

PART - I

CHAPTER I
ASSESSMENT OF THE SIXTH PLAN
A. ECONOMIC SITUATION

1. Introduction

Six development plans have been completed in the process of all-round development of the country. Implementation of the Sixth Plan began with the fiscal year 1980/81 ending by the close of FY 1984/85, The Seventh Plan starts from FY 1985/86. An attempt is made in the present chapter to assess the achievements and the kinds of problems faced in the implementation of the Sixth Plan.

The main objective of plan evaluation is to identify the main constraints in the process of implementation of the plan so that they are not further repeated. Such a review helps identify the strengths (the successes) as well as failures in plan implementation. This helps us to identify policies and sectoral programmes that are warranted of the economy in subsequent future.

The objectives of the Sixth Plan were set against the background of the principal economic problems prevailing then in the country and in consideration of the earlier constraints in plan implementation. And with the view to make development objectives more realistic, the following objectives were set for the Sixth Plan.

1. to attain higher growth rate in production,
2. to increase productive employment opportunity,
3. to fulfil minimum basic needs of the people: the followings included for minimum basic needs,
 - a. to make available more food grains by increasing its production
 - b. to make available more fuel wood for domestic use by planned development of forests,
 - c. to increase the supply of drinking water,
 - d. to extend basic health facilities and sanitation services,
 - e. to extend primary, vocational and adult education,
 - f. to extend minimum transport facilities by constructing mule trails, suspension bridges and wooden bridges.

In order to attain aforementioned objectives, the following basic development policies were adopted in the Sixth Plan.

1. to give priority to the development of the agriculture sector,
2. to give emphasis on the development of cottage and small scale industries,
3. to encourage the development of export trade and of tourism,
4. to encourage the conservation of natural resources and stress on the development, of water resources,
5. to give topmost priority to the full utilisation of the already created infrastructure
6. to improve the absorptive capacity of the economy, and
7. to control population growth rate.

The objectives set in the Sixth Plan are long-term ones. They stand as much valid to day as they did then. Extensive poverty is the main problem of the economy. And increasing production is the only solution for gradual removal of prevailing poverty from the country. An attempt is made in this chapter to assess the changes that have been brought about in the process of the implementation of set objectives and policies during the Sixth Plan. The analysis is based on actual figures of the first four years and estimates for the fifth year of the Plan period.

2. GDP, Investment and Saving

Gross domestic product increased at the rate of 2.30 per cent only during the Fifth Plan period. Against the backdrop of the existing population growth rate, the target growth rate of GDP was set at 4.3 percent during the Sixth Plan. In order to attain this growth rate, targets were set to increase agricultural production by 3.20 percent and that of

the non-agricultural sector by 5.60 percent. As population growth rate was assumed at 2.30 percent, per capita income was assumed to increase at 2.00 percent annually.

While GDP decreased during FY 1979/80 due to adverse weather conditions, it increased abnormally by 8.30 percent in FY 1980/81 i.e. the first year of the Sixth Plan, It increased again by 3.80 percent in FY 1981/82. In FY 1982/83, there was a decline in total production by 1.4% due to fall in agriculture production because of drought. In FY 1983/84, weather conditions improved and national product increased by 7.40 percent. In the last year of the Sixth Plan period i.e. FY 1984/85 weather condition remained normal and GDP is expected to increase by 4.00 percent. Thus the average growth rate of national product in the Sixth Plan has been estimated to be 4.40 percent. During this period, growth rate of the agricultural sector has been estimated at 4.70 percent and that for non-agricultural sector at 4.00 percent. Against the growth rate of population by 2.66 per cent, per capita is estimated to have increased by 1.70 percent. Total population is expected to be 16.686 million by mid-July 1985 as against 14.633 million in mid-July 1980.

It is clear from the foregoing explanations that the agriculture sector has a major role to play for the increase of overall GDP. And even until now, agricultural production depends mainly on weather. Because irrigation facilities are not yet available on an extensive scale, improved method of cultivation has remained limited, resulting in low agricultural production.

Table 1. 1
Economic Growth Rate

	Annual change in percent			
	Agriculture Sector	Non- agriculture Sector	Gross domestic Product	Per capita income
Fifth Plan Period (1975-80)		7.30	2.30	-0.40
Base Year 1979/80	-4.80	1.40	-2.30	-5.00
Sixth Plan Target	3.20	5.60	4.30	2.00
Achievements	4.70	4.00	4.40	1.70
1 1980/81	10.40	5.40	8.30	5.60
1981/82*	3.50	4.20	3.80	1.10
1982/83*	-2.50	0.40	-1.40	3.80
1983/84**	8.70	5.50	7.40	4.10
1984/85**	3.60	4.50	4.00	1.50

* Revised estimate

** Primary estimate

Looking at the structure of GDP, it could be observed that substantial change has taken place in the pattern of the economy. Table 1.2 shows that the economy is still heavily dependent on agriculture. Since there was no progress in the non-agricultural sector as expected, no meaningful change has taken place in the structure of the economy. In FY 1979/80 the contribution of agriculture to GDP at constant prices stood at 59.00 percent, This has remained so in FY 1984/85.

3. Agricultural Production

The production of major foodgrains and cash crops was expected to increase annually by 2.80 percent and 3.00 percent respectively during the Plan period, resulting in the growth of overall production at 3.00 % annually during the Sixth Plan. During the Fifth Plan period the production of cash crop increased by 1.60 percent annually while that of foodgrains decreased by 2.80 percent. This resulted in a decrease of 2.00 % annually in the total production of major crops. In the final year of the Fifth Plan, i.e., FY 1979/80, production of foodgrains decreased by 12.90 percent and that of cash crops by 8.20 percent due to adverse weather, resulting in the decline in overall production of major crops by 12.10 percent. Because of favourable weather conditions, there was an increase in the production of foodgrains by 18.30 percent and that of cash crops by 5.30 percent, resulting exceptionally in an increase in the total production of major crops by 15.70 percent. Except barely in foodgrain and tobacco, jute and potato in cash crops, all the major crops recorded an increase in production in the same year. In the following years the production of foodgrains and cash crops recorded an increase except for foodgrains in 1982/83 and cash crops in 1983/84.

Table 1.2
National Product (G.D.P.)

in Billion rupees

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
at current prices							
Gross national product	22.215	23.351	27.307	30.265	33.621	38.184	42.138
Agriculture sector	13.522	13.683	15.679	16.975	17.942	20.487	22.075
Non-agriculture sector	8.693	9.668	11.628	13.290	15.679	17.697	20.063
at FY 1979/80 constant prices							
Gross national product	19.048	18.606	20,158	20.926	20.642	22.172	23.050
Agriculture sector	11.480	10.933	12.066	12.492	12.175	13.240	13.717
Non-agriculture sector	7.568	7.673	8.092	8.434	8.467	8.932	9.333

- 1 Revised estimate
2 Provisional estimate

Table 1.3
Production of Major Agricultural Crops

Annual percentage change

	Foodgrains	Cash Crops	All Major Crops
Fifth Plan Period (1975-80)	-2.80	1.60	-2.00
Base Year 1979/80	-12.90	-8.20	-12.10
Sixth Plan Target	2.80	3.90	3.00
Achievements	6.20	4.30	5.90
1980/81	18.30	5.30	15.70
1981/82	4.20	2.90	4.00
1982/83	-10.20	4.60	-7.60
1893/84	20.20	-3.70	15.40
1984/85*	1.70	12.90	3.60

* Provisional estimate

During the Plan period, total production of all major crops is expected to increase by 5.90 percent annually as result of the increase in foodgrains production by 6.20 percent and cash crops by 4.30 percent. The target of the Plan has been exceeded because of the exceptional increase in production in the FY 1980/81. The main causes for the decrease in production of jute during the period under review are the failing in prices of jute in the international market and the lack of remunerative prices for the jute-growers. Even then the increase of production of cash crops has exceeded the target.

During the Sixth Plan, except in FY 1982/83 and FY 1984/85, production of foodgrains exceeded the target of the annual increase of 2.80 percent for all years. In the FY 1982/83, foodgrain production declined by 10.20 percent because of late monsoons and inadequate precipitation. As production could increase considerably in FY 1983/84 as it did in FY 1980/81 because of decline in production in the preceding year.

Production of cash crops is estimated to increase by 4.30 percent annually, exceeding the set target. Production of cash crop declined only by 3.70 percent because of the unexpected decline in tin production of jute and sugarcane. In the FY 1984/85 the production of cash crops is estimated to increase compared with the preceding years. (Table 1.4)

4. Industrial Production

A target of 10.00 percent annual growth of industrial production was set in the Sixth Plan. Production statistics of cottage industries are not available. The production of major industries in the organised sector recorded a growth of 0.40 percent in FY 1980/81 and 1.50 percent in FY 1981/82 respectively. It increased by 18.40 percent and 12.00 percent in the FY 1982/83 and FY 1983/84 respectively. It is expected that it will increase by 10.00 percent in FY 1984/85. Thus the average growth rate of industrial production during the Plan period is estimated to be 10.30 percent. The growth rate attained during the Sixth Plan period can, therefore, be considered encouraging compared with the 7.30 percent growth rate of industrial production during the Fifth Plan period. The improvement in supply of power with the completion of Kulekhani hydro power project in FY 1981 and Devighat project in FY 1983, seems to have helped in the smooth operation of industries. Favourable environment for the remaining of industries was possible because of lesser incidence of labour problems during these years.

