all the States for assessing the problem of village water supply in their areas to plan future development, the response has been poor.

The Public Health Engineering Training Programme sponsored by the Ministry of Health for the training of engineers and auxiliary personnel engaged in the implementation of National water supply and sanitation programme was continued during the year 1961-62. During the year 1961-62, 38 trainees sponsored by various States underwent training in postgraduate courses in public health engineering. In addition to the usual 3 months short term course organised at the All India Institute of Hygiene and Public Health, Calcutta for 30 engineering students, candidates sponsored by the different States attended three months short term course in the Roorkee

College. A Water Works Operator Course for 17 trainees from U.P. was also organised at Lucknow during 1961-62.

The committee constituted by the Ministry of Health to make a comprehensive assessment of the water supply and sanitation programme and to suggest ways and means of financing and extending these programmes has submitted its report.

Primary Health Units, Hospitals and Dispensaries

It was expected that by the end of the Second Five Year Plan period, 2800 primary health units would have been established covering most of the Development Blocks and a population of about 200 million. However, according to the latest estimate only 2600 came into position by March, 1961. During the year 1961-62 about 350 more centres were added bringing the total number to 2950 by the end of 1961-62. The target of establishing beds in the hospitals and dispensaries during the second plan period had been exceeded and the total number of beds in the country by the end of the Second Plan was of the order of 1,85,600. During the year 1961-62 about 7,670 beds were added bringing the total number to 1,93,270 at the end of the year.

CONTROL OF COMMUNICABLE DISEASES

Malaria Eradication

According to the original plan of operations the programme was to enter its consolidation phase with the withdrawal of spraying operations from 140 units during 1961-62. But as the surveillance programme could not be instituted on the scale envisaged earlier, due to administrative difficulties and the consequential lack of reliable data, it was decided to continue spray operations in all the 390 units during the year 1961-62. The overall coverage of houses reached was 92.5% for the first round and 98.4% for the second round. Refusal by the people to get their houses sprayed continued to pose a problem in certain areas and strenuous efforts had to be made to overcome this difficulty. There was appreciable reduction in the spleen rate, parasite rate and infant parasite rate in 1960-61 compared to 1958-59 and 1953-54 as shown below:—

Year	Child spleen rate	Child parasite rate	Infant parasite rate
1953-54	15.7	3.9	1.6
1958-59	3.2	0.5	0.2
1959-60	1.4	0.2	0.1
1960-61	0.8	0.1	0.04

Percentage of clinical malaria cases in relation to total cases treated in hospitals and dispensaries was observed to be 10·8% in 1953-54. During 1960-61 the proportional case rate due to malaria had declined to 1·3%; it further dropped to 0·6% during 1961-62. The susceptibility tests on vector were being conducted in the States of Maharashtra, Gujarat and Madhya Pradesh. Resistance of *A. Culicifacies* to D.D.T. were detected in some areas of Gujarat, Maharashtra and Madhya Pradesh where BHC is being used instead of D.D.T. and a speronticidal drug is being administered with chloroquine presumptive treatment during surveillance. During the year under review surveillance operations were in progress in 364·25 units. In the 'border and problem areas units' it is not proposed to institute surveillance operations. About 80 to 90 per cent of the houses had been visited by the surveillance staff in most of the areas. The expenditure estimated to have been incurred during 1961-62 for the implementation of this programme was of the order of Rs. 21 crores. The following categories of personnel were trained during the year under review in the various courses of training held at the Malaria Institute of India, Delhi from December, 1960 to November, 1961.

	Number
Medical Officers	75
Laboratory Inspectors	163
Laboratory Technicians	32
Training course for students of the All India Institute of Hygiene and Public Health	35

High level administrative committee for guidance in administrative matters was set up at the Centre and high level working committees were established in the States. With a view to preventing premature withdrawal and as a measure of safeguard six independent appraisal teams were constituted for visiting the States.

Filaria

The National Filaria Control Programme has been in operation since 1955-56. The survey work under the programme was in progress during 1961-62 in almost all the participating States except Assam. A population of 0·21 million had been surveyed during the year under report and 25·06 million since the inception of the programme. According to present estimates there are about 64 million persons, as against 25 million persons estimated earlier, living in malarious areas of the country. The 47 control units allotted to the

States operated during 1961-62. No new filaria control unit was added. 4.37 lakh persons have been administered diethyl carbamazine under the mass therapy campaign. It has been decided for the present that mass therapy campaign may be given up until a comparatively non-toxic filaricide becomes available because the drug caused unpleasant reactions in some individuals and in some others, administration of drug did not produce complete disappearance of microfilaria in the blood. About 2.49 lakh houses have been sprayed with the residual insecticide. Two training courses, one for medical officers and another for Assistant Entomologists were held during 1961-62 at the filariasis training centre at Ernakulam. Three medical officers and 20 Assistant Entomologists were trained. A short course of training in filaria for panchayat secretaries, other representatives of local bodies and Block staff was organised in the medical college at Jamnagar during May, 1961.

Tuberculosis

The B.C.G. Programme started in 1948 on a small scale continued during 1961-62. 175 B.C.G. teams worked during the year. By the end of the Second Five Year Plan 168 million tests had been made against a target of 170 million. Up to the end of March, 1962, 183 million persons had been tested and 64 million vaccinated. An 8-week refresher course for B.C.G. workers was started at the National T.B. Institute, Bangalore. Two courses attended by 71 workers were held. By the end of 1960-61 the X-ray and laboratory equipment were supplied to 54 T.B. clinics and during 1961-62 X-ray equipment was installed at two more clinics, thus making a total of 56 T.B. clinics. For the Third Five Year Plan it is proposed to establish 5,000 isolation beds for acute cases of T.B. at the rate of 1,000 beds per year. A sum of Rs. 5 lakhs was made available in the Central Ministry's budget for offering assistance to the State Governments during the year 1961-62 for putting up isolation beds. At the rate of 5 mobile X-ray units per year, 25 mobile X-ray units will be established during the Third Plan period. During the Second Five Year Plan it was proposed to establish 10 T.B. Demonstration and Training Centres in addition to the three centres established during the First Five Year Plan. Only 5 centres, one each at Nagpur, Madras, Hyderabad, Patiala and Bangalore could be established during the Second Plan. All the eight centres continued to function during 1961-62. Out of 10 T.B. Demonstration and Training Centres proposed to be established during the Third Plan, two centres, one at Agra and the other at Calcutta, were taken up during 1961-62.

Trachoma

Field trials for mass campaign methodology in trachoma control were in progress in Punjab, U.P., Rajasthan, Madhya Pradesh, Bihar and Gujarat during 1961-62. Steps were also taken to extend these trials to Mysore and Jammu & Kashmir.

Smallpox

Smallpox pilot projects were initiated during 1960-61 in one district of each State and also in the Union Territory of Delhi. These projects were designed to help in collecting first-hand knowledge of the difficulties that one would expect to encounter in the programme of this nature, to learn the best methods of overcoming them and to collect data for the preparation of estimates in respect of expenditure and requirement of staff and the training that will be required for the National Smallpox Eradication Programme to be implemented during the Third Five Year Plan. Evaluation reports of all the projects show that out of approximately 23 million people in the project areas, 14.4 million people were contacted and over 12 million people were vaccinated up to the end of March, 1961. The principal reasons for the short-fall, which varied from State to State, were: (i) difficulties in obtaining financial sanctions from State Governments for recruiting staff and for acquiring the necessary equipment, (ii) inadequacy of health education of the masses prior to the launching of the projects with the result that peoples' prejudices against the vaccination programme and misconception about the programme stood in the way of implementation of the scheme, (iii) training of vaccinators and inspectors was defective resulting in lower output of work than expected. The principal items of the programme during the Third Five Year Plan period would be (i) an increase in the output of vaccine lymph, (ii) recruitment and training of vaccinators and (iii) undertaking mass vaccination to cover the entire population before the next out-break of the disease. Action had already been taken at the end of the Second Five Year Plan to augment the existing supply of lymph in the country. The Government of India have also accepted the offer of the Government of U.S.S.R. of the supply of 250 million doses of freeze dried vaccine (free of cost) for the programme. Of these, approximately 32 million doses of the freeze dried vaccine were received by the Government of India upto the end of March, 1962. Early in 1962 letters were circulated to the State Governments requesting them to initiate the programme of notional smallpox eradication as soon as possible.

Goitre

During the year, the goitre survey team completed its survey in the Districts of Champaran, Saran and Muzaffarpur in Bihar. The total number of persons examined in these districts was 83,000 and the number suffering from goitre was 32,200 giving a percentage of about 40. The goitre pilot project at Dharamsala (Punjab) extended its survey work to tehsils of Thera and Hamirpur in the District of Kangra and examined 14,900 persons. Of these, about 5,100 were found with enlarged thyroid giving a percentage of 34.5. Besides the survey work, iodized/iodated salt continued to be distributed in the zones of Kangra District.

Medical Education and Training Programmes

There has been a steady expansion in training facilities for medical and health personnel since the First Plan. The number of medical colleges which had increased from 30 in 1950-51 to 57 by the end of Second Plan had further increased to 66 by the end of 1961-62, with corresponding increase in the number of annual admissions from 2,500, in 1950-51 to 7,182 by the end of 1961-62. It has been estimated that the number of doctors available by the end of 1961-62 had increased from 71,510 at the end of Second Plan to 74,500. The following table gives the statistics relating to the expansion of training facilities for medical and para medical personnel by the end of the Second Plan period and during 1961-62 together with the target for the third plan period.

TABLE

Category of Personnel	Members in position	
	by 1960-61	by 1961-62
Doctors	71,510	74,500
Nurses	27,000	29,410
Auxiliary—nurse and Midwives	19,900	22,500
Health visitors	1,500	2,170
Sanitary Inspectors	6,000	8,200

During the Third Plan period emphasis will be laid on post-graduate medical education with a view to meeting shortage of teachers necessary for staffing the medical colleges. During the year under review a scheme was drawn up in consultation with the State Governments for improving post-graduate medical education by up-grading certain departments in Medical Colleges for providing post-graduate facilities. The scheme provides for payment of stipends

to the students admitted to the postgraduate institutes approved by the Government of India at the rate of Rs. 200 per mensem, 300 additional stipends were sanctioned as part of postgraduate medical and dental education.

Nurses

One of the important schemes for the training of nurses relates to integration of public health with basic course in nursing. There are at present 25 schools with 2,700 students which are imparting such knowledge.

Auxiliary-nurse—midwives

A scheme was introduced in 1954 for the training of auxiliary-nurse-midwives. The number of training centres for this course in 1961 was 234 and about 6,160 auxiliary-nurse-midwives were trained up to December, 1961. During the Third Plan period it is proposed to train 40,000 auxiliary-nurse-midwives/midwives. The object is to establish at least one training centre for auxiliary-nurse-midwives in every district. 20 hospital authorities showed their willingness to undertake the training programme of auxiliary-nurse-midwives. Of these 6 hospitals had started the course and during 1961-62 it was expected that at least 8 more hospitals would start training auxiliary-nurse-midwives. The number of training schools for midwives in 1961 was 284; 2,752, students were under training and 2,277, midwives qualified during the year.

Health Visitors

With a view to providing necessary personnel for maternity and child welfare at the primary health centres and for the health schemes undertaken in the Community Development projects, a scheme for the training of health visitors was started in the First Plan period at 9 Health schools with a target of 600 health visitors. The scheme was included in the Second Plan with a target to train 1,600 health visitors. The number was exceeded by 305. The programme is being continued during the third plan period. 350 health visitors are expected to have qualified during 1961-62.

Medical Research

Research programmes in the Third Plan include research in communicable diseases, particularly tuberculosis, trachoma, leprosy, cholera and virus diseases. Study of nutritional disorders and diseases, studies for developing methods for the prevention of pollution of rivers and streams by industrial wastes have been undertaken under the auspices of the Indian Council of Medical Research. The

Council sanctioned nearly 210 schemes during the year 1961-62 on medical and allied subjects. The progress report of work done on those schemes received by the Indian Council of Medical Research were considered by the appropriate advisory Committee.

Indigenous systems of medicine

In pursuance of one of the recommendations of the Udupa Committee, the Government of India had set up a Central Council of Ayurvedic Research. This Council constituted a number of sub-committees to deal with various aspects relating to the development of Ayurveda. The Council had also set up a sub-committee to formulate a uniform curriculum of studies in Ayurveda. A seminar on the survey of medicinal plants was held in January, 1961. Grants continued to be given during the year under review to Ayurvedic institutions for upgrading, research etc. The advisory committees for homeopathy and unani systems of medicine which continued to function has also set up sub-committees to examine specific problems. The Advisory Committee for Homoeopathy was reconstituted. The Unani Advisory Committee has formulated a curriculum of studies in Unani system of medicine.

Family Planning

Family Planning has been accorded top priority during the Third Plan period. From a modest beginning in the First Five Year Plan the programme has been making steady progress. During the First Five Year Plan, 126 family planning clinics were set up in urban and 21 in rural areas. In the course of the Second Plan the number of clinics had increased to 549 urban and 1100 rural. In addition to these clinics, family planning services were provided at 1,864 rural and 330 urban medical and health centres. It is envisaged that by the end of Third Plan period the number of family planning clinics established would increase to 8,200 (6,100 in rural areas and 2,100 in urban areas). During the year 1961-62 about 421 (240 rural and 181 urban) clinics were set up.

The number of sterilisation operations conducted had increased from 7,823, (2,333 male and 5,490 female) in 1956 to 45,641 (33,097 male and 12,544 female) in 1961. During the year under review 1,636 persons were trained in family planning methods.

XV. HOUSING AND URBAN AND RURAL PLANNING

A provision of Rs. 142 crores has been made for Housing in the Third Five Year Plan as against an expenditure of Rs. 79 crores in the Second Five Year Plan. In addition, the Life Insurance Corporation has proposed to invest a sum of Rs. 60 crores in housing schemes during the third plan period.

The proposed investment of Rs. 142 crores will enable the construction of about 3,78,000 houses during the third plan period. An allocation of Rs. 30.79 crores or about 22 per cent of the plan outlay was made for housing schemes during the year 1961-62. This was envisaged to achieve a target of 58,100 houses. As against this, the anticipated expenditure during the year is of the order of Rs. 22.56 crores involving construction of about 30,000 units. A detailed statement indicating the schemewise outlay and targets for the Third Five Year Plan as well as the progress of expenditure and targets achieved during 1961-62, is appended (Annexure).

Subsidised Industrial Housing Scheme

A provision of Rs. 29.8 crores has been made for the scheme in the Third Five Year Plan. This would enable the construction of 73,000 houses. For the first year i.e., 1961-62 an outlay of Rs. 5.65 crores was approved. The anticipated expenditure during the year is expected to be Rs. 5.61 crores i.e., an expenditure achievement of 99 per cent. The construction of about 14,347 houses was completed during this period, exceeding the target of 14,000 houses. Of those, 83 per cent were constructed by the State Governments and the rest by the cooperative societies and employers. The bulk of construction was undertaken in the States of Bihar, Maharashtra, Gujarat, Madras, Uttar Pradesh and the Union Territory of Delhi.

It was decided to increase the ceiling cost of the houses constructed under the scheme by 10 per cent since it was found that in the course of the last 3-4 years the cost of construction had gone up by at least 10 per cent. This increase would, no doubt, have its repercussions on the rents to be charged from the occupants of the tenements. It was however agreed that if the rent to be charged from the occupants of these tenements was beyond their capacity, an additional subsidy equal to half the difference between the revised rent and the rent actually charged would be given to the State Government so as to facilitate the allotment of houses to eligible

workers; the other half would be borne by the State Governments concerned.

Cooperative societies had been feeling some difficulty in regard to the release of funds for the houses constructed by them. Until 1961-62 they could draw only 50 per cent of the cost of the houses after the construction reached the roof level. This has now been revised to 66-2/3 per cent.

An important problem that has been confronting the Government for sometime is the one of tenements lying vacant or having been allotted to ineligible persons. Out of the 86,346 houses that had been completed since the inception of the scheme only 74 per cent were occupied by eligible workers; 17 per cent were allotted to ineligible persons and the remaining 9 per cent were lying vacant.

Low Income Group Housing

This scheme continued to be popular with the State Governments. A provision of Rs. 35.2 crores has been made in the Third Five Year Plan for the scheme. For the year 1961-62 an outlay of Rs. 6.26 crores was approved for the construction of 11,000 houses. The actual expenditure incurred was Rs. 5.38 crores. The number of houses actually completed during the year including those in respect of which loans had been sanctioned in the period prior to the year was 6,140 while 18,470 houses were under construction.

Slum clearance and Improvement

A provision of Rs. 28.6 crores has been made for this scheme in the Third Five Year Plan. For the year 1961-62 an outlay of Rs. 6.27 crores was approved. The actual expenditure was Rs. 3.47 crores.

A major provision introduced in the scheme during the year was in regard to the priority given to slum improvement. Central assistance by way of loans and subsidies would be available to State Governments now in the same proportion for slum improvement as for slum clearance. Previously only loan assistance was given to State Governments for undertaking slum improvement programmes. Further, State Governments were requested to undertake the construction of night-shelters also under the scheme. Besides the six major cities for which priority was to be given, the State Governments could also undertake slum clearance and improvement measures in any city/town where they considered the problem was acute. Another important modification made in the scheme was in regard to the revision of ceiling costs. As in the case of the subsidised industrial housing scheme the ceiling cost under this scheme was also increased by 10 per cent.

Notable progress was made in implementing the programme particularly in Delhi. In May, 1961, a high-powered Committee was set up for suggesting measures for speeding up slum clearance work in Delhi. Within three months the Committee submitted its report recommending that a Master Plan for slum clearance and improvement should be prepared and executed with a time schedule. The Committee also outlined comprehensive steps for the rehabilitation of jhuggis and jhopris dwellers whose population amounted to nearly 50,000 families. The recommendations of the Committee were accepted and the Delhi Municipal Corporation is trying to implement the recommendation according to the schedule drawn up by the Committee.

Land Acquisition and Development

A provision of Rs. 26 crores has been made for the scheme in the Third Five Year Plan. During the year 1961-62 a sum of Rs. 7.3 crores was made available to State Governments and Union Territories for acquisition and development of 1,150 acres of land. In Delhi a revolving fund has been created for the purpose of bulk acquisition and development of land. During the year 2,500 acres were acquired and developed under the scheme.

Plantation Labour Housing

A provision of Rs. 70 lakhs was made in the Third Five Year Plan for this scheme. It is estimated that 3,000 houses can be constructed from this outlay. During 1961-62 a provision of Rs. 15.09 lakhs was made for the construction of 800 houses. The progress, however, has been slow and a sum of Rs. 2.3 lakhs only is estimated to have been utilised during this period and 256 houses constructed.

The main difficulty in the smooth working of this scheme is with regard to obtaining adequate security from planters against the loans advanced to them under this scheme. The State Governments were advised to set up a Pool Guarantee Fund but no satisfactory progress was made towards finalisation of the rules for administration of the fund. The Ministry of Works, Housing and Supply formulated model rules which could be adopted by the State Governments with such modification as would suit their local conditions. So far no State Government has been able to set up such a fund.

Village Housing

A provision of Rs. 12.70 crores has been made for this scheme in the Plan and it is expected that 1,25,000 houses will be constructed. There has been a pressing demand from the States for allocation of additional funds for this scheme.