Table 1.4

Production Index of Major Crops

(Base year 1972/73= 100)

	weight*	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Foodgrains	83.720	99.66	86.66	102.63	*106.97	96.05	115.45
Paddy	43.023	95.38	84.00	100.49	104.50	74.73	112.42
Maize	20.932	89.88	66.99	89.87	90.91	86.89	92.07
Wheat	11.628	137.24	133.00	144.25	158.98	198.49	191.56
Millet	6.976	95.08	85.32	86.88	87.01	86.56	82.15
Ba-ley	1.163	85.94	90.98	89.96	91.10	82.66	87.00
Cash Crops	16.280	118.14	108.43	114.22	117.58	123.02	118.51
Sugarcane.	1.163	150.74	152.88	192.26	234.66	245.23	202.47
Oilseeds	4.651	139.61	93.95	117.14	120.15	105.51	111.08
Tobacco	1.163	104.36	114.80	114.59	100.61	138.59	143.60
Jute	2.326	158.53	163.27	143.37	103.18	94.32	60.58
Potato	6.977	87.16	90.54	89.49	103.90	121.30	124.51
All major agricultural crops	100.00	102.67	90.29	104.52	108.70	100.44	115.95

* Based on the producers' prices of principal agricultural crops vis -a-vis national production of FY 1976/77)

Table 1.5

Industrial Production

Annual change
(in percentage)

	Industrial production
Fifth Plan Period (1975-80)	7.30
Base Year (1979/80)	5.70
Sixth Plan Target (1980-85)	10.00
Achievements	10.30
1980/81	0.40
1981/82	11.50
1982/83	18.40
1983/84	12.00

1984/85*	10.00
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* Provisional estimate

During the, period under review, soap, synthetic textiles, cotton textiles, cigarettes, liquor and agriculture tools -registered an appreciable growth among industrial products. On amount of the restrictions in the import of soaps, the production of soaps increased four fold due to adequate domestic market. Due to unfavourable balance of payments situation, the issue of import licence for synthetic textiles from overseas was restricted in FY 1982/83. Consequently the synthetic industries increased their production substantially, that year. Among the industrial goods, production of plywood (whom production was increasing upto 1981/82) went down since 1982/83. The production of stainless steel utensils (whom production went down till 1982/83) has started increasing thereafter.

Table 1. 6
Production Index of Principal Industries*
(Base Year 1974/75 z 100)

	Weight	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Jute goods	21.51	126.54	120.48	132.60	126.39	154.57	173.84
2. Sugar	16.39	228.07	118.72	100.79	174.11	187.46	146.70
3. Cigarette	14.23	68.92	54.72	60.35	94.44	106.62	123.63
4. Matches	2.12	111.56	107.70	96.46	117.10	132.20	169.03
5. Liquor	2.10	203.13	311.61	351.79	212.95	149.11	382.14
6. Soap	1.20	125.81	131.76	295.29	342.31	572.39	625.70
7. Shoes	3.44	79.63	190.36	116.85	87.73	125.85	112.33
8. Leather	5.44	211.88	298.07	289.25	262.76	449.44	373.03
9. Agriculture tools	0.68	59.67	69.00	28.67	51.00	122.67	183.33
10. Tea	137	128.35	152.36	210.63	246.06	281.10	391.34
11. Stainless steel utensils	3.68	188.46	487.18	301.28	300.00	239.74	408.47
12. Brick and Tiles	4.49	48.50	132.13	100.26	81.66	120.00	116.36
13. Beer	1.82	171.66	190.41	212.06	185.47	289.53	447.97
14. Cotton Textiles	8.80	57.83	83.07	126.60	163.38	189.67	239.45
15. Cement	7.36	78.04	108.28	120.02	112.79	137.23	145.64
16. Biscuits	2.14	338.94	318.14	278.70	377.20	279.20	570.53
17. Plywood	0.34	298.02	502.64	683.53	765.57	379.90	260.96
18. Synthetic Textiles	2.89	157.36	194.15	206.47	237.32	266.00	318.88
All principal industries	100.00	134.86	142.53	143.12	159.55	188.88	211.63

* 18 principal industries

5. Investment, Savings and Consumption

In order to achieve a minimal growth rate 'of 4.30% in. GDP, development expenditure of Rs. 33.44 billion (out of which Rs. 25.75 billion would be in fixed capital formation) at constant prices of 1979/80 was, envisaged as necessary. The above investment requirement is based on ICOR of 4.50: 1.00. Out of the total investment it was envisaged that public sector investment would be Rs. 12.30 billion with Rs. 13.45 billion in the private sector. Thus it was envisaged that investment (at Rs. 25.75 billion in fixed capital formation) would be 18.50 percent of gross domestic product. Of this 8.80 percent would be in the public sector and 9.70 percent in the private sector. For this, total investment needed to increase at an annual growth rate of 16.00 percent, public sector investment at 19.40 percent and private sector investment at 13.30 percent. In order to attain the target growth rate of investment, it was envisaged that national savings should increase at the annual rate of 6.50 percent and be 7.7 percent of GDP

Table 1.7
National Savings and Investment
(at Current Prices)

In Million rupees

Fiscal Year	Gross National Savings	Gross National Investment	Ratio, of Savings to Investment (in percentage)
1979/80	2.5901	4.2701	60.70
1980/81	2.9740	4.8080	61.90
981/82	2.8623	5.0980	56.10
982/83	3.0572	6.7990	45.00
1983/84*	3.9824	7.4020	53.80
1 84/85**	4.3970	7.6360	55.40
Total	17.2729	32.0430	53.90
Annual growth rate	11.2	13.2	

* Revised estimate

** Provisional estimate

The pattern of national savings and investment at current prices during the Sixth Plan period is presented in the Table 1. 7. In the fiscal year 1979/80 about 61.0 percent of total investment was borne by national savings and the balance by foreign savings. In the fiscal year 1984/85 about 55.0 percent of total investment is met by the national savings. Thus, the proportion of national savings has been declining steadily. And clearly, the dependence of the economy on foreign savings is increasing for sustaining increased level of investment. In the fiscal year 1982/83 the ratio of saving to investment fell to the extent of 45 percent.

It was an exceptional year from the point of view of production, with a decline in total production by 1.40 percent. And it had its adverse effect on saving mobilisation.

During the Sixth Plan period, the annual average growth rate of investment at constant prices was 13.20 percent. Investment stood at 18.30 percent of GDP in FY 1979/80 and is estimated to reach 18.80 percent in FY 1984/85. It is estimated that the public sector investment would attain an annual average growth rate of 19.50 percent in fixed capital formation. Although the annual growth rate of national savings stood at 11.20 percent its share in GDP is expected to drop from 10.90 percent to 10.40 percent. Consumption is estimated to have increased by 12.70 percent annually. Its share in GDP in FY 1979/80 stood at 88.90 percent, and is expected to increase to 89.60 percent in FY 1984/85. As a whole it has not been possible to achieve substantial progress in mobilizing savings during the Sixth Plan period. Only 9.60 percent of the additional income could be mobilized as additional savings. During this period, it was possible to mobilize as saving only 9.60 percent of additional income generated.

Table 1. 8
Investment, Savings and Consumption
(at Current Prices)

in Billion rupees

		1978/79	1979/80	1980/81	1981/82 ¹	1982/83	1983/84	1984/85 ²
1.	Consumption	19.6312	20.7609	24.3330	27.4027	30.5638	34.2016	37.7410
2.	Investment	3.5135	4.2701	4.8080	5.0980	6.7990	7.4020	7.9360
	Fixed capital formation	3.2625	3.6811	4.2990	5.2490	6.7470	6.9580	7.4480
	Public	1.1379	1.4658	1.8230	2.4870	3.3060	3.3400	3.5750
	Private	2.1246	2.2153	2.4760	2.7620	3.4410	3.6180	3.8730
	Change in balance	.2510	.5890	.5090	-.1510	.0520	.4440	.4880
3.	Foreign savings	-.9297	-1.6800	-1.8340	-2.2357	-3.7418	-3.4196	-3.5390
	Import of goods and services	3.5477	4.3750	5.3569	5.8272	7.1964	7.6066	8.6690
	Exports of goods and services	2.6180	2.6950	3.5229	3.5915	3.4546	4.1870	5.1300
4.	National production	22.2150	23.3510	27.3070	30.2650	33.6210	38.1840	42.1380
5.	National savings	2.5838	2.5710	2.9740	2.8623	3.0572	3.9824	4.3970

1 Revised estimate

2 Preliminary estimate

6. Financial Situation of Government

It was envisaged that in order to achieve the 4.30 percent targeted annual growth rate of GDP, public sector development expenditure at constant prices of FY 1979/80 should be Rs. 21.75 billion. For this, it was estimated that development expenditure needed to increase at an annual rate of 20.30 percent. In order to maintain the desired level of development expenditures, the annual growth rate of the regular expenditure needed to be limited to 10.00 percent, increase government revenue by 12.00 percent and foreign aid by 23.20 percent on annual basis. Substantial progress could not be attained in the mobilisation of revenue during the Plan period. In the first year of the Plan period, i. e. FY 1980/81 revenue increased remarkably by 29.10 percent. Because of adverse weather in the previous year, i. e. FY 1979/80, when revenue stood minimal, increase in revenue in FY 1980/81 was more exceptional. In the second year i.e. FY 1981/82, additional increase in the revenue by 150 percent was recorded. But in the third year i. e. FY 1982/83, because there was a decline in total production, revenue could increase only by 5.90 percent. Revenue is estimated to have increased by 20.10 percent in FY 1983/84 and by 13.60 percent in FY 1984/85. Thus the growth rate of revenue in the Plan period is estimated to be 15.80 percent at current prices. However, on the basis of constant prices of FY 1979/80, this annual growth rate turns out to be only 5.10 percent. Thus, total revenue at constant prices of FY 1970-80 reaches Rs. 10.86 billion. This makes 78.0 % of the target of Rs. 13.93 billion for the Sixth Plan period (Table 1.9) and (Table 1.10)

Table 1.9
His Majesty's Government Budget
(at Current Prices)

	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85 ³	1980-85 ⁴ in %
Revenue*	859.70	2400.40	2675.80	2835.60	3406.301	3870.00	15.80
Regular expenditure	162.10	1361.10	1634.40	1997.10	2260.301	3070.00	21.40
Development expenditure	2308.60	2731.10	3726.90	4982.10	5059.90 ²	5500.00	19.00
Sources of development expenditure							
a) Internal source	968.10	1168.90	2003.70	12906.30	2540.10	2150.00	17.30
Savings from revenue	697.60	1039.20	1041.40	838.50	1146.00800	2.80	
Deficit financing	270.50	129.70	962.30	2067.80	1394.10	1350.0037.90	
Internal Loan	180.00	250.00	795.70	2061.80	1381.50 ¹	1350.00	
Mint income	20.30	18.10	3.70	6.00	2.90 ¹		
Cash balance	70.20	139.00	162.90			9.70	
b) Foreign aid	1340.50	1562.20	1723.20	2075.80	2519.80	3350.00	20.10
Foreign grants	805.60	968.90	993.30	1090.10	1145.90	1470.00	12.80
Foreign loan	534.90	693.30	729.90	985.70	1373.90	1880.00	28.60

* Mint income not included.