A provision of Rs. 1.44 crores had been made for 1961-62 for the construction of 13,200 houses. The expenditure is likely to amount to Rs. 58.48 lakhs and 2,895 houses are estimated to have been constructed during this period.

The scheme originally applied to villages covered by the community development blocks. There was a demand from State Governments that this distinction should be abolished and they should be permitted to introduce this scheme in any village depending upon the requirements of that village. It was, therefore, decided that the benefits of this scheme should be extended to a village situated anywhere in the country. Similarly, some relaxation was made in regard to the allocation of funds for improvement of existing houses in the selected villages. States were formerly permitted to utilise upto only 15 per cent of loan allocation under this scheme for improvement of houses. This percentage has now been raised to 20.

Preliminary steps for implementing new schemes such as Dock Labour Housing, preparation of master plans for important towns, research and experimental housing programmes and collection of housing statistics were initiated. The Central Statistical Organisation and the National Building Organisation have taken steps for the organised collection and compilation of data regarding building and construction and production and consumption of building materials.

ANNEXURE

Statement showing outlay and physical targets for housing schemes included in the Third Five Year Plan and the progress recorded during 1961-62.

Scheme	1961-66			1961-62		Houses/ tenements constructed
	Outlay (Rs. lakhs)	Physical Targets (No. of houses/ tenements to be constructed)	Outlay (Rs. lakhs)	Targets (No. of houses/ tenements to be constructed)	Expendi- ture (Rs. lakhs)	
1. Subsidised Industrial Housing*	2980.00	73,000	565.24	14,000	561.41	14,347
2. Low Income Group Housing	3520.00	75,000	625.73	11,000	538.42	6,140
3. Plantation Labour Housing	70.00	3,000	15.09	800	2.37	256
4. Slum Clearance	2860.00	1,00,000	627.24	18,800	347.38*	6,070
5. Village Housing	1270.00	1,25,000	143.72	13,200	58.48	2,895
6. Preparation of Master Plans and Town Planning	540.00	..	54.29	..	22.41	..
7. Urban Development	1230.00	..	212.58	..	199.26	..
8. Land Acquisition and Development	950.00	..	730.00	..	494.58	..
9. Middle Income Group Housing in Union Territories	250.00	1,600	50.35	300	25.99	83
10. Dock Labour	200.00	..	45.00	..	..	..
11. Experimental Housing, Research and Statistics	100.00	..	..	..	..	..
12. Other schemes	230.00	..	10.24	..	5.51	..
TOTAL	14200.00	3,77,600	3079.48	58,100	2255.81	29,791

*Including State Government's share.

XVI. WELFARE OF BACKWARD CLASSES AND SOCIAL WELFARE.

WELFARE OF BACKWARD CLASSES.

The total estimated outlay for Backward Classes sector under State and Centre amounted to Rs. 12:08 crores (inclusive of Union Territories—Rs. 0:63 crores) and Rs. 5:00 crores respectively. The targets fixed against this outlay are given below:

Group of Schemes		Units	Targets
I. Education	Pre-matric scholarships	No. of students	1.26 Lakhs
II. Economic Uplift	T.D. Blocks	No.	35
	Families to be aided	No.	113 lakhs
III Housing	Houses	No.	5,000
	House-sites	No.	25,000

In pursuance of the recommendation made in the Third Five Year Plan, States and Union Territories were requested to ensure that this sector derived appropriate benefits from the general sectors of the Plan, thereby maintaining the supplementary character of the provision. They were also asked to ensure that schemes of national priority like T. D. Blocks, Cooperation, Training and Research for Scheduled Tribes, housing and house sites for the Scheduled Castes were properly implemented. Their attention was also drawn to the fact that emphasis should be laid on economic programmes and that all training and educational schemes be formulated keeping in view the employment potential.

The category-wise outlay and expenditure at the Centre and the State level is given below. The figures in respect of the Centre give only sanctioned amounts due to non-availability of actual expenditure figures, while for State sector actual expenditure are shown:

Category	(Rs. crores)					
	Outlay 1961-62			Expenditure		
	State	Centre	Total	State	Centre	Total
Scheduled Tribes	5.95	2.34	8.29	4.90	2.27	7.17
Scheduled Castes	4.78	1.56	6.34	4.35	1.76	6.11
Denotified Tribes	0.02	0.62	0.64	0.02	0.57	0.59
Other Backward Classes	0.81	..	0.81	0.84	..	0.84
TOTAL	11.56	4.52	16.08	10.11	4.60	14.71

Under Centrally sponsored schemes, expenditure exceeded the outlay mainly on account of post-matric scholarships for Scheduled Castes. No fixed provision can be made for this scheme as grants are sanctioned on the basis of fresh applications and renewals.

SOCIAL WELFARE.

The anticipated expenditure for 1961-62 under social welfare both at the Centre and in the State plans amounted to about Rs. 369 lakhs as against the budget provision of Rs. 457 lakhs.

Welfare Extension Projects

Since it was decided that there will be no expansion of this programme during the third plan period, provision of only Rs. 342 lakhs was made for the continuation of Welfare Extension Projects (CD) for a full period of five years of their existence as in stage I. As against this provision, the anticipated expenditure for the year was of the order of Rs. 95.00 lakhs. During the year, 10 W.E.Ps (CD) completed five years of their existence thus reaching stage II of their development.

Under other programmes of the Central Social Welfare Board, the anticipated figure of expenditure for 1961-62 works out to Rs. 143.72 lakhs. The amount budgeted for 1961-62 was Rs. 200 lakhs. The main programmes undertaken were grants to voluntary organisations, grants to project buildings, grants to Social Welfare Advisory Boards, condensed course of training for women, urban welfare projects, night shelters, holiday homes, socio-economic programmes and training schemes for balsevikas. During this period, the scope of socio-economic programmes was reviewed in consultation with the Ministry of Commerce and Industry and a list of trades and industries mainly suitable and useful to women was finalised.

Social Defence Programmes

A sum of Rs. 52 lakhs was provided for programmes under this group for 1961-62. The actual expenditure for this period amounts to Rs. 13.64 lakhs and in terms of physical targets the achievements were starting of 5 certified schools, 9 remand homes, 1 borstal school, 3 probation hostels, 8 protective homes and 10 beggar homes; also 22 probation officers were appointed.

A provision of Rs. 46 lakhs was set apart for tackling the problem of juvenile beggary. No expenditure against this provision was incurred. This was due to the fact that the studies undertaken in the Ministry of Home Affairs, as also in the Planning Commission, regarding formulation of a suitable scheme, on the basis of information that had been specially called for from the States and Union Territories, had not been completed. As regards the suggestion in

the Third Plan Report about the advisability of undertaking legislation at the Centre on beggary and vagrancy, it is understood that the Central Bureau of Correctional Services is examining the question.

Social and Moral Hygiene and After-care Programme

Provision made for this programme was Rs. 38·00 lakhs. The achievements consist of the establishment of 12 State homes, 19 district shelters/reception centres and 4 production units attached to aftercare homes. The actual expenditure for 1961-62 comes to Rs. 30·24 lakhs.

The scheme of production unit did not make much headway although the Ministry of Commerce and Industry had made a plan provision of Rs. 50 lakhs for giving 50 per cent. Central assistance to the States for this programme. The slow progress was due to the inability of the Industries Departments of State Governments to provide their share of expenditure for this programme in the State Governments' proposals for 1961-62. Necessary steps have been taken to see that the State Governments makes the necessary provision in future.

Integrated Child Welfare Projects

A plan provision of Rs. 300 lakhs has been made for starting at least one child welfare project in each State. Arrangements were made for starting two projects one each at Delhi and Andhra Pradesh. In the other States, the Ministry of Education was finalising the scheme in consultation with the State Governments and other concerned agencies. A scheme for training balsevikas has been started.

Urban Community Development

The Third Plan provides Rs. 50 lakhs for this programme. So far no expenditure has been incurred. Ministry of Health is engaged in finalising the details of the scheme in consultation with the State Governments. States participating in this programme will get 50 per cent. Central assistance.

Other Social Welfare programmes of the State Governments

The provision made by the State Governments for welfare programmes of their own for 1961-62 comes to Rs. 75 lakhs. As against this amount, the anticipated expenditure works out to Rs. 58·3 lakhs. The main achievements so far are 13 women's homes, 2 hostels for working women, 39 balwadis, 4 children's clubs, 3 homes for the handicapped, and 8 schools for the orthopaedically handicapped and other categories of the handicapped persons.

XVII. LABOUR AND LABOUR WELFARE

The year 1961-62 has been a significant one in the labour field as it marks the end of a decade of planning in India during which a firm base for the development programmes taken up under the Third Plan had been laid. In analysing labour policy one cannot take a narrow view, that is, solely in terms of securing effective labour-management relations and the best interests of the worker. The correct thing would be to examine the effects of labour policy in the wider context of the general community and the demands of development planning. It is accepted that both labour and management have a special role to play in the achievement of national objectives, but in this process it may be necessary for both parties to exercise a certain measure of sacrifice and discipline.

Some idea of how best this challenge has been met by labour and management can be had from the statistics of man-days lost through industrial disputes. There has been a steady decline since 1958 (when the Code of Discipline was introduced), as indicated below:—

1958	7·8 million man-days
1959	5·6 million man-days
1960	5·2 million man-days*
1961	4·9 million man-days

This improvement can be attributed to the emphasis laid by labour policy on securing constructive cooperation between labour and management in the achievement of common goals. This is a very definite shift from the previous policy of merely preserving industrial peace. Specific measures have been developed to achieve this purpose, e.g., the Code of Discipline in Industry and the Code of Conduct. Apart from the Central organisations of employers and workers, 900 individual employers and unions have come forward to ratify the Code. Major employing authorities have also come forward to accept the provisions of the Code, such as, the State Bank of India, the Life Insurance Corporation, the Port Trusts and certain departmental undertakings at the State level. With the extension of the moral sanctions that provide the basis for the Code, it is expected that more and more employers and workers will come forward to work the Code in the spirit in which it was conceived.

*1960 figures exclude the unusual Central Government employees' strike and other stoppages that occurred in its wake. These account 1·3 million mandays.

The efforts of the Code to improve the general climate of industrial relations have been effectively supported by an evaluation and implementation machinery set up at the Centre and in the States and by screening committees appointed by Central organisations of employers and workers. The former machinery deals with breaches of the Code and encourages out-of-court settlements. During 1961, 709 complaints were dealt with at the Centre and in a majority of cases where action was to be taken, the breaches were brought home to the parties concerned and suitable remedial measures were taken. In regard to out of court settlements, as many as 45 per cent of the cases taken up were settled out of court. A lower figure of 22 per cent was secured at the State level. There is still considerable scope for intensifying such efforts. The screening machinery has also helped in cutting down the number of frivolous disputes, many of which were found to have no real basis when scrutinised in an objective frame of mind.

The number of complaints received under the Code of Conduct has also been on the decline, which would indicate an improvement in inter-union affairs.

With regard to labour legislation, the earlier assurances have been honoured and the emphasis on the effective administration of existing laws, rather than on enacting new items, has been maintained. Attention has been directed towards securing amendments to remove shortcomings and securing better implementation. New laws introduced during the year seek to regulate the working conditions of motor transport workers, provide for the setting up of a welfare fund for iron ore miners (on the lines of similar funds that exist for coal and mica miners) and provide for a measure of standardisation and progress in respect of maternity benefits.

The machinery of tripartite wage boards has proved to be an effective supplement to the existing blend of judicial decision and voluntary agreements in determining wage structure. There has been a considerable measure of unanimity in the wage board awards for the cotton textiles, cement and sugar industries and an equally encouraging ratio of implementation by the units covered by the awards. Interim relief has been recommended by the wage board for the jute industry. During 1961-62, three other wage boards were set up for the coffee plantations, rubber plantations and the iron and steel industry. The Bonus Commission, which is also tripartite in composition, has begun its examination of the issues involved.

Social security programmes help to cover the worker against some defined risks. During the year 1961-62, an additional 190,000 workers were covered under the Employees' State Insurance Scheme and

another 9.42 lakh families were given the benefits of medical care (bringing the total to 15.15 lakh families). The scale of benefits has also been liberalised and the programme of hospital construction has been speeded up. With effect from April 1962, the existing rate of employers' contribution has been doubled in areas where the Scheme is in operation. Under the Employees' Provident Funds Scheme, a further group of 14 industries has been covered, bringing the total number of industries to 61. The rate of contribution will be raised from $6\frac{1}{2}$ to 8 per cent in four industries, viz. cigarettes, paper, iron and steel and the group of electrical, mechanical and general engineering industries.*

There are two special programmes that are directed towards securing stable industrial relations on a long-term basis. Although the scheme of workers' participation in management has received general acceptance, difficulties more experienced in extending it to new units and industries. By the end of March 1962, 29 units had joint management councils, 18 in the private sector and 11 in the public sector. Steps have been taken to secure greater cooperation from the employing Ministries, who form the major industrial employer in the country.

Progress under the workers' education programme has been very encouraging and the provision made in the Third Plan has been raised to about Rs. 2 crores, 135 teacher-administrators have been trained and 13 regional training centres have been opened for worker-teachers (3 of these centres are residential in character). About 1800 worker-teachers have been trained and another 200 were under training; the number of workers trained is about 23,000 and about 9,500 were under training. A proposal to set up a Central Training Institute is under consideration.

The programmes administered by the Directorate General of Employment and Training continue to register steady progress. At present, the country is covered by a network of 336 employment exchanges and 264 industrial training institutes. The latter institute have over 87,000 seats and impart training in over 50 trades. In addition, there are 4 Central training institutes for craft instructors. During the year under review, the emphasis was on the expansion of existing institutes and an additional 38,000 seats were sanctioned. Effective steps have been taken to ensure that the new institutes are opened on schedule with the necessary workshop buildings, equipment and trained staff. The net work of employment exchanges provide a number of valuable services, including employment placement, employment market information, occupational research and guidance.

*Since raised with effect from 1-1-1963.

A supporting measure has been the Apprentices Act, 1961 which has been brought into force from March 1962. The Act applies to specified industries in both the public and private sectors and is intended to secure the fuller utilisation of existing in-plant training facilities on a standardised basis. A Central Apprenticeship Council has been set up to advise Government on the choice of trades and the general working of the Act.

As stated earlier, labour policy must be viewed in the context of the needs of development planning and the interests of the general community. In the third plan period, energy and resources are being directed towards consolidating the gains registered by labour in the preceding decade. Legal wrangles have been kept down to the minimum and labour management cooperation channelised in raising productivity. The programmes of workers' education and workers' participation in management are intended to prepare the worker to take his rightful place in a socialist society.

XVIII. LAND REFORMS

The principal development in the field of land reforms related to the enactment of legislation for ceiling on land holdings and the ceiling on land holdings had been implementation of the measures enacted earlier. Legislation for ceiling on land holdings had been enacted earlier in Andhra Pradesh, Assam, Jammu & Kashmir, Kerala, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, West Bengal, former Pepsu area of the Punjab and Union Territories. During the period under report, legislation was enacted in the States of Bihar, Gujarat, Madras, Maharashtra and Mysore. The law was amended in Madhya Pradesh and an amendment Bill was introduced in Orissa. Legislation for ceiling has thus been enacted in all States except the former Punjab area where, however, the State Government has been empowered to settle tenants on surplus lands held by persons in excess of the permissible limit.

The progress made in the implementation of legislation for ceiling is as follows:

Andhra Pradesh

The legislation for ceiling on holdings which was assented to by the President in February 1961 was brought into force with effect from June 1, 1961. Rules were framed and the substantial owners were asked to file declarations of lands held by them by September, 1961. Special staff has been sanctioned for ascertaining surplus lands.

Assam

Legislation for ceiling on holdings was brought into force in 1958. Its implementation was, however, held up as its validity was challenged in the Assam High Court and later in the Supreme Court. The writ petitions were decided and the Act declared valid in April, 1961. Returns have been obtained from landowners regarding the extent of lands held by them, which are being scrutinised with a view to determining the surplus lands. By April, 1962, 1,300 acres had vested in the State. It is estimated that about 1.39 lakh acres would be declared surplus. Bulk of this area is, held by tenants.

Bihar

The legislation for ceiling was enacted during the period under review. It came into force with effect from April, 19, 1962.

The Act provides for a ceiling varying between 20 and 60 acres according to the class of land, with an additional allowance for the size of family of the land holder subject to and outside limit of twice the ceiling area. In case of a Hindu Joint family, each co-sharer is permitted to a separate ceiling. There is a further provision enabling the land holder to gift away the lands to sons, daughters and grand children and any other person who would be entitled to a share in the property if the land holder died in-testate within a period of 6 months (which has since been extended to one year i.e., upto April, 1963). The surplus land will be acquired by the Government on payment of compensation. In addition to ceiling, there is a further provision empowering the Government to impose a land levy varying between 1/20th and 1/6th of the holding. Holdings below one acre would, however, be exempted. Compensation would be payable for the lands acquired under the levy at the same rates as for the surplus land.

Gujarat

Legislation was brought into force from September 1, 1961. Rules were framed and published. Special staff was appointed and steps taken for ascertaining surplus lands.

Jammu & Kashmir

Implementation of the legislation had been completed earlier. About 4.5 lakh acres of surplus land became available about half of which was settled with tenants and the rest distributed, mainly to displaced persons.

Kerala

Legislation which included provision for ceiling was published in February 1961. The provisions relating to regulation of transfers of land by surplus holders were enforced. The legislation has since been struck down by the Supreme Court and the Kerala High Court in its application to bulk of the holdings in the State.

Madhya Pradesh

The legislation for ceiling was amended during the period under report to provide for reduction in the level of ceiling from 28 to 25 standard acres, for specifying the price at which the land owner can dispose of the surplus land. The legislation came into force with effect from Nov. 15, 1961. The land holder is permitted to dispose of surplus lands to persons in prescribed categories within a period of 2 years from the commencement of the Act. The vesting of the surplus land in the Government will take place on the expiry of this period i.e. November 14, 1963.

Madras

The Madras Ceiling Bill was passed by the State Legislature in 1961. It received President's assent in April 1962. The Act has since been enforced and rules have been framed and published.

The ceiling is 30 standard acres (varying from 24 to 120 acres). Allowance is being made for the size of the family subject to an outside limit of 60 standard acres. Any transfer or partition made after the date of the publication of the Bill (April 6, 1960) would be void if it defeats the provisions of the Act. The surplus land will vest in the Government on payment of compensation as provided in the Act.

Maharashtra

Legislation for ceiling was enacted during the period under report and came into force with effect from Jan. 26, 1962. The surplus holders were required to submit returns regarding the lands held by them by July 25, 1962. Steps have been taken to ascertain surplus lands.

The ceiling limit varies between 18 to 126 acres according to class of land. Any transfer or partition made after August 4, 1959 (the date on which ceiling Bill was published by the former Bombay Government) will be disregarded in computing the surplus area unless it is proved to be bonafide.

Mysore

Legislation for ceiling was enacted during the period under review. It provides for a ceiling of 27 "standard acres," varying between 27 and 216 acres, depending upon the class of land. There is no provision for disregarding transfers made with a view to defeating the provisions of the legislation. The enforcement of the Act has been held over pending reconsideration of some of its provisions.

Orissa

The Orissa land Reform Act provided for a ceiling but permitted the land holders to dispose of their surplus lands within a prescribed period. An amendment was introduced during the period and reported upon by the Select Committee. The Amendment Bill provides for reduction in the level of ceiling from 25 to 20 acres of class I land and the State acquisition of surplus land on payment of specified compensation. Further consideration of the amendment Bill was held over pending examination of constitutional validity of some of its provisions.