1 Nepal Rastra Bank

2 Revised budget estimate

3 Estimate

4 Annual percentage growth

Table 1.10
Revenue*

	at current price	at constant price of FY 1979/80
1979/80	1.8597	1.8597
1980/81	2.4004	2.1168
1981/82	2.6758	2.1372
1982/83	2.8347	1.9823
1983/84	3.40631	2.2425
1984/85	3.87002	2.3801
Total from 1980-1985	15.1872	10.8589

* Mint Income not included

1 Nepal Rastra Bank

2 Estimate

During the plan period it is estimated that tax revenue would increase to s. 3.0991 billion from R-. 1.5288 billion at the annual growth rate of 15.20 percent. Non-tax revenue is estimated to increase to Rs. 770.9 million from 330.90 million at the rat: of 18.40 percent. The annual growth rate of direct taxes is estimated at 20.40 percent and that of indirect taxes at 14 .00 percent, Thus direct tax revenue is estimated to reach Rs. 643.20 million and indirect tax revenue to Rs. 2.4559 billion in FY 1984/85. Income tax, sales tax , property registration tax and excise duty show fastest growth rate. Export duties on several commodities have been dropped or reduced in order to encourage exports. This has led to a decline in revenue from export. Revenue from land tax also has declined because of concessions accorded in land tax. In the non-tax area, revenue from forest has gone down because export of timber has been restricted for forest conservation. Revenue from dividends and interest has increased remarkably. Increase of the import licence fees helped in increasing revenue from non-tax sources since 1983/84.

During the period under review steps undertaken for resource mlibilization were limited to raising existing rates. Rates of customs duty, excise sales tax, excise duty etc. in indirect tax were increased. In direct taxes, tax rates on urban property tax, income tax and registration tax, were raised. Rates of other minor taxes, such as import hotel tax, import embarkation tax, passport and visa fees were also raised. New taxes such as road and bridge maintenance tax, and building construction tax were introduced. Road and bridge taxes, introduced in FY 1982/83, were in FY 1984/85. The basis of some excise duties was changed from quantity to advalorem. (Table 1. 11)

Table 1. 11
Pattern of Government Revenue
(at Current Prices)

in Million rupees

1978/79	1979/80	1980/81	1981/82	1982/83	1983/846	1984/857		
Revenue Tax	1476-80	1529.80	2035.70	2211.30	2421. 10	2737.00	3039.10	
10 Tax		235-90	253.80	353.00	379. 90	445.20	552.20	643.29
Income tax ¹	105.80	101.90	145.10	190.20	240.20	290.50		
Land tax	59.30	64.50	108.50	84.10	66.70	77.20		
House and land registration	55.70	65.00	77.80	88.30	104.80	135.20		
Others ²	15.10	22.40	21.60	17.30	33.50	49.30		
Indirect Tax	1240.90	1275-00	1692.70	1831.40	1975.90	2184.80	2455.90	
Export duty	54.40	62.60	69.50	42.20	25.10	30.40		
Import duty ³	571.70	544.30	743.30	780.00	734.80	795.20		
Sala tax	356.80	401.20	537.70	597.40	709.30	770.70		
Excise duty	192.60	215.20	242.20	305.70	365.80	432.10		
Others ⁴	65.40	51.70	90.00	106.10	140.90	407		
Non-tax Revenue	321.90	330.90	364.70	464.50	414.50	669.30	778.90	
Forest	82.70	86.50	90.50	113.60	53.90	60.70		
Dividend	68.90	80.00	87.30	106.40	119.00	127.407		
Principal and interest	31.60	42.00	30.10	29.20	47.70	70.607		
Others	138.70	122.40	156.80	215.30	193.90	4,10.60		
Total Revenue	1798.70	1859.70	2400.40	2675.80,	2835.60	3406. 30	3870. 00	

1. Including house rent tax, 2 Urban house & land tax, vehicle tax, tax on loan and interest 3 Including refund of Indian excise duty, 4 entertainment tax, road cess, hotel tax, Embarkation tax, contract tax and other income in customs, 5 Mint income not included, 6 Nepal Rastra Bank, 7 Estimate

Specific steps such as strengthening of the tax administration, improve- of procedures for tax collection, prevention of tax leakage, location and identification of tax evaders, etc. were not taken to solve the basic, problem of tax collection nor attempt was made to mobilize additional resources in agriculture sector. Steps whatsoever were not taken for increasing revenue collection by improving the operation of the

government-owned industrial and commercial organizations. In the absence of these efforts, the possibility of increasing the revenue only by increasing the existing rate has increasingly narrowed down.

Table 1.12
Regular Expenditure
(at Current Prices)

in Million rupees

	1979/80	1980/81	1981/82	1982/83	1983/84*	1984/85**	1980-85-Increment	
							Amount	Percent
Defence and inter-Security	348.30	419.00	463.30	624.60	693.30	847.50	499.20	26.0
Defence	223.00	259.00	282.70	392.40	440.30	529.20		
Police and jail	125.30	160.00	180.60	232.20	253.00	313.80		
Loan repayment and interest	217.00	216.20	256.70	306.90	504.20	691.90	474.90	24.8
Loan	94.90	86.30	103.80	93.60	181.10	185.40		
Interest	122.10	129.90	125.90	213.30	323.10	506.50		
Economic and social services	290.20	320.50	380.20	486.30	555.80	644.70	354.50	18.5
Economic	105.70	110.20	130.30	165.80	184.80	213.70		
Social	184.50	210.30	249.60	320.50	371.00	431.00		
Other regular Expenditure	306.60	405.50	534.20	579.30	510.10	895.10	588.50	30.7
Total	1162.10	1361.20	1634.40	1997.10	2263.40	3079.20	1917.10	100.0

* Revised budget estimate

** Budget estimate

Regular expenditure has been increasing at the rate of 21.40 percent annually during the Plan period. Major share of, regular expenditure is accounted by other expenditure, defense and internal security. Other expenditure shares 31.00 percent and defense and internal security 26.00 percent respectively in the total increase in regular expenditures. The main reason for the extraordinary increase in other expenditure is the increase in salary and other facilities of the employees since 1980/81 and especially, the late Increase in salary level in 1984/85. Regular, expenditure under the heading of social and other economic services has increased by 18.00 percent only. These -social and economic services have been receiving less priority in financial appropriate since a few years. This has resulted in under utilization of capital assets due to lack of proper maintenance. During this period, about 25.00 percent of regular expenditure was spent on payment of principal and interest.

Regular expenditure increased from Rs. 1.1621 billion in FY 1979/80 to Rs. 1.8881 billion in FY 1984/85 at constant prices. Thus on the basis of the constant price the annual growth of the regular expenditure is estimated to be 10, 20 percent. Though the objective was to limit regular expenditure to Rs. 7.77 billion with the annual growth rate of 10.00 percent on the basis of constant price, it, in fact, reached Rs. 7.28 billion at the end of the Plan period.

Table 1.13
Regular Expenditure

in Billion rupees

Fiscal Year	at Current prices	Constant price of FY 1979/80
1979/80	1.1621	1.1621
1980/81	1.3642	1.2003
1981/02	1.6344	1.3054
1982/83	1.9971 ¹	1.3966
1983/84	2.2603 ²	1.4880
1984/85	3.0700	1.8881
1980-85, Total	10.3230	7.2784

¹ Estimate

Agriculture, Irrigation and Forest	660.06	30.4	616.2	28	435.35	27.9	66.6
Industry, Mining & Electricity	560	25.8	474.96	21.5	337.96	2117	60.4
Transport and Communication	423.00	19.4	419.68	19.1	300.9	19.3	71.1
Social Services	516	23.7	633.19	28.8	443.68	29 ' 5	86
Miscellaneous*	16	0.7	56.98	2.6	40.39	2.6	52.4
Total	2175	100	2200.1	100	1558.28	100	71.6

* Administration reform, Planning, Statistics and others under budget heading & contingency.

TABLE 1. 16
Development Expenditure
(at Current Prices)

	Progress of the Sixth Plan					
	Target of the Sixth Plan		at current prices		at constant price	
	Amount	Percent	Amount	Percent	Amount	Percent
Agriculture, Irrigation and Forest	157.3	682.9	1073.7	1459.4	1413	21". 80
a) Agriculture	1 53.40	257	408	668.6	631.5	989.1
b) Irrigation	232.7	289.2	359.6	487.4	502.2	814.2
c) Land reforms and Cooperatives	1 1 .30	12.20.	16.3	20.6	19.1	18.6
d) Survey	25.7	30.2	3.70	45.6	43.6	42.8
e) Forest and Resettlement	94.2	89.3	1 85.40	228.2	206.6	322.1
(f) Meterorlogy	-	6	6.7	9	10	1 3.00
Industry, Mining and Electricity	622.1	785.90.	689.1	951.1	1113.4	1510.3
1) Industry & Mining	113.2	123.2	266.5	373	490.2	522.8
b) Electricity	494.3	653.2	382.2	441.2	597	960.5
c) Commerce		4.2	33.5	127	15.7	16.1
d) Labour	14.6	1.3	2.1	2.2	4	4
e) Tourism		4	4.8	5.7	6.5	6.9
Transport and Communication	673.8	632	793-20	876.5	914.9	1033.6
a) Transport	648.2	601.39	744. 00	802.2	814.8	923.1
i) Road*	430.6	472.2	543.3	623.9	640.5	684.5
ii) Bridge	29.2	54.9	56.6	43.6	50.7	67.4
iii) Aviation	188.4	74.2	144.1	134.7	123.6	171.2
b) Communications	25.4	39. 90	49.2	74.3	100.1	110.5
i) Postal services	3.2	3.2	4.9	4.19	6.5	6. 49
ii) Telecommunications	22.4	27.7	44.4	70.2	93 . 60	10.9
Social Services	444.3	572.6	1059.6	1540.2	1509. 50	1817
Education	248.1	285.6	412.3	604.6	57.69	743
b) Health	72.2	97.4	152.8	216.3	219.9	332.4
c) Drinking Water	58.5	73.2	107.5	241.9	229.5	239.5
d) Panchayat and Local Development	39.1	90. 00	270.3	335.2	390.7	431.7
c) Other social services**	26.4	26	116.7	142.2	61.8	70
Miscellaneous	14.9	30.6	17.3	28.2	34.6	0.29
Administrative reform	0.5	0.7	3	8	14.7	13.7
b) Planning	9.6	8	6.1	9.6	12.1	3.5
c) Statistics	4.8	21.1	8.2	10.6	6.3	3.8
d) Others***					1.5	3.2
Others and Contingency	36.2	26.9	94	126.79	74.5	145
Total	2308.6	2731.1	3726.9	4982.1	5059.9	679.9

Including other transport such as ropewalk, rail, etc Homing and urban development, social welfare and information and publicity "Others" from other economic services.

Of the total development expenditure of Rs. 22 - 00 billion at current prices during the Sixth Plan, about Rs. 4.8652 billion (22. 10 %) was met by revenue surplus. Rs. 11.2310 (51. 10%) by foreign aid, and Rs. 5.9038 billion (26. 80 %) by deficit financing (Table 1. 17). Deficit finance increased significantly after the first year. In the first year, total deficit finance stood at Rs. 0. 1297 billion. It increased to Rs. 0. 9623 billion in the second year. Rs. 2.0678 billion in the third year. Rs. 1. 39941 billion in the fourth year, and Rs. 1. 3500 billion in the fifth year.

TABLE 1.17

Financial Target and Achievement of the Sixth Plan

in Billion rupees

	Target of the Sixth Plan 1979/80 constant price	Achievement of Sixth plan		Achievement in percentage at constant price
		Current prices	1979/80 constant price	
Development expenditure	21.75	22	15.5828	71.6
Sources for financing Internal Resources	8.4900	10.769	7.658	90
a) Savings	1, * 1600	4.8652	3.581	59.1
i) Revenue*	13.93	15.1882	10.8594	78
ii) Regular expenditures	7.7700	10.323	7.2784	93.7
b) Deficit Finance	2.33	5.9038	4.077	175
i) internal loan (gross)	1.98	5.839	4.0376	203.9
ii) Others***	0.35	0.0648	0.0394	12.6
Foreign aid	13.26	11.231	7.9248	
a) Foreign grants	6.79	5.5682	7.9804	58
b) Foreign loans (gross)	6.47	5.6628	3.9444	61
Contribution of the foreign aid in total development expenditure (in percentage)	61	51.1	50.9	
Share of the deficit finance in internal resources in percentage	27.5	54.8	53.2	

* Mint income not included

** Principal repayment and interest for internal and foreign loans included

*** Mint income, cash balance and overdraft utilization.

Revenue surplus could not increase proportionately with the increase in development expenditure. So, deficit finance started increasing. Revenue surplus at constant price stood at 58.10 percent of the target. This was because the rate of increase in revenue was lower than that of regular expenditure. The percentage of deficit finance in internal resource was fixed at 27.50 percent. But it seems to have increased up to 53.20 percent. This change has adversely affected the balance of payment and price stabilisation objectives of the Plan.

Foreign aid at current prices increased by 20.00 percent per annum during the Plan period. Calculated at constant price, foreign aid could increase at 9.00 percent only against the target of 23.20 percent. While 61.00 percent of the development Expenditure was targeted to be met by foreign aid (gross), 50.90 percent was actually so met. Non-availability of the foreign aid is not the cause of this under-utilisation of foreign aid. Slow and ineffective execution of foreign aided projects - the main cause for this under-utilization of already committed foreign aid. A seemingly incongruous

situation is observed with both resorting to deficit finance in meeting expenditure on the one hand and under-utilization of available foreign aid on the other.

Table 1.18
Foreign Aid

in Million rupees

Fiscal year	Current Prices			1979/80 Constant Prices		
	Grant	Loan	Total	Grant	Loan	Total
1979/80	805.6	534.9	1340.5	805.6	535.9	1340.50
1980/81	868.9	693.3	1562.2	766.2	611.4	1377.6
1981/82	993.3	729.9	1723.2	793.4	583	1376.4
1982/83	1090.1	985.7	2075.8	762.3	689.3	1451.6
1983/84*	1145.9	1373.9	2519.8	754.4	904.5	1658.9
1984/85**	1470	1880.0	3350	904.1	1156.2	2060.3
1980-85 Total	5568.2	5662.8	11231	3980.4	3944.4	7924.8

* Revised budget estimate

** Estimate

7. Monetary and Credit Situation

It was aimed that the growth of money supply would be limited within the rate of 12.00 percent per annum in order to contain inflation within a predetermined range and to maintain equilibrium in the balance of payment situation in the Sixth Plan. In this process, it laid emphasis on the utilisation of the credit monitoring instruments available with Nepal Rastra Bank and keeping the deficit finance within narrow limits.

The rate of growth of money supply in the first, second and fourth years of the Plan followed mom or less the set targets respectively. In these years, money supply increased by 13.30 percent (Rs. 0.3774 billion), 12.60 percent (Rs. 0.4037 billion) and 13.40 percent (Rs., 0.15826 billion) respectively. But in the third year of the Plan, money supply increased substantially by 20.40 percent (Rs. 0.7374 billion). Money supply is estimated to increase by 12.40 percent (Rs. 0.6226 billion) in the final year of the Plan i. e. FY 1984/85. Thus, the average rate of increase of money supply is estimated to reach 14-40 percent in the Plan, superseding the set target. (Table 1. 19).

TABLE 1.19
Factors influencing Money Supply
(at Current Prices)

in Billion rupees

	1980 July	Change						1980-85 change
		1980/81	1981/82	1982/83	1983/84	1984/85	1985 July	
Net Foreign assists	2.2319	0.1826	.5015*	-.67501	0.12642	0.15593	2.7304	0.0386
Total internal credit	4.3058	0.8556	0.8817	2.4478	1.3336	1.4546	11.2791	6.9733
a) HMG (net)	1.2583	0.0044	0.7988	2.0281	0.9391	0.9027	5.9314	4.6731
Claims on government	1.4213	0.087	0.7272	2.0281	9391	0.9027	5.9314	4.5101
Government deposits (increase)	0.163	0.0914	0.0716		-	-	-	0.163
b) Government corporations	1.131	0.26%	0.0572	0.3588	0.0804	0.0269	1.5949	0.4639

Financial	0.4294	0.0248	.0494	0.0617	1031	-	-	-
Non-financial	0.7016	0.2448	0.1016	0.2971	1835	-	-	-
Private sector	1.9165	0.5816	0.1401	0.0609	0.4749	0.5788	3.7528	1.8363
Periodic deposit (-increase)	2.4549	-.6450	-.7466	-1.0270	6501	-1.0000	6.4896	4.0688
Net unclassified liabilities (-increase)	1.2524	-.0158	-.2329	-.0084	0.0256	0.0121	1.9658	-.2194
money supply	2.8304	0.3774	0.4037	0.7374	0.5826	0.6226	5.5541	2.7237
currency	1.7993	0.2664	0.371	0.3153	0.5214	-	-	-
Demand deposit	1.0311	0.111	0.0327	.42-21	0.0612	-	-	-

* Profit of Rs. 181.40 million due to devaluation on September 19, 1981 included

1 Profit of Rs. 189.00 million due to devaluation on December 17, 1982 included

2 Profit of Rs. 54.80 million due to change in currency rates included

3 Profit of Rs. 34.70 million due to change in currency rated included

4 Estimate

The principal reason for the money supply exceeding the target in the Sixth Plan is the deteriorating budgetary situation of His Majesty 1. Government. His Majesty's Government started borrowing heavily from the banking sector from the second year of Plan, Borrowings by His Majesty's Government that, year increased by 63 percent over the previous year. In the third year, it increased still more by 98.00 percent. In the fourth year, it increased by 23.00 percent only and by 18.00 percent in the fifth year. Thus borrowing by His Majesty's Government increased by 36.00 percent on average during the five years. During the five year period under review, borrowings by public corporations increased yearly by 7.10 % only. Such borrowing increased remarkably in the first and third years of the Plan but it declined in the second and fourth years, and is estimated decrease further in the fifth year.

Credit to the private sector in the first year increased by 30.00 percent. In the second and third years credit against foodgrains was controlled with a view to deal with foodgrain shortage and so, borrowings by the private sector could not increase. In the fourth year borrowings by the private sector increased by 10.00 percent in FY 1983/84 as the economy was set in motion with the increase in GDP restriction on credit against foodgrains was relaxed and special programmes for export promotion were executed. It is estimated that in FY 1984/85 credit to the private sector will increase by 18.00 percent. Out of the total credit of Rs. 6.97 billion from the banking sector, 67.00 percent (Rs. 4.67 billion) was disbursed, to His Majesty's Government, 7.00 percent (Rs. 0.46 billion) to public

corporations and 26.00 percent (Rs. 1.84 billion) to the private sector. Because of substantial increase in credit to His Majesty's Government, there has been a remarkable change in pattern of internal loan within the five years. Internal borrowings by His Majesty's Government are expected to increase by 53.00 percent in 1985 compared with 29.00 percent in 1980. If borrowings by public corporations are included in the government sector, the proportion would reach 67.00 percent by the middle of July 1985.

Share of the Government and the Private sector in Total Internal Credit

In percentage

July	HMG	Government Corporation	Total Government Sector	Private Sector
1980	29.20	26.30	55.50	44.50
1981	24.50	27.10	51.60	48.40
1982	34.10	22.20	56.30	43.70

1 983	48.20	20.00	6.8.20	31.80
1 984	51.20	16.50	67.70	32.30
1985*	52.60	14.10	66.70	33.30

* Estimate.

Although the net foreign assets is estimated to increase from Rs. 2.2319 billion in 1980 by Rs. 0.4985 billion during the plan period, the actual increase was only Rs. 0.0386 billion because the balance of Rs. 0.4599 billion was simply due to, profit accrued out of currency devaluation and changes in exchange rates. In the first year it increased by 8.00 percent (Rs. 0.1926 billion), in the second year by 21.00, percent (Rs. 0.5015 billion). But in the third year, there was a decline in net foreign assets by 22 percent (Rs. 0.6750 billion) because of adverse balance of payment. In the fourth year also, there was a decline by 5.00 percent (Rs. 0.1264 billion). In the fifth year it is estimated to increase by 6.00 percent (Rs. 0.1559 billion). In totality, net foreign assets had no substantial influence in the expansion of the money supply.

Constant increase in the time deposit had prominent reason in the contraction in money supply during the period under review. Increase in time deposit was 26.00 percent (Rs. 0.6450 billion) in the first year, at 24.00 percent (Rs. 0.7466 billion) in the second year, at 27.00 percent (Rs. 1.0270 billion) in the third year, at 13.00 percent (Rs. 0.6502 billion) in the fourth year and 18.00 percent (Rs. 1.0000 billion) in the fifth year respectively. Thus, time deposit increased annually at the average rate of 21.60 percent during the five year period, and was instrumental in, the contraction by 58.0% of additional money supply, generated by expansion in internal credit.