Punjab

In Pepsu area legislation was enacted in 1956. During the period under report, 5,641 standard acres were declared surplus and distributed among 1,941 persons. In the Punjab area where the provision empowers the State Government to settle tenants on surplus lands, 32,786 standard acres were declared surplus and 18,853 tenants were settled thereon.

Rajasthan

Legislation for ceiling had been enacted earlier. The ceiling is fixed at 30 "standard acres". A standard acre was defined to mean an area yielding 10 maunds of wheat (or other produce of equivalent value). The valuation of "standard acre" in terms of different classes of land was to be worked out by the State Government. The State Government is still engaged in working out these valuations. The legislation will be enforced after the valuations have been determined.

Uttar Pradesh

Legislation for ceiling was enacted in 1960. Rules were framed and published during the period under review and steps have been taken for taking possession of surplus lands. 38,071 acres were declared surplus out of which 12,341 acres were taken possession of by the Government, 2,748 acres were distributed.

West Bengal

Legislation was enacted in 1955. Its implementation is in progress. 5·7 lakh acres of agricultural lands have been taken over so far. Additional area will become available as the implementation proceeds. The bulk of the surplus area is in the possession of bargadars (share-croppers).

Union Territories

In Delhi, Manipur and Tripura, legislation for ceiling was enacted in 1960-61 and brought into force during the year under review. In Delhi, the legislation has been enforced throughout, while in Tripura in areas where the survey work has been completed the work relating to determination of surplus land is in progress.

TENANCY REFORM

In the field of tenancy reform, the main developments were as follows:

Andhra Pradesh

The Andhra Pradesh Tenancy Bill which included provisions for a uniform tenancy law applicable throughout the State had lapsed on the dissolution of the State Assembly. It has since been reintroduced. Pending its enactment, interim protection for tenants in the Andhra area was further extended.

Bihar

The Ceiling legislation enacted during the period under report also includes some provisions for tenancy reform. It provides for reduction of maximum produce rent from 7/20th of the produce to 1/4th of the produce. The land-holder holding land exceeding the ceiling limit has been permitted to resume land from non-occupancy tenants (under-raiyats) to make up a ceiling area under personal cultivation. The tenant, however, is not to be rendered landless. In the first instance the tenant is to be left with 5 acres. If the land-lord cannot make up a ceiling area thereby, he may further resume half the area remaining with tenants subject to the condition that the tenant is left with a minimum area of one acre in all cases.

Gujarat

The Bombay Tenancy and Agricultural Lands Act is applicable to the former Bombay area of Gujarat. It is reported that on the tillers day i.e. 1st April 1957 there were 7,16,622 tenants who held about 34 lakh acres. 1,28,900 applications were filed by landlords for resumption of lands for personal cultivation out of which 1,20,140 applications were decided in favour of tenants and no resumption was permitted. The total area in respect of which applications for resumption were granted is 9,935 acres. About 8,46 lakh enquiries were taken up by the Tribunals for the fixation of purchase price for the acquisition of ownership by tenants. By the end of December 1961 about 4,96 lakh cases were disposed of.

Kerala

The provisions in the Kerala Agrarian Relations Act for the fixation of fair rent and security of tenure were brought into force in February, 1961. Upto the end of February, 1962, 67,736 applications for fixation of fair rent and 1,304 applications for resumption of lands for personal cultivation of landholders had been filed. In addition, the small holders and their tenants filed another 20,000 applications for determination of rent, resumption and ownership. It is reported that 6,667 applications for rents were disposed of out of which 2,780 were allowed and 3,873 rejected; 61,069 applications were pending disposal. Regarding resumption, 99 applications were disposed of, of

which 4 were allowed, 95 rejected and 1,201 were pending for disposal. The provisions for transfer of ownership to tenants in respect of non-resumable land was to be brought into force after the applications for fair rent and resumption were disposed of.

As stated earlier, the Kerala Agrarian Relations Act has been struck down by the Supreme Court and the Kerala High Court. Legislation has been enacted for giving interim relief to tenants of such lands.

Madras

The present legislation provides for the stay of ejectment for a temporary period which was extended upto September 26, 1963. Comprehensive legislation for tenancy reform is under consideration of the Government.

Maharashtra

Tenancy legislation relating to Vidarbha region was amended to provide for (i) resumption of land by small holders within a prescribed period; and (ii) conferment of ownership on their tenants in respect of non-resumable areas.

Mysore

Comprehensive legislation was enacted providing for—

- (i) fixation of fair rent at 1/4th of the gross produce in case of lands irrigated by tanks and rivers and 1/5th in other cases;
- (ii) conferment of security of tenure on tenants subject to landlords right to resume land for personal cultivation, the tenant being left with half the area (a minimum of one standard acre in the case of protected tenants); and
- (iii) bringing the tenants of non-resumable lands into direct relationship with the State with an optional right for tenants to acquire full ownership on payment of compensation.

The provisions have not yet been enforced. Pending their enforcement the interim provision for stay of ejectments was extended.

Orissa

An amendment Bill was introduced providing for several modifications in the provisions relating to resumption and ownership for tenants. The Bill was reported upon by the Select Committee. As stated above, pending examination of the constitutional validity of some of its provisions, its further consideration has been held over. Interim protection to tenants has been extended.

Rajasthan

A comprehensive tenancy legislation had been enacted earlier. Information regarding implementation of the provisions for ownership has been reported for 16 districts out of 26, according to which about one lakh tenants and sub-tenants have become owners of about 6 lakh acres.

Union Territories

The provisions for the regulation of rents and security of tenure in the Land Reform Acts of Manipur and Tripura were brought into force during the period under report. The provisions permitting resumption have, however, been enforced only in areas where the record of rights has been prepared.

CONSOLIDATION OF HOLDINGS

By the end of the Second Plan period 3 crore acres had been consolidated. The target proposed in the Third Plan was to consolidate another 3 crores acres. During the period under review 69 lakh acres have been consolidated. The State of Punjab, Uttar Pradesh, Madhya Pradesh, Rajasthan, Maharashtra and Gujarat account for the bulk of the area consolidated as shown below:—

										(Lakh acres)	
										During the period under review	Upto date 31-3-1962
Punjab . . . . .	.	.	.	.	.	.	.	.	.	27 9	175·1
Uttar Pradesh . . . . .	.	.	.	.	.	.	.	.	.	21·2	74·1
Madhya Pradesh . . . . .	.	.	.	.	.	.	.	.	.	2·0	40·9
Rajasthan . . . . .	.	.	.	.	.	.	.	.	.	7 4	26·1
Maharashtra . . . . .	.	.	.	.	.	.	.	.	.	6·8	7·7
Gujarat . . . . .	.	.	.	.	.	.	.	.	.	2 3	19·5

During 1962-63, about 64 lakh acres are likely to be Consolidated.

XIX. PUBLIC COOPERATION

The Public Cooperation schemes for the Third Plan were formulated and finalised on the basis of the recommendations of the National Advisory Committee on Public Cooperation at its meetings held on 27-28th August, 1960 and 22nd November, 1961. During the Second Plan the programme was administered directly by the Central Government under the guidance of the inter-Ministerial Committee called the Coordination Committee on Public Cooperation. The most important policy recommendation of the National Advisory Committee on Public Cooperation was to decentralise the programme with effect from 1961-62.

The main public cooperation schemes and the financial arrangements for sharing the expenditure between the Centre and the States are indicated below:—

A. Grant Schemes

Name of the Scheme	Central Sector	State Sector
Lok Karya Kshetra Research, Training and Pilot Projects Education Work on Prohibition Planning Forums	} 100%	Centre 60% State 40%
Socio-economic Projects in the Slum Areas	100%	..

B. Loan Schemes

Assistance to voluntary organisations and Labour Co-operatives for working capital and purchase of equipment	} 100%	Centre 100% State Nil
Assistance to voluntary organisations for socio-economic activities		

As against an expenditure of Rs. 27.13 lakhs during the Second Plan, a provision of Rs. 8.2 crores has been made in the Third Plan, of which the Centre's share is Rs. 7.5 crores. The following statement indicates the schematic provision in the Central and State Sectors for public cooperation programmes in 1961-62 *vis-a-vis* total plan provision, and the actual expenditure:—

(Rs. Lakha)

Sl. No.	Scheme	Plan Provision	B.E. for 1961-62	Expenditure during 1961-62	Col. 5 as percentage of Col. 3
1	2	3	4	5	6
(A) Grants					
1	Lok Karya Kshetra	125.00	28.00*	7.60	6%
2	Research, Training & Pilot Projects	215.00		2.40	1.1%
3	Educational and Promotional work on Prohibition	50.00		0.40	0.8%
4	Socio-economic activities in Slum Areas	40.00		3.08	7.4%
5	Planning Forums	15.00		0.85	5.6%
		445.00		14.33	3.4%
(B) Loans					
6	Construction services of voluntary organisations and Labour Cooperatives and other socio-economic activities	375.00	17.50	16.80	4.5%

*A lump sum provision was made.

It will be seen that it was possible to utilise only two-third of the budgetary provision for 1961-62. The short-fall under the grants schemes in the Central Sector was mainly due to the fact that the schemes of permanent Lok Karya Training Centres at Delhi and Kerala could not be implemented as scheduled, due to the non-availability of suitable sites. As this was the first year in which the revised administrative arrangements to decentralise the programme were introduced, there was some delay in the formulation of policy by the State Governments. The financial provision was made by most of the States towards the close of the financial year. The State Governments of U.P., Punjab, Madhya Pradesh, Andhra Pradesh and Gujarat were able to utilise only a part of the provision. For the loan schemes the expenditure for both the Central and the State-Sectors was Rs. 16,80,000, the short-fall being only Rs. 70,000. The progress made in respect of the various programmes during the year 1961-62 is briefly reviewed in the following paragraphs.

Lok Karya Kshetras

The Planning Commission issued a policy letter dated the 31st October, 1961 to all the State Governments indicating the main directions in which the programme should be carried out. The process of broad-basing the programme, initiated in the last year of the second

plan, was further extended with the setting up of a Lok Karya Committee at the Centre composed of the representatives of the 13 participating voluntary organisations, the Ministry of Information and Broadcasting and the Planning Commission. Similar Committees have also been set up at the State level. Educational institutions connected with rural development, such as agricultural colleges, rural universities, extension training centres, home science colleges, etc., have also been drawn into the programme.

During 1961-62 the number of Lok Karya Kshetras increased from 108 to 190 as against a target of 200. Of the 82 new Kshetras, 50 were opened in the Central Sector and 32 in the State Sector.

In 1961-62 150 sahyogis (whole-time workers) and 50 voluntary workers for the various Kshetras were trained at the Delhi Training Centre.

Socio-economic Projects in the Slum Areas

The 32 slum centres during the Second Plan period in 8 States were continued and 3 more centres were started at Ahmedabad, Surat and Bangalore. Considerable progress was recorded in respect of projects of welfare and socio-economic activities organised on a self-help basis, such as balwadis, libraries, dispensary, craft centres for women, etc. The construction of 400 tenements for the slum dwellers at Saleempur (Delhi) was a significant illustration. Consumer and industrial cooperatives had also been formed at several centres. There was growing participation by educational and other institutions, like hospitals, whose collaboration gave considerable impetus to the programme. It is proposed to lay greater emphasis on the organisation of a slum construction service and enriching the existing slum education programme with a large content of job-oriented vocational training. Training of whole-time and voluntary workers was organised in Delhi, Kerala, Bombay, Gujarat and Mysore.

Special attention was paid to the problem of pavement dwellers who constitute the weaker section of the slum population and night shelters were organised on a wide scale for them on a self-help basis in Delhi during the winter months of 1961-62. It is proposed to extend this successful experiment to other big towns and cities during 1962-63.

These pilot projects have yielded valuable experience and have shown the way for the formulation of an integrated Urban Community Development Programme. The Health Ministry are preparing a draft scheme.

Construction Service of Voluntary Organisations and Labour Cooperatives

In pursuance of the policy set out in the Third Plan to encourage voluntary organisations and labour cooperatives, the Planning Commission issued a policy letter to all the State Governments and Central Ministries on 24th August, 1961 suggesting that works may be entrusted to such organisations on the basis of the following directives:—

- (i) Earnest money or security should not be deducted.
- (ii) Continuous flow of work should be ensured.
- (iii) The work may be given at negotiated rates.
- (iv) The rates at which works are given, should be prevailing market rates.
- (v) Loan for purchase of machinery, equipment and working capital should be advanced to the voluntary agencies and Federation of Labour Cooperatives.
- (vi) Technical personnel may be sent on deputation when demanded and if available.
- (vii) Organising brick kilns and supply of other construction material.

With the financial assistance of Rs. 10·80 lakhs given by the Planning Commission for working capital and purchase of equipment, the Construction Service of Bharat Sevak Samaj made good progress during the year. Works of an aggregate value of Rs. 3 crores were taken up and the cost of work done at the close of the year amounted to Rs. 1·5 crore. The Service has now active units in the States of Andhra, Bihar, Maharashtra, Gujarat, Rajasthan, Kerala, Orissa, Punjab and Uttar Pradesh, and in Union Territories of Delhi, Manipur and Tripura. The details of the works undertaken are given in Annexure I.

The Bharat Sevak Samaj Construction Service also organised four brick kilns and the work of quarrying sand required for construction works. The Samaj were successful in reducing substantially the prices of bricks and sand thereby providing relief to the public and reduction in cost of Government works. The income of Delhi Administration from royalty on the sand quarried **almost trebled**. It is proposed that on the basis of the Delhi experience, **the arrangements of supply of construction material through voluntary organisations should be extended to other big towns.**

A grant of Rs. 20,800 was sanctioned for the labour cooperatives in Punjab to enable them to engage an Overseer and an Accountant at the district level and a Sub-Divisional Officer and a Senior Accountant at the State level. A loan of Rs. 2 lakhs was also sanctioned for working capital and purchase of equipment. These measures considerably strengthened the labour cooperative movement in Punjab. The labour cooperatives did works of about Rs. 1 crore during the year 1961-62.

Planning Forums

The number of Planning Forums increased from about 450 to 512 during 1961-62. The financial assistance given consisted of the basic grants—varying from Rs. 200 to Rs. 400 per Forum, book grant given to 25 selective active Forums at the rate of Rs. 200 per Forum and travel grant to facilitate the members of the Forums to visit the nearby projects at the rate of Rs. 500 per Forum to 14 forums. For the celebration of the National Plan Week 173 Forums were given grant at the rate of Rs. 50 20 Forums, a meritorious grant of Rs. 100 each and 12 Universities at the rate of Rs. 500 each (Rs. 750 in the case of the University of Delhi).

The activities organised during the year included State level Conferences of University Planning Forums, Planning Forum debate and seminars, National Plan Day programmes, construction of link roads, literacy classes for adults, slum clearance programmes, social service camps, small savings drive, educational trips, socio-economic surveys, plan publicity, etc. It was also decided to organise Plan Information Centres in the active Planning Forums.

Prohibition

The Central Committee on Prohibition, which met in September, 1961, immediately after the meeting of "All India Convention of Prohibition Workers", recommended to the State Governments to draw up a phased programme and to intensify the educational work on Prohibition through voluntary organisations and institutions. The creation of a ten mile dry belt between the dry and the adjoining wet areas was another important recommendation. A special Sub-committee examined the question of misuse of medicinal and toilet products.

In pursuance of the recommendation of the Central Committee, urgent action was taken to organise an All India programme for educational work on prohibition. Necessary financial provisions were made in the Central and State Plans under the development head 'Public Cooperation'. A special Sub-Committee was set up to

steer and guide this programme. It drew up a scheme for opening 47 centres for educational work throughout the country in 1962-63. The scheme was discussed and agreed to by the Planning Commission, Home Ministry and the State Governments concerned. A training camp was organised in Bombay, both for official and non-official workers, in January, 1962. The All India Council of Prohibition workers was set up to coordinate the activities of voluntary workers and started functioning from October, 1961.

Training Programme for Rural Women

The training programme for rural women, which is run by the Bhartiya Grameen Mahila Sangh, was continued in 1961-62. To ensure follow up work the trainees were drawn from Lok Karya Kshetras and Rural Welfare Extension Projects of the Central Social Welfare Board. During the year 8 camps were organised, 2 for whole-time workers and 6 for voluntary workers; 324 women were trained. The camps were organised in close association and collaboration with the educational institutions, voluntary organisations and Community Development Blocks. In the training syllabus emphasis was laid on the methods and techniques of organising activities on a self-help basis and in raising 25 per cent people's contribution for welfare extension projects.

Pilot Projects for the Suppression of Immoral Traffic

The Pilot Project of the Association of Moral and Social Hygiene in India for mobilising public cooperation in implementing the Suppression of Immoral Traffic Act and training of workers was continued during the year. The programme was carried on intensively in the States of Madras, Uttar Pradesh, Orissa, Maharashtra and Bihar, and on preliminary basis in the States of Gujarat, Punjab, Rajasthan, Andhra Pradesh and Kerala. The Association organised seminar-cum-training camps in different States to create public opinion against the voice. Special mention may be made of the All-India training camp-cum-seminar held at Delhi in March, 1961. About 50 trainees attended the camp from different States and valuable experience was pooled.

The objectives of the Association are:—

- (i) creating public opinion for acceptance of the rescued women in society;
- (ii) educating person practising prostitution as an accepted profession to leave the profession;
- (iii) training social workers in order to prevent clandestine prostitution;

- (iv) training of vigilance workers in order to prevent clandestine prostitution;
- (v) popularising sex-education to safeguard youth;
- (vi) organising V.D. control; and
- (vii) arranging rehabilitation of the rescued women through marriage and gainful employment.

Seminars

The following seminars and conventions were organised during the year:—

Subject	Assistance sanctioned
	Rs.
1. All India Seminar on Consumers' problems organised by the Consumers' Association of India	5,000
2. National Seminar at Patna on 'Public Cooperation during the Third Five Year Plan' organised by the All India Boy Scouts Association	5,400
3. Mysore State Women's Convention, Bangalore	2,250
4. All India Training Camp for Prohibition Workers, held at Bombay by the Maharashtra Government	15,000
5. All India Convention of Prohibition Workers held at Delhi by the Delhi Nashabandi Samiti	10,000

Ad hoc grants-in-aid were sanctioned to the Jadavpur University (Department of Economics) for undertaking research on Inter-Regional Input Output—Analysis and to the Bharat Sevak Samaj, Delhi Pradesh for the rehabilitation of the refugees uprooted from Kishan Chand Dairy Colony, near Rajghat, Delhi, on account of a disastrous fire.