Another factor with contractionary effect in money supply, capital and net unclassified liability is estimated to increase by, 3.30, percent per annum (Rs. 0.2194 billion).

The main feature of the credit extension by commercial banks during the second and the third years of the Plan period is the diversion of credit from the private sector to the public sector. Credit to the private sector was controlled in order to meet the growing deficit of government finance.

In FY 1980/81, banks expanded additional credit by Rs. 9.7588 billion (23.90 percent). Out of which 75.00 percent (Rs. 0.5687) was made available to the private sector. In FY 1981/82, additional credit was extended Rs.0.2953 billion (7.50 percent) out of which 47 percent (Rs.0.1400 billion) was available to the private sector. In FY 1982/83, additional credit expanded by Rs. 0.9291 billion (22.00 percent) out of which 6.30 percent (Rs.0.0585 billion) went to the private sector. There was substantial contraction in credit to the private sector because of steps taken in credit control in order to meet increasing credit needs of the public sector and meet the adverse balance of payment in FY 1982/83. But from FY 1983/84, because of relaxation in credit control, banks were active again in meeting credit requirement of the private sector. In that year, there was additional credit expansion by Rs. 0.7181 billion (12.00 percent). Of this, Rs. 0.4444 billion (62.00 percent) was made available to the private sector. In the final year of the Plan i. e. FY 1984/85, additional increase of Rs. 0.9274 billion (16.00 percent) in credit by banks is estimated of which 70.00 percent (Rs.0.6474 billion) is expected to flow to the private sector. During this period, there has been a remarkable change in the pattern of credit by commercial banks. The proportion of the private sector share in total loan and investment was 59.00 percent in July 1980. It went up to 62.00 percent in July 1981 and declined to 51.00 percent in July 1982. Some improvement took place in this proportion since 1983/84, reaching 53.00 percent in July 1984 and is estimated to reach 56.00 percent by July 1985.

Deposits with the commercial banks increased substantially during the period under review. The deposit increased by Rs. 0.8135 billion (24.00 percent), Rs. 0.7638 billion (18.00 percent), Rs. 1.3795 billion (28.00 percent), and Rs. 0.7805 (12.00 percent) in the first year, second year, third year and fourth year respectively. In the fifth year it estimated to increase by Rs. 1.3454 billion (19.00 percent) Table 1.20. Thus the deposits with the commercial banks are expected to reach Rs. 8.4124 billion by mid-July 1985 at the growth rate of 20.40 percent per annum. Of the total deposit of Rs. 5.0827 billion with the commercial banks the proportion of the savings and fixed deposits comes to 73 percent or Rs. 3.6963 billion. Savings deposit has grown at the annual rate of 23.00 percent and fixed deposit at 20.00 percent during this period. Attractive interest rate and extension of branches of the commercial banks have led to the fast growth of savings and fixed deposits. The reforms of the interest rates in April 1976 brought about a remarkable change in the composition of deposits with the commercial banks. In mid-July 1976, the share of saving and fixed deposits in the total deposit was 59 % only. This increased to 72 percent in mid-July 1980 in five years. In mid-July 1985, saving and fixed deposits are expected to reach Rs. 6.0824, i. e. 72 percent of the total deposit. Though saving

deposit grew at a fast rate, the growth rate of fixed deposit declined suddenly since 1983/84. The cause for this decline is that saving of non-financial corporations and personal saving were increasingly invested in development bonds bearing 13.00 percent interest and the shares floated by the private companies. The dependence of commercial banks on the Nepal Rastra Bank decreased because of substantial increase in deposits with them during the Plan period.

Table 1.20
Sources and Utilization of Funds with Commercial bank

In Billion Rupees

	1980 July	Change					1985* July
		1980/81	1981/82	1982/83	1983/84	1984/85	
Total deposits	3.3297	.8135	.7638	1.3795	.7805	1.3454	8.4124
Demand	.8535	.1661	.0141	.3453	.1281	.3429	1.8500
Savings	.5712	.1455	.1607	.1913	.2652	.2621	1.5960
Fixed	.8149	.4134	.5615	.6281	.4944	.5741	4.4864
Margin	.0901	.0885	.0275	.2148	-.1072	.1663	.4800
Borrowings from Nepal							
Rastra Bank	.2644	.3037	-.3303	.0638	.0781	-.0521	.1000
Foreign liabilities	.0005	.0081	.0345	-.0110	-.0321	-	-
Other liabilities	.9311	.4216	-.2116	.1796	.0014	.0557	1.3778
Resource utilization	4.5257	1.4469	.2564	1.4843	.8279	1.3490	9.8902
Cash and bank balance	.7723	.5622	.0605	.1707	.3116	.2883	2.0646
Cash	.1094	.0388	-.0326	.0304	.0697	.0391	.3200
at Nepal Rastra Bank	.2517	.3176	-.2048	.1305	-.0440	.0490	.5000
Foreign currency	.0497	.0338	.0049	.0201	-.0060	.0175	.1200
Foreign balance	.3615	.1920	.1068	-.0103	.2919	.1827	1.1246
Loans and investments	3.1692	.7588	.2953	.9291	.6181	1.0030	6.7735
HMG	0.3712	-0.0464	0.3170	0.5192	0.3219	0.4272	1.9101
Government corporation	0.7589	.2430	-.1083	.3195	-.1677	-.0050	1.0404
Financial	0.623	-.0018	.0017	.0224	.0158	.0116	.0854
Non-financial	.6966	.2448	-.1066	.2971	-.1835	-.0066	.9550
Private sector	1.8676	.5687	.1400	.0585	.4444	.5488	3.6280
Foreign bills	.1715	-.0095	-.0504	.0319	.0195	.0320	.1950
Other assets	.5842	.1059	.0216	.3845	-.1018	.0577	1.052

* Estimate

Source: Nepal Rastra Bank

An integrated banking programme was launched from mid-October 1980 with a view to financing projects under priority sector under regional basis. Special attention is given to the feasibility and supervisory aspects of the projects financed under this programme and a policy of financing individuals without mortgagable assets against collective security has been adopted. Additionally, 60.00 percent of the total loan under this priority sector is provided to small families. In the initial years of the Sixth Plan, it was made obligatory to the commercial banks to finance minimum of 7.00 percent of the total deposit liability the projects under the priority sector. This proportion was raised to 10.00 percent in FY 1982/83 and the same was maintained in FY 1983/84. But because the commercial banks could not attain this level, it was reduced to 8.00 percent in FY 1984/85. In order to launch this credit programme under the priority sector in an integrate manner, a committee by the name of Priority sector Coordination Committee was established with representation from concerned institutions. Presently, integrates banking programmes are implemented through 133 branches. In the first four years of the Plan, commercial banks invested additional, Rs. 0.1262 billion in priority sector projects. Out of this, agriculture sector received Rs. 0.0581 billion and cottage industry sector Rs. 0.0830 billion. In the service sector, investment went down by Rs. 0.0149 billion. In FY 1984/85 it is aimed to invest additional Rs. 0.2538 billion in priority sector projects.

A special programme was launched from FY 1982/83 in 9 districts three in Kathmandu Valley and six in Gandaki Zone- for making financial assistance available to the cottage and small scale industries through commercial banks. The policy adopted under this programme is to give more importance to the feasibility of the project and seriousness of the industrialist than collateral for. By the end of FY 1983/84, loans amounting to Rs. 46.40 billion were disbursed under this programmes. This helped establish 1,413 small-scale industries creating employment opportunities for 13,678 persons. It is estimated that the banks will disburse additional Rs. 75.00 million for the development of small-scale industries in FY 1984/85.

By mid-July 1980, the commercial banks had 241 branches and one branch covered 60 thousand persons. In the first four years of the Sixth Plan, additional 115 new branches were opened. Agricultural Development Bank was permitted to start banking transactions with a separate branch in Kathmandu. A new bank by the name of Nepal Arab Bank was established under joint collaboration by the Nepalese and foreigners. Thus by the end of the fourth year of the Sixth Plan, there were 351 branches of commercial banks with banking transactions, In FY 1984/85 Agricultural Development Bank has been permitted to conduct general, banking transactions through its 23 branches and it is estimated that the commercial banks will open additional 30 branches by mid-July 1985. This amounts to 411 branches, which will conduct banking transitions, one branch covering 41,000 persons.

Nepal Rastra Bank initiated various monetary policy measures in order to control the flow and composition of the loans made available by the commercial banks. In FY 1981/82 with the new arrangement regarding the requirement of liquidity by the commercial banks should maintain liquidity to the extent of 25 % of total deposit of this liquidity of 4 % is to be in cash in hand, 5 % deposit at Nepal Rastra Bank. Interest rate for saving and fixed deposits was increased by 0.50 percent and that for the loans by 1.00 percent from mid-July 1982. Loans against mortgage of foodgrains were not permitted because of foodgrain shortages due to unfavourable weather conditions in 1982/83. In order to rectify the unfavourable balance of payment at the close of that year, 100.00 % margin was fixed for the import of luxurious and semi-luxurious goods from the countries other than India, and from mid-July 1983 complete restriction was imposed on the latter of credit from import. But in FY 1983/84 some steps were taken in relaxing the controls in the credit administration providing pre-export credit at the subsidized interest rates.

The target set for the Nepal Industrial Development Corporation was to finance Rs.502.70 million, including investment in equity, and for the Agricultural Development Bank to finance (gross) Rs. 1744.10 million on industry and agriculture sectors during the Sixth Plan. In the first year, i.e, 1980/81, Nepal Industrial Development Corporation increased the annual loan disbursement by 77 percent (Rs. 46.10 million). In the second year it went down by 24.00 percent to Rs. 35.10 million. In the third year, it increased by 105.0 % percent to Rs. 72.00 million, and in the fourth year it again went down by 29.00 percent to Rs. 51.10 million. The corporation expects to disburse Rs. 80.00 million in the final year (FY 1984/85) of the Plan. Thus, the corporation will be investing Rs. 284.30 million in loans, which will be 57.00 percent of the target in the Sixth Plan. In case of Agricultural Development Bank, annual disbursement went down by 9.00 percent in FY 1980/81 to Rs. 134.10 million. But in the second, third and fourth years its loan disbursement increased to Rs. 256.50 million, Rs. 345.80 million and Rs. 453.20 million respectively and is expected to reach Rs. 551.20 million in the fifth year. Thus, the Agricultural Development Bank fulfilled 100% of the target by disbursing a total of Rs. 1740.80 million during the Plan period (Table 1.21.)

Table 1.21
Loan Disbursement by Financial Institutions (Loans and Investment).

in million rupees

	Nepal Development Corporation	Industrial	Agricultural Development Bank
Base year: 1979/80		26.00	147.90
Target of the Sixth Plan		502.70	1744.10
Achievements:			
1980/81		46.10	134.10
1981/82		35.10	256.40
1982/83		72.00	345.80
1983/84		51.10	453.30
1984/85		80.00*	551.20**
Total 1980-85		284.30	1740.80

* Gross annual disbursement, **Estimate.

The increase in the number of small farmer development projects operated by the Agricultural Development Bank is encouraging. In FY 1979/80, the number of small farmer development projects was 29 only. In FY 1983/84 this number increased to 121. In these projects 29,293 small farmer members and 3,013 groups were involved. In FY 1984/85, it was estimated that additional 39 will start, thereby increasing the total number of projects to 160. Agricultural Development Bank invested Rs. 57.50 million in these projects in the first four years of the Plan and with additional loan disbursement of Rs. 50.70 million in the final year, the total loan disbursement will reach Rs. 108.20 million in the Sixth Plan.

The cooperative organizations could not record any substantial progress during the Plan period. Attention was paid on the integration and consolidation of the established organizations rather than on establishment of new ones. In FY 1979/80, there were 711 cooperative organizations. In the first four years of the Plan period 56, cooperatives were established. In FY 1983/84, there was no increase in number because of the reorganization of the existing ones. In FY 1979/80, the strength of these organizations was 1.194 million member which reached 1.393 million with an increase by 17 percent. The cooperative organizations made loans available amounting to Rs. 121.50 million as of mid-July 1980 which reached Rs. 201.20 million by mid-July 1984 at an annual growth rate of 13.40 percent. In 1984/85 it is estimated that additional 13 cooperatives would be established. In the first four years of the Plan period Employees Provident Fund increased its investment in equity and loan substantially, with diversification in the composition of investment. The Fund had expanded its investment by Rs. 925.30 million - Rs. 639.90 million in equity and Rs. 285.40 million in loan disbursement. This investment has been possible because of the remarkable increase of the financial resources of the fund, which increased by Rs. 942.40 million. One reason for this increase is the beginning provident fund deduction by the educational institutions and some government agencies. The composition of the investment and loan has changed since 1983/84. The principal sector of the investment by the fund was in fixed deposit at the commercial banks in the first three years of the Plan from the fourth year, investment in development bonds increased substantial. By mid-August 1985, the Fund is expected to increase investment by Rs. 352.90 million (Table 1.22).

TABLE 1.22
Employees' Provident Fund
(Investment and Loans)

in Million rupees

	Middle of September						Change 1980-85
	1980	1981	1982	1983	1984	1985*	
Investment	490.10	609.30	767.50	944.60	1130.00	1395.50	905.50
Fixed deposit	475.80	595.00	756.40	938.50	830.00	945.50	469.70
Government bond	14.30	14.30	11.10	6.10	300.00	450.00	435.70
Loan	172.80	219.80	278.60	349.50	458.20	545.60	372.80
Depositors	151.10	194.40	249.10	316.90	392.90	453.00	301.90
Industries	21.70	25.40	29.50	32.70	65.30	92.60	70.90
Total	662.90	829.10	1046.10	1294.10	1588.20	1941.10	1278.20

* Estimate.

National Insurance Corporation

The role of National Insurance Corporation had become wider in mobilizing insurance premium for use in development activities during the Sixth Plan period. In the first four years of the Plan period the resource of the corporation increased by Rs. 104.80 million. During this period, the corporation increased investment and loan by Rs. 86.00 million of which was invested development bonds. In FY 1984/85, the corporation is expected to increase loans and investment by Rs. 49.00 million.

TABLE 1.23
National Insurance Corporation
(Statement of Loan and investment)

in million rupees

Mid July	Government bond	Fixed deposit	Others	Total (investment and loans)
1980	55.80	5.80	0.80	62.40
1981	74.40	1.90	0.90	77.20
1982	89.20	2.90	1.00	93.10
1983	102.90	15.30	1.30	119.50
1984	119.30	18.30	10.80	148.40
1985*	166.80	19.30	11.30	197.40
1980-85 Change	111.00	13.50	10.50	135.00

* Estimate

Postal Saving Bank

In the Fifth Plan period, Postal saving bank services was initiated as a new institutional arrangement for collecting savings. Under this service savings account can be opened with a minimum of Rs. 5.00 and with a maximum deposit ceiling Rs. 30,000.00. Upto FY 1979/80, 25 district post offices provided this service. By FY 1983/84, 75 post offices have provided this service.

Credit Guarantee Corporation

This corporation is authorized to guarantee credits upto Rs. 0.20 million for agriculture and other service sector under the priority sector from the commercial banks and upto Rs. 1.00 million for industry. In FY 1979/80, the Corporation guaranteed credit worth Rs. 79.70 million, and this guarantee is expected to go up to Rs. 122.50 million by

FY 1984/85. As the capital asset of this corporation has not been able to increase adequately, it has not been able to expand its activities according needs.

8. Price Situation

Excessive pressure was felt in the price situation in the country during the Sixth Plan period. In the first three years, price rose at the rate of 12.70 percent per annum and in the fourth year it stayed at 6.2 percent. In the final year (1984/85) it is estimated to go up by 7 percent. Thus the annual average price rise is expected to be 10.20 percent during the Plan period. (Table 1.24 and Table 1.25)

TABLE 1.24
Consumer Price Index for Urban Areas
(Base Year: 1972/73 =100)

Fiscal Year	Food & Beverages	Change in percent	Non-food goods and services	Change in percent	Index of all goods & services	Change in percent
1979/80	176.20	+ 11.00	180.70	+7.70	177.60	+ 9.80
1980/81	199.90	+ 13.40	204.80	+ 13.30	201.40	+13.40
1981/82	221.9	+11.00	224.00	+9.40	222.40	+ 10.40
1982/83	257.40	+16.00	247.70	+ 10.60	254.00	+ 14.20
1983/84	270.90	+5.20	268.70	+8.50	269.80	+ 6.20
1984/85	288.70	+ 7.00*

* Estimate.

According to the national urban consumer price index, the overall prices recorded an increase by 13.40 percent in FY 1980/81 with prices of food and beverages increasing by 13.40 percent and of other goods and services by 13.30 percent. As production of foodgrains was good this year, with the fall in the growth of price rise in rice, its price index increased by only 6.40 percent. But of sugar and sweets, restaurant meals, oil and ghee increased by 63.40 percent and 66.00 percent respectively. The prices of pulses, meat, fish, and eggs increased by 18 percent and of milk and milk products and beverages by more than 10.00 percent. The price of the food and beverage group increased by more than 13 percent because of high increase of the prices of the food items. Among the non-food items and service, the price of cloth and tailoring, medicines and health care and cigarettes increased by 6-7 percent only but that of footwear, fuel lamps and water, transport and communication and education and recreation increased by 10.00 percent. (Table 1.25)

Second year (1981/82), There was some improvement in the price situation and the price increase stayed at 10.40 percent. The price increase of food and beverages dropped to 11.00 percent and that other goods and services to 9.40 percent. Rice, vegetables, spices and milk and milk products are the ones among all food and beverages group which have recorded a high price rise. The prices of meat, fish and eggs and sugar and sweets went down. Among other goods and services group, cloth, tailoring, fuel, lamp and water are the ones, which have recorded a 10-11 percent price rise. (Table 1.25)

TABLE 1.25
Consumer Price Index for Urban Areas
(Base Year: 1972/73 = 100)

Consumer Goods	1979/80	1980/81	1981/82	1982/83	1983/84
All food and Beverages	176.2	199.9	221.9	257.4	270.9
Restaurant meals	173.1	242.0	259.9	272.6	280.6
Grains and cereal products	134.7	151.7	181.9	242.5	239.0
Rice	152.5	162.2	182.6	246.8	-
Pulse	214.2	252.8	264.9	274.5	309.4
Vegetables and Fruits	219.6	236.6	281.2	285.1	331.7
Spices	421.3	347.0	303.3	347.7	356.3
Meat, fish and eggs	207.0	245.1	234.0	282.7	31102
Milk and milk products	184.3	204.2	234.0	265.4	285.8
Oil and ghee	204.0	257.4	264.9	262.5	315.6

Sugar and Sweets	139.1	227.0	224.3	119.5	194.5
Beverages	172.7	190.1	199.0	232.8	265.4
Non-food good and Services	180.7	204.8	224.0	247.7	268.7
Clothing and tailoring	156.1	165.7	183.9	196.1	211.6
Clothing	151.4	159.8	177.2	185.8	207.2
Tailoring	160.1	170.9	189.5	204.3	215.0
Footwear	162.5	182.7	198.0	214.2	228.9
Domestic services	214.0	247.9	274.9	315.8	350.6
Fuel, light and water	240.9	287.8	319.6	378.9	-
Transport and communications	189.2	227.3	234.1	249.0	361.6
Medical and personal care	164.8	175.7	192.0	205.6	219.7
Education and recreation	165.2	212.2	225.2	245.0	259.9
Cigarettes	162.1	173.6	185.4	204.4	210.7
Total (All goods and services)	177.6	201.4	222.4	254.0	269.8

Source: Nepal Rastra Bank

Third year (1982/83): The price increased by 14.20 percent. Because of reduction of the foodgrain production, the prices of food and beverages went up by 16 percent and of other goods and services by 10.60 percent. Among food and beverage, rice recorded a price rise of 35 percent, grain and grain products 33 percent, meat, fish and eggs 21 percent, spices 15 percent, milk and milk products 13 percent, and beverages 17 percent. Among other goods and services, fuel, lamps and water recorded a price rise of 19 percent, cigarettes by 10 percent, education and recreation by 9 percent and footwear by 8 percent respectively.

Fourth year (1983/84): The overall price increase was 6 percent when food and beverages prices recorded an increase by 5.20 percent and other goods and services by 8.50 percent respectively. This year witnessed a good crop resulting in an improved price situation, compared to the previous year. The price of foodgrains and foodgrain products went down by 10.40 percent and of sugar & sweets by 2.50 percent; but vegetables recorded a 16 percent price rise and meat, fish and eggs 17 percent. Among other goods and services cloth and tailoring increased by 8 percent, of footwear by 7 percent, housing by 11 percent and education and recreation by 3 percent respectively.

Final year (1984/85): The price is estimated to increase by 7 percent. Thus the average annual price rise during the Plan period works out to be 10.00 percent. Except for the fourth and the fifth years, there has been an immense pressure on the price situation during the Plan period. In sum, the price situation in the Plan period has not remained favourable.

During the period under review, the internal factors affecting the price rise are, a) poor agriculture crop in the base year 1979/80 and the third year 1982/83, b) price increase in other goods and services provided by the government corporation, c) frequent increase in the rates of the import duty, sales tax and excise duty and d) increase in money supply for because of excessive dependence on deficit finance by the government. The international monetary situation in general and fast price rise in India in particular are the external factors affecting the price situation.

9. Foreign Trade and Balance of Payment

In case of foreign trade, the tendency for imports to size at a faster rate as compared to export is still prevalent. During the Sixth Plan period, the growth in exports is expected to be 13.5 % and that of annual imports at 16.9 %, leading to the growth in trade imbalance by 17.97 %. Because of import restrictions, overseas trade imbalance has decreased. Yet the ever-widening unfavourable balance of payment with India has become a subject for serious concern.

During the first three years of the Sixth Plan period, trade imbalance deteriorated further. During these years, exports went down and the economy had to face a huge trade deficit because of increasing imports and decreasing exports. In the first year (FY 1980/81), because of favourable weather conditions, agricultural production increased extraordinarily compared to the minimal level attained in the previous year, FY 1980/81. Export shot up by 39.80

percent reaching the level of Rs. 1608.70 million. But, in the second year (FY 1981/82), the exports decreased by 7.30 percent to the level of Rs. 1491.50 million. In the following year (FY 1982/83), there was still further fall in exports by 24.10 percent, decreasing to the level of Rs. 1132.00 million. Exports dropped extraordinarily because of fall in agricultural production, due mainly to drought that year and also the prohibition of export of foodgrains and timber. Overseas export of Rs. 609.60 million in FY 1979/80 dropped by 2.1 percent to Rs. 616.30 million in FY 1980/81. It dropped by 19.39 percent again to Rs. 497.20 million in, 1981/82 and again at 41.90 percent to Rs. 288.80 million in 1982/83. In 1892/83, because of various measures taken by His Majesty's Government under a 9-point programme, there was remarkable boost in exports by 50.50 percent and hit an all-time high record of Rs. 1703.90 million export to India reached Rs. 1160.70 million with an increase by 37.70 percent and to overseas countries Rs. 543.20 million with an increase by 88.10 percent. In the FY 1984/85, exports is estimated to reach Rs. 2160.00 million with a 26.80 percent increase (Table 1.26).

TABLE 1.26
Foreign Trade
in billion rupees 1978/79

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85 Estimate
Exports	1.2968	1.1505	1.6086	1.4915	1.1320	1.7039	2.1600
India	.6501	.5209	.9923	.9943	.8422	1.1607	
Other countries	.6467	.6296	.6163	.4972	.2888	.5432	
Imports	2.8847	3.4801	4.4282	4.9303	6.3140	6.5143	7.4700
India	1.5817	1.7864	2.1792	2.2809	2.4996	3.0580	
Other countries	1.3030	1.6937	2.2490	2.6494	3.8144	3.4563	
Balance of Trade	-1.5879	-2.3296	-2.8196	-3.4388	-5.1820	-4.8104	-5.3100
India	-.9316	-1.2655	-1.1869	-1.2866	-1.6564	-1.8973	
Other countries	-.6563	-1.0641	-1.6327	-2.1522	-3.5256	-2.9131	

Import has been increasing at an accelerated rate. It increased by 27.30 percent in 1980/81, by 11.30 percent in 1981/82 and by 28.10 percent reaching Rs. 6314.00 million in 1982/83. In all these years, imports from overseas countries increased more than from India. Because of deterioration balance of payment situation with overseas countries, imports were restricted from other countries. So overall imports increased only by 3.2 percent reaching Rs. 6510.00 million in 1983/84. Imports from the overseas countries dropped to Rs. 3456.30 million by 9.40 percent that year. But from India imports increased to Rs. 3058.00 million with a growth of 22.30 percent. In 1984/85, imports are expected to increase by 14.70% reaching Rs. 7470.00 million. As the restriction on imports from overseas are still in force, no substantial increase in imports is anticipated from overseas countries. However, substantial increase in imports from India is anticipated. (Table 1.27)

TABLE 1.27
Composition of Export Trade

	1979/80	1980/81	1981/82	1982/83	1983/84
Edible products and raw materials	799.60	1203.90	1196.70	720.30	1033.00
Food and animal products	306.50	588.70	735.90	327.70	584.10
Tobacco and beverages	2.60	15.40	18.50	13.30	5.30
Other raw materials	469.60	561.60	397.30	336.40	372.70
Mineral oil, lubricants	.50	.40	1.00	.70	3.30
Ghee and vegetable oil	20.40	37.80	44.00	42.20	60.60
Industrial goods	350.30	403.00	294.10	411.70	670.10
Chemicals and medicines	1.30	3.90	1.50	1.80	6.30
Finished products	291.80	254.30	225.40	375.30	581.70

Machinery & transport goods	3.20	1.80	9.10	7.90	24.40
Miscellaneous	54.00	143.00	58.10	44.60	57.70
Other goods	.60	1.70	.70	.10	.80
Total exports	1150.50	1608.60	1491.50	1132.00	1703.90

Source: Nepal Rastra Bank.

Because of the falling exports and rising imports the overall trade deficit of Rs. 2329.60 million in 1979/80 doubled to Rs. 5182.00 in 1982/83. During this period, trade deficit with overseas countries shot up to Rs. 3525.60 million from Rs. 1064.10 million. However with India, the increase was from Rs. 1265.50 to Rs. 1656.40 million. In 1983/84, exports increased substantially and increase in imports was marginal. So, trade deficit could be contained at Rs. 4810.40 million in that year. In FY 1984/85, it is estimated that the trade deficit will reach Rs. 5310.00 million with an annual increase by 10.00 percent.

TABLE 1.28
Composition of Import Trade

	1979/80	1980/81	1981/82	1982/83	1983/84
Edible products and raw materials	.9754	1.4176	1.4410	1.9617	1.8941
Food and animal products	.4129	.6012	.6192	.9247	.7284
Tobacco and beverages	.0259	.0248	.0356	.0625	.0718
Other raw materials	.1009	.1155	.1426	.2063	.2662
Mineral oil & lubricants	.4097	.5836	.5793	.7019	.7492
Ghee and vegetable oil	.0260	.0925	.0643	.0663	.0785
Industrial goods	2.4946	2.9970	3.4769	4.3523	4.6178
Chemicals and medicines	.3967	.5273	.5992	.6460	.6984
Finished goods	1.0899	1.2592	1.5555	1.9368	1.8019
Machinery and transport goods	.7197	.8029	.8920	1.1809	1.6512
Miscellaneous	.2883	.4076	.4302	.5843	.4663
Other goods	.0101	.0136	.0124	.0043	.0024
Total exports	3.4801	4.4282	4.9303	6.3140	6.5143

Source: Nepal Rastra Bank.

Analysis of the structure of trade during these years reveals that there has not been noTable change in the composition of export and imports. If food and raw material showed prominence in exports, industrial goods was prominent in imports. The volume export is observed to fluctuate along the changes in weather conditions and foodgrain export policy and its share was 61.00 percent in 1983/84. Although there is some increase in the export of industrial goods, new exportable product has not emerged. As jute and Jute goods could not fetch attractive prices in the overseas market, their export has been directed to India. Woolen carpet alone has appeared as the main exportable commodity that could survive overseas market without any financial or foreign exchange subsidy. In the case of imports the proportion of industrial goods was 72.0% in 1979/80 and has remained so in 1983/84 also. During this period, as the proportion of food and raw materials has remained at 28.0 percent of the total imports, there seems to be ample possibility of import substitution in the agricultural sector too. Analysis of the statistics of balance of payment reveals that, though current account losses increased with the trade losses in the first two years, balance of payment situation remained favourable because of increasing foreign aid. But in the third year, i.e. 1982/83, foreign aid could not compensate for the big trade deficit. So, foreign reserve had to be used to meet its deficit. In 1983/84, because of the improvement of the current account balance, balance of payment deficit decreased.

First year (1980(81): Though the trade deficit increased by 18 percent to Rs. 2.83 billion yet because of increase in net services income by 28.00 percent and net transfer income by 30.00 percent, current account loss increased by only 5.00 percentage to Rs. 1.16 billion.

That year though capital outflow stood at Rs. 140.00 million, there was favourable overall balance of payment situation with a positive balance of Rs. 190.00 million because of an inflow of Rs. 149 billion in foreign aid.

Second year (FY 1981(82): Trade deficit increased by 22 percent and reached Rs. 3.45 billion. Net transfer income dropped by 6 percent. But income from services increased by 23.00 percent. Current account deficit went up to Rs. 1.55 billion at the rate of 34.00 percent because income from services and net transfer incomes could not offset the trade deficit. Because of the inflow of Rs. 1.93 billion in foreign aid and capital inflow by Rs. 120.00 million, there was an overall surplus of Rs. 500.00 million in balance of payment.

Third year (FY 1982/83): On the one hand, export sharply dropped. On the other, import increased excessively leading to the increase in trade deficit by 5.10 percent. Though income from services and net transfer increased by 19 percent and 10 percent respectively, current account loss doubled to reach Rs. 2.99 billion because trade deficit shot up. Inflow of foreign aid of Rs. 2.24 billion and capital by Rs. 70.00 million were inadequate to compensate this deficit. So the overall balance of payment deficit stood at Rs. 680.00 million. After many years, the country had to experience this kind of difficult situation again.

Fourth year (FY1983/84): Improvement in the export front and minimal increase in imports led to a decrease in trade deficit by 7.00 percent to the level of Rs. 4.80 billion. Though income from services dropped by 12.00 percent because of the drop in income from tourism, net transfer income increased by 20.00 percent, leading to a decrease by 10 % in current account deficit to the level of Rs. 2.70 billion. Even though the inflow of foreign aid was Rs. 2.79 billion, the overall balance of payment deficit stood at Rs. 130.00 million because of the outflow of capital by an extent of Rs. 220.00 million.

Fifth year (FY 1984/85): The trade deficit is expected to reach Rs. 5.31 billion this year with total export of Rs. 2.16 billion and total import of Rs. 7.47 billion. Net income from services is estimated to increase by 20.00 percent and transfer income by 8.00 percent to reach the level of Rs. 740.00 million. Though current account deficit is expected to increase by 5 % to the level of Rs. 2.84 billion, an estimated inflow of foreign aid to the extent of Rs. 3.25 billion is expected to lead to a balance of payment surplus of Rs. 160.00 million, in spite of the estimated capital outflow of Rs. 260.00 million. During the period under review, different patterns in the balance of payment situation vis-a-vis India and overseas are noted. During the Fifth Plan period (1975-80), balance of payment with India deteriorated significantly. A total of Rs. 2.32 billion worth of foreign exchange had to be sold to purchase Indian currency in order to meet the trade deficit. In the first year of the Sixth Plan too, there was a balance-of payment deficit of Rs. 70.00 million. That year too, some Rs. 615.00 million worth of foreign exchange had to be sold in order to purchase Indian currency. But in the second and the third years, there was a balance-of-payment surplus of Rs. 340.00 million and Rs. 210.00 million respectively with India. There was balance-of payment surplus of Rs. 260.00 million and Rs. 160.00 million in the first and the second years respectively with overseas countries. But in the third year, a balance-of-payment deficit of Rs. 880.00 million was recorded. In the fourth year, the balance of payment with these countries improved and there was a surplus of Rs. 230.00 million (Table 1.29)

Table 1.29
Balance of Payment Situation

	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Trade Balance	-2.4030	-2.8302	-3.4520	-5.1970	-4.8236	-5.3100
Exports, F. O. B.	1.1663	1.6127	1.4960	1.1358	1.7099	2.1600
Imports, C. I. F.	3.5693	4.4429	4.9480	6.3328	6.5335	7.4700
Income from Services (Net)	.8732	1.1110	1.3780	1.6349	1.4398	1.7338
Receipts from Services	1.7190	2.0701	2.2925	2.5218	2.5809	3.0600
Tourism	.6368	.7734	.8415	.8442	.5747	.8200
Income from Investment	.1903	.1599	.1970	.2030	.1038	.0900
Others	.8919	1.1368	1.2540	1.4746	1.9024	2.1500
Service Payments	.8458	.9531	.9145	.8869	1.1411	1.3262
Transfer Income (Net)	.4265	.5565	.5247	.5751	.6873	.7400
Transfer income	.4396	.5747	.5484	.6088	.7227	.7800
Private sector transfer	.3573	.4842	.4771	.5497	.6167	.6480
Indian excise refund	.0369	.0573	.0403	.0086	.0594	.0800
Others	.0454	.0332	.0310	.0505	.0466	.0520

Transfer Payments	.0131	.0182	.0237	.0337	.0354	.0400
Current Account Net	-1.1033	-1.1567	-1.5493	-.9864	-2.6965	-2.8362
Foreign aid, Net	1.3390	1.4945	1.9311	2.2394	2.7870	3.2521
Foreign grant	.7617	.8608	1.1570	1.3150	1.5835	1.4700
Foreign loan, Net	.5713	.6337	.7741	.9244	1.2035	1.7821
Foreign loan	.5980	.6648	.8065	.9639	1.2743	1.8800
Principal repayment	-.0207	-.0311	-.0324	-.0395	-.0708	-.0979
Capital and unclassified sum, Net	-.2093	-.1438	.1197	-.0720	-.2169	-.2600
Balance of payment surplus or deficit (-)	.0264	.1940	.50151	.67502	.12643	.1559
With India	-1.1343	-.0691	.3381	.2064	-.3537	
Other Countries	1.1607	.2631	.1634	.8814	.2273	

Sources: Nepal Rastra Bank.

- 1 After deducting the profit of Rs. 0.1814 billion due to changes in exchange rates on September 19, 1981.
- 2 After deducting the profit of Rs. 0.1890 billion due to changes in exchange rates on December 17, 1982.
- 3 After deducting the profit of Rs. 0.0548 billion due to change in exchange rates in FY -1983/84.
- 4 Estimate.

Changes in the balance of payment greatly effect the foreign exchange holdings of the Nepal Rastra Bank. In the first and second years of the Plan period, as the overall balance of payment was favourable, foreign exchange holding increased by 5.00 percent and 24.00 percent respectively. In the first year (1980/81), though the overall balance of payment remained favourable, the unfavourable balance of payment with India from the beginning of the Fifth Plan continued, and Rs. 615.00 million worth of foreign exchange had to be sold in order to purchase Indian currency, In the third year (1982/83) as the balance of payment with overseas countries remained extremely unfavourable. There was a drop of Rs. 1.14 billion in convertible foreign exchange holdings. Balance of payment with India improved and there was an increase of Rs. 270.00 million in inconvertible foreign exchange holdings that year. Thus, the foreign exchange holding dropped by 28.0 % i.e. by Rs.860.00 million. In the fourth year (1983/84), though there was some improvement in the convertible foreign exchange holdings, there was a sharp drop in the inconvertible foreign exchange holding, leading to a drop in overall foreign exchange holdings by Rs. 490.00 million, or by 18.00 percent. By mid-July 1984, foreign exchange holdings (Rs. 2.0062 billion) of the Nepal Rastra Bank could meet the import requirements of 3.5 months only whereas the foreign exchange holdings of the Nepal Rastra Bank in mid-July 1980 could meet imports of 7.5 months. During the period under review serious changes took place in the balance of payment situation of the country (Table 1.30).

Table 1.30

Foreign Exchange Holdings in the Nepal Rastra Bank

in million rupees

	Mid-July				
	1880	1981	1982	1983	1984
Gold, I.M.F. Tranche and SDR		168.30	175.60	190.40	200.10
		(+2.10)	(+7.30)	(+14.80)	8.70
Convertible Foreign Exchange	1861.60	1514.30	1962.00	976.90	1113.80
		(-347.30)*	(+292.50) ¹	(-1144.30) ²	(+69.50) ³
Non-convertible Foreign Exchange	195.50	653.30	913.30	1182.4	692.30
		(+457.80)*	(260.00)	(+269.10)	(-490.10)
Total	2223.30	2335.90	3050.90	2349.70	2006.20
		(+112.60)	(+556.80) ¹	(-806.40)	(-429.30) ³

* Convertible foreign exchange worth Rs. 615.00 was sold in order to purchase Indian currency.

¹ By deducting the accounting profit of Rs 155.2 million due to changes in exchange rates on September 19, 1981.

² By deducting the accounting profit of Rs 159.2 million due to changes in exchange rates on December 17, 1982.

³ By deducting the accounting profit of Rs 85.80 million due to changes in exchange rate in FY 1983/84.

In the Plan period, there were remarkable changes in the management of foreign exchange. Dual exchange rate, introduced on March 31, 1978, was discontinued on September 19, 1981 and unified exchange rate system was adopted. Meanwhile on February 13, 1980, the second rate of Rs. 16.00 for each U.S. dollar was revalued by 12.50 percent and fixed at Rs. 14.00 for each U.S. dollar. On September 19, 1981 the unified exchange rate was raised to Rs. 13.20 from the first rate of Rs. 12.00 for each U.S. dollar by devaluation by 10.00 percent on December 17, 1982. The exchange rate was raised to Rs. 14.30 from Rs. 13.20 for each U.S. dollar by devaluating the rate by 8.00 percent. On June 1, 1983 currency basket system was adopted in the determination of exchange rates. Exchange rate was raised to Rs. 14.50 from Rs. 14.30 for each U.S. dollar by a devaluation of 1.00 percent. During this period, no change in the exchange rate with Indian currency was effected. From June 1, 1983, daily exchange rates of convertible foreign exchange was determined on the basis of currency basket system.

Construction and Development materials and Supply

Situation of Technical Manpower

Supply Situation of Construction Materials

The total consumption of cement is estimated to be 1,515,200 metric tons with 1,090,000 metric tons of actual consumption in the first four years and an estimated consumption of 425,200 metric tons in 1984/85 at the end of the Plan period, which is 89.90 percent of the estimated total plan requirements of 1,742,600 metric tons. Himal Cement at Chovar could supply only 142,439 metric tons which is 9.40 percent of the estimated plan requirements. National Trading Ltd. is expected to import 170,450, metric tons during this period. From the import licenses issued in 1984/85 it is revealed that of the total imports 48.60 percent was by traders, 36.50 percent by different organisations and 14.90 percent by public sector organisations respectively.

The total demand of iron and steel products was estimated to be 288,649 metric tons. To meet this, it was aimed to have Nepalese re-rolling mills would produce 140,00 metric tons of iron rods and to establish an electric arc furnace with capacity of 20-22 thousand tons in the third year of the Plan period for producing 60,000 metric tons of billets. But the re-rolling mill produced 46,980 metric tons of iron rods only and the proposed arc furnace was not established. From 1983/84, 5000 tons of galvanised sheets was met by domestic source annually. National Trading Ltd. would import 27,003 metric tons of iron rods and 2,258 metric tons of galvanised sheets. Imports of iron and steel goods through some private sector and foreign commodity aid have been consumed by several construction projects. The estimate of these imports of iron and steel products is 250,614 metric tons or 86.80 percent of the estimated total demand.

The requirement of bricks for the Sixth Plan period was estimated at 1,593,290 thousand pieces in the public and private sectors. Public sector brick and tiles factories produced 120,005 thousand bricks and 2,548 thousand tiles which partially met the requirement of the Kathmandu Valley and the balance by the private sector brick factories. During the Plan period there was a decline in brick production at 1,385,675 thousand pieces only (or 87.00 percent) because of the non-availability of adequate firewood from the fuel corporation in the later years of the Plan, difficulties in the supply of coal and of the increasing prices of firewood and coal.

During the Sixth Plan period, the requirement of timber was estimated at 819,418 cubic meter, and only 433,579 cubic meter in supply was estimated in all, 18.70 percent of this supply was distributed to the public sector activities and 81.30 percent to the private sector.

In the Sixth Plan period, as a large proportion of the estimated requirement of the polythene pipes