ANNEXURE—I

Statement showing the cost of works undertaken by the Bharat Sevak Samaj in the year 1961-62

A. State Sector

	Cost of work in hand (Rs. lakhs)
(i) Andhra Pradesh	
(1) Excavation in mile 65, 66 and 67	15.10
(2) Excavation in mile 41-42	6.00
(3) Excavation in mile 12-13	11.00
(4) Excavation in mile 20	2.10
(5) Excavation in mile 14	3.10
(6) Minor works	2.70
TOTAL	40.00
(ii) Bihar	
(1) Building works in Saharsa Southern zone and northern Birpur . .	5.78
(2) Canal structures	1.07
(3) Earth-work (cost of 14 crores cft. of earth-work at Rs. 20 per thou- sand cft.)	28.00
(4) Buildings in Katihar colony, Purnes colony and Sarsi colony etc. .	7.79
(5) Road and canal structures	5.67
(6) Kiln work	13.00
TOTAL	61.31
NOTE:—Figures are taken from the note of Shri R. S. Jain .	
(iii) Bombay	
(1) Storm water drain at Trombay	0.91
(2) E-work at Central store site at Trombay	2.03
(3) Providing sanitary installation at Trombay for Fertilizer Corporation of India	15.00
TOTAL	17.94

Cost of
work
in hand
(Rs. lakhs)

(iv) *Delhi*

(1) Canteen and ambulance shed	1.20
(2) 'C' Power House Phase I & II	8.58
(3) Hindustan Steel	1.30
(4) Gujarat Pavilion	1.77
(5) Andhra Pavilion	0.81
(6) Old American Pavilion	1.00
(7) Brick Kilns	3.75
(8) DESU buildings at Nizamuddin and Tripolia colony	3.75
TOTAL	22.16

(v) *Orissa*

(1) Slum clearance works in Cuttack	10.00
(2) E-work on Kushabhadra embankment	5.00
TOTAL	15.00

(vi) *Rajasthan*

(1) E-work on the distributaries	4.87
(2) Patna Laban road	1.00
(3) Masonry works on Malikpura distributary K-I Branch and K-II Branch and Aleniya Project	2.18
TOTAL	8.05
TOTAL—STATE SECTOR	164.46

B. *Central Sector**Work undertaken on Railways upto March, 1961*

1. Katihar Unit	14.25
2. Bihar Pradesh Rajgir Unit	1.87
3. Garhwa Unit	1.50
TOTAL	17.62

Works undertaken on Railways from March, 1961 to-date

1. Garhwa Unit	1.00
2. Gujarat Unit	7.00
TOTAL	8.00

Works undertaken under C.P.W.D. in Delhi.

1. Earthwork in Jamuna Bund	6.85
2. Okhla Bund	1.47
3. Stone pitching left marginal bund Delhi	2.80
4. Najafgarh Nullah Drain Phase I	1.75
5. Raising & strengthening of Shahdara Bund	2.50
6. Constructing 8-A type factory at Okhla	4.00
7. Construction of workshop sheds at Arab-ki-Sarai	4.50
8. Construction of High School, Model Town	1.93
9. Earthwork at Gandhi Samadhi	4.00
10. Earthwork on raising right marginal bund downstream railway bridge	0.40
11. Najafgarh Phase II	1.80
12. Exhibition : Gate No. 3	0.35
Gate No. 4	1.10
13. Jamuna Sand	3.75
14. Buildings at Arab-ki-Sarai	
(i) Administrative block	
(ii) Hostel Building.	5.00
(iii) Electric and sub-stations	
15. Police post at Nizamuddin	2.80
16. Lady Hardinge Nurses Quarters	
17. Buildings at Pusa	
(i) Hostel at Pusa	7.00
(ii) Administrative block	7.00
(iii) Workshop at Pusa	2.00
(iv) Staff Quarters at Pusa	1.50
18. Constructing 200 H-type quarters near Motibagh	6.00
19. Development of colony near Kalka	5.00
20. Ghalib Bund	0.50
TOTAL	74.85

Works undertaken under C.P.W.D. in Bombay

1. Development of site at C.T.I. Sion, Bombay	0·81
2. Development of site at C.T.I. Sion, Bombay	4·92
3. Development of site at C.L.I. Sion, Bombay	2·19
4. Development of site for Central Government quarters at Koliwada, Bombay	23·00
5. External Water supply and Sanitary Work at C.T.I. Sion, Bombay	0·80
6. Internal Water Supply and Sanitary and Drainage Work at C.T.I. Sion, Bombay	0·60
TOTAL	<hr/> 32·32

Works undertaken in Manipur and Tripura	42·21
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B.—TOTAL CENTRAL SECTOR	175.00
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GRAND TOTAL A & B: 339.46 or say
300.00 lakhs

XX. ADMINISTRATION AND PLAN IMPLEMENTATION

Since the publication of the *Third Five Year Plan* a number of steps have been taken or are under consideration for enabling better implementation of plan projects and schemes during the third plan period. A Committee on Administration was appointed to give practical shape to the various decisions taken from time to time and reiterated in the *Third Five Year Plan* for improving the administrative machinery. The Committee has made a number of suggestions *inter alia* on project management, financial management, strengthening of executive agencies, etc. and steps have been taken to implement these proposals.

Finalization of project reports

One of the earliest measures was to approach Union Ministries and State Governments to speed up the preparation of detailed project reports giving a phased programme of implementation in terms of carefully worked out time schedules; also indicating the magnitude and phasing of the likely requirements of power, transport and managerial, technical, and other trained personnel.

Time limits were laid down for the completion of such studies in respect of both Third and Fourth Plan projects in consonance with the total time fixed for achieving the targets.

Strengthening of project planning and executive agencies

To facilitate speedy appraisal of broad concepts, scope, approximate costs, and policy considerations regarding the organization, financing and location of projects, where this remained to be done, as also to meet future requirements, Ministries have been advised to organize well equipped technical cells. It has been suggested that Ministries might obtain such help as may be considered necessary from existing technical establishments such as Hindustan Steel Ltd. for Steel, Hindustan Fertilizers Corporation for fertilizers and Oil and Natural Gas Commission for oil. It was considered essential for these units to be adequately equipped for undertaking the work of assisting the Ministries commensurate with the tasks which may be assigned to them, and where necessary suitable designs and research units might be set up.

In consultation with Ministries concerned existing arrangements for the initial appraisal of projects, preparation of preliminary and detailed project reports, evaluation of progress and proposals for strengthening these arrangements, and for setting up of designs and research units in major public undertakings are being reviewed and examined to determine and ensure their adequacy.

Development of managerial and technical personnel

Mere organizational arrangements for the evaluation and preparation of project reports, are, however, not enough and it is essential to make provision, preferably in advance, for the development of personnel engaged or likely to be engaged in the implementation of approved plan projects. Schemes for the development of technical personnel in general and in a preliminary way in relation to schemes included in the Third Plan had been worked out and are under implementation. They are being further reviewed in the light of (a) relatively more precise information becoming available as projects get finalized regarding requirements both in relation to categories of personnel and the time when they will be needed, and (b) experience gained in the execution of training programmes for technical personnel.

The view has also been held that with the large variety of construction programmes in hand in many fields of development opportunity should be taken of building up expertise in various fields at various levels. This building up is possible through a very careful and judicious selection of personnel to fill key posts and to keep them in these positions as long as the interest of the work so requires and not to permit changes or transfers merely on the score of administrative convenience or in compliance with certain service values.

Regarding managerial personnel it has been suggested that to begin with, a sizeable number of officers should be selected from existing cadres for training with a view to their appointment to managerial positions in the projects in the future. As large sums were being committed to projects, adequate provisioning of management personnel should receive priority and effort should be made to get suitable officers released notwithstanding the difficulties of existing industrial undertakings. The Ministry of Commerce and Industry have set up a Committee to study this problem and to design courses for their training. The Ministry of Finance have likewise a scheme for the training of a number of senior officers.

Incentives of a limited character will be necessary to draw the right types of personnel to projects. It has been agreed that incentives in the form of scales of pay marginally higher than those in the Secretariat and limited perquisites should be given. Non-official incentives such as proper rank and status (e.g. in the Warrant of Precedence) were also under consideration to add to the inducement to serve in the projects.

Simplification of administrative and financial procedures

An important direction in which measures are being taken in order to speed up implementation is in the matter of simplifying administrative rules and procedures.

Frequently delays in the execution of schemes have been due to involved and unrealistic administrative procedures. It has been suggested that financial sanctions for a project or any component thereof should be available well ahead of the date on which work has to be started. Similarly, release of foreign exchange should be so arranged that orders for machinery, equipment or other materials can be placed well in advance so as to be available on time for construction and/or installation as and when required in the integrated programme of construction. On the same count endeavour might be made to press for foreign financial assistance being committed for the full plan period or for the duration of the construction period rather than arbitrarily on a year to year basis after prolonged and uncertain negotiation; withdrawals, however, being governed by actual project needs.

There is no denying that correct cost estimates, accuracy of accounts and integrity in disbursements have to be ensured. To satisfy these requirements and at the same time avoid delays, a number of measures have been proposed. It has been, for instance, suggested that internal finance officers or an official of the Ministry of Finance (Department of Expenditure) should be associated with the technical groups assigned the task of preparing preliminary and detailed project reports from the very inception. The procedure is expected to assist in tying up all aspects of the project in a correlated and workable schedule and reducing paper work. In the case of large irrigation and power projects, it has been found that the setting up of Central Boards on which engineering, administrative and finance departments have representatives, has proved effective in speeding up sanctions and removing bottlenecks. At the same time it will be necessary to strengthen organizational arrangements and techniques of project scrutiny in the Ministry of Finance (Project Co-ordination cell) itself.

Having realised that the present system of administration of accounts is oriented more for audit purposes rather than for management needs, new arrangements in relation to finance, budget and accounts work have been introduced in several Ministries and are expected to be extended to the remaining Ministries in due course on the basis of the experience gained. A beginning has also been made in the direction of simplification of rules and regulations (e.g. Public Works Account Code).

At the same time with a view to building up the efficiency of administration generally and making it more action oriented, ways and means are being devised for the devolution of responsibility to individuals and organizations for implementation of development schemes and in the matter of selection and speedy recruitment of personnel, cutting down of red tape and paper work, reduction of meetings and improvements in their use for effective decision making, location, counselling and training of ineffective personnel and weeding out the corrupt.

Another direction in which simplification has been sought to be achieved is in respect of the procedure for central assistance to States. Substantial revisions have been made in consultation with Central Ministries concerned with effect from the Annual Plan for 1962-63, in order to reduce the burden of administrative work. The total number of schemes requiring patterns has been reduced from 341 in the Second Plan to 208 schemes in the Third Plan. The procedure for adjustments as between different heads has also been revised and under each head of development there are now only two groups, one comprising schemes for which there are specific patterns, and the other consisting of the remaining schemes.

In the matter of diversion of funds from one head of expenditure to another without reference to the Planning Commission or the Ministries, States have now been given greater freedom. It has, however, been felt that a distinction might be made between programmes of national importance and those not so designated so as to prevent unjustified diversion of funds and to ensure the implementation of the former. The procedure for the release of Central assistance had been simplified earlier and is being continued.

The procedure for the discussion on Annual Plans has also been simplified and is now confined only to the more important projects and programmes. In the fields not covered by specific discussions, the States could report the decision taken by them. Further measures for simplifying procedure and reducing unnecessary references are under study.

Better coordination of development programmes

A basic factor determining speed and efficiency in implementation is the degree of coordination "built in" in the Plan with regard to the requirements of materials, equipment and skilled personnel and the provision of ancillary services such as power and transport at the time development programmes are formulated. It is equally important to keep it in focus throughout the operational phase in order to make such adjustments as may be called for in view of altered circumstances as do usually occur in a developing economy.

It has, therefore, been suggested that when project reports are drafted, project authorities should indicate to their respective Ministries at the earliest stage possible the magnitude and phasing of the likely requirements of power, transport and managerial, technical and other trained personnel. Parallel action to meet those needs should be taken by Ministries concerned and all the related aspects should be reviewed by the Ministry before the project is finally approved for execution. In respect of projects whose implementation is dependent on coordinated activities by different Ministries, such coordination is achieved generally through inter-Ministerial consultations. There is also a Standing Committee of Secretaries with the Cabinet Secretary and Secretary, Planning Commission as Chairman which deals with problems of coal, steel and transport. Similarly, a Working Group on iron ore has been constituted in the Ministry of Commerce & Industry on which the Planning Commission is represented.

With a view to closely coordinating the development programmes for transport with those for coal industry, the Planning Commission constituted an inter-ministerial Working Group on Coal. The Group has helped to formulate and review from time to time the development programmes for coal and the programmes for development of capacity on the railways so as to ensure that their phasing and implementation are carefully synchronised. The Commission also made certain adjustments in the Railway programmes with a view to making adequate provision so far as coal transport was concerned. The main difficulties in the field of railway transport and coal supply arose *inter alia* from (a) shortfall in railway wagon building on account of foreign exchange difficulties, (b) inadequacy of prerequisites such as coal bunkers and dumps or box type wagons; (c) lag in the utilisation of other forms of transport e.g. road, river and sea; (d) changes in the fieldwise pattern of coal production leading to longer leads on the Railways on account of unforeseen circumstances like fire in a coal mine in Madhya Pradesh and poor quality coal found in some of the new mines.

In relation to the organized private sector a measure of co-ordination is achieved at the Licensing Committee level. In the Licensing Committee are represented the Ministry of C. & I., the Railway Board, Planning Commission, Company Law Administration, etc.

As industrial and power programmes are closely inter-linked, proper coordination between the two sectors is important. State Governments have been advised that whenever delays occur in commissioning of new power projects, the concerned consumers should be kept informed so that they might readjust their own programme and plans to suit. It is also necessary to ensure that adequate power is available before licensing the industries. It has been arranged that a representative of the Ministry of Irrigation and Power is invited to attend meetings of the Licensing Committee to watch this particular aspect.

It is important to make a periodical regionwise review of not only the generating capacity that is expected to become available at various points of time over the next three to four years, but also to take stock of land demands during the corresponding period. The Ministry of Irrigation and Power has initiated action on these lines.

In view of the shortfall experienced in the initial year of the plan, all power generation schemes are being pushed forward with the utmost despatch. Adjustments have also been made in the power programme and certain additional units for power supply have been agreed to in areas of acute power shortage. A study team is going into the problem of power supply for collieries. In respect of transmission lines phasing is being done to suit availability of funds and the importance of individual line for meeting loads by a particular date.

A Power Team from the Centre comprising an officer each from the Ministry of Irrigation & Power, the CWPC and the Planning Commission visited all the States between September and November, 1961 to review the progress of the various power projects, ascertain the bottlenecks and discuss the programme of implementation of each project. Steps were being taken to resolve the difficulties experienced with regard to the supply of key materials such as steel, cement, explosives, etc. The supply of these key materials calls for coordinated action on the part of the Ministries concerned and will need to be constantly watched. It was decided that a similar review should be made periodically during the course of the plan.

Similarly an Irrigation Team is going into details of construction programmes, the phasing of projects, the outlays and foreign exchange requirements from year to year, and the benefits to be expected. In respect of phasing components of individual projects, it will have to be ensured that there is no undue lag between creation of irrigation potential at headworks and that at the outlets and the cultivators' fields. In other words, the programme of constructing headworks, canals, distributaries, watercourses and field channels will have to be properly synchronised.

Reduction in construction costs

There is scope for economies in construction in almost every project and at each stage of the project. Some measures for achieving economies in construction costs are of general application. Each major construction will, however, have its own distinctive features requiring special measures. Some of the measures have been mentioned in the *Third Five Year Plan*. The subject was further considered in the Planning Commission and a detailed Memorandum bringing together various suggestions prepared. The Memorandum stresses the need for proper planning, investigation and preparation of detailed project reports before work is begun and of final reports on completion of the project and emphasises the importance of building up of expertise. It offers suggestions regarding inventory control, choice of construction agencies, types of contract, system of payments and audit and financial sanctions and recommends the establishment of a number of supporting administrative and technical units (e.g. Administrative Unit, Design and Planning Unit, Construction Unit, Quality Control Unit and Cost Reduction Unit).

The Memorandum has been circulated to all Central Ministries, State Governments, Administrations of Union Territories with the request that the suggestions contained in it may be brought to the attention of all the Departments and agencies concerned.

At the Centre, a Committee for Reduction of Construction Costs which will include heads of the principal construction organisations, is being constituted by the Planning Commission. The Committee will be supported by a unit for cost reduction studies, which will be located in the office of the Committee on Plan Projects. It has been suggested that each State should have a similar Committee for Reduction of Construction Costs.

Continuous flow of benefits

Another important aspect of the successful implementation of development programmes is a continuous flow of benefits accruing

from fully or partially completed projects. This is of particular relevance in the case of irrigation. Utilization of irrigation benefits, however, poses problems calling for a detailed and closer watch than hitherto, particularly as a number of State Departments are concerned. The steps for speeding up utilization of irrigation facilities are clearly set down in the Plan (*Third Five Year Plan*, pages 389-391). These have been brought pointedly to the notice of the State Governments.

As for power, the demand for it is such that no difficulty is envisaged in utilizing the power that becomes available from new schemes. However, what needs to be ensured is that the necessary transmission lines are ready in time for transmitting power to the centres of load.

Utilization of existing and steadily expanding industrial capacity is of special importance in determining the pace of economic development. Since the publication of the *Third Five Year Plan*, a number of steps have been taken towards this end. For instance, in the allotment of foreign exchange a very high priority is accorded to the "maintenance of the economy" i.e. the import of raw materials, spares and components. As our free foreign exchange resources are inadequate, attempt has been made with some success to persuade the aid-giving countries to allow the import of components and raw materials, etc. under their aid programmes.

Need for continuous surveillance of plan implementation

Planning Commission attaches the highest importance to the speedy and efficient implementation of the plan. To enable the Planning Commission to give special attention to problems of Plan implementation, the Commission was strengthened through the appointment of a full time Member incharge of Administration.

The existing machinery for the periodic reporting and evaluation of progress has been under examination for some time in the Planning Commission and Ministries, States and project authorities are being consulted with a view to devising a workable system that would highlight the crucial issues, permit their correct assessment and help in anticipating problems requiring advance action at different levels. In view of the urgency for ensuring the implementation of the plan according to schedule and realizing fully the more vital targets in the Plan, it has been felt necessary to keep a closer and continuous watch over the progress of key programmes in the Plan.

However, in view of the fact that administrative departments at the Centre and in the States have the main responsibility for supervision of programmes and projects included in the Plan and ensuring that they are implemented efficiently and according to schedule, Planning Commission takes care not to interfere with this responsibility and confines itself to the larger problems of implementation and overall assessment made in close collaboration with the administrative departments concerned.

Subject to this the Planning Commission has been reviewing problems and seeking counsel with Union Ministers regarding measures and policies required for speeding up the implementation of the Plan, removing possible bottlenecks and ensuring closer co-ordination in related fields. Opportunity is also taken of considering the steps which should be initiated by way of advance planning for the later years of the Third Plan.

These informal discussions have proved very fruitful in identifying issues, pinpointing the bottlenecks and in suggesting concrete corrective measures, possible lines of action, or directions in which further probe may be made in order to find the right solution. Besides reviewing the progress of major projects and programmes in the sectors concerned, problems of operational significance are considered. In particular, attention is given to speeding up of key programmes in the industrial, mineral, power, and transport sectors in a coordinated manner and to ensuring that programmes of national importance in the fields of education and health included in the annual plans of States are duly implemented.

With a view to strengthening the planning, implementation and evaluation machinery at the State level as well, the Planning Commission had suggested to the Chief Ministers of States to consider the advisability of setting up State Planning Boards. It was felt that in order to ensure adequate economic and technical study of new proposals and review of progress as also increasing collaboration between the Central and the State agencies in the matter of economic planning, it would be desirable that each State established a Planning Board which could assist the State Cabinet in the consideration of the broader questions of policies and the more basic objective of securing better plan implementation in the third plan period. The State Planning Board could eventually build up a nucleus organisation which could not only assess the proposals of Departments and bring them together into a plan of development, but could also help the Departments plan more systematically in a larger perspective and on the basis of fuller statistical and technical data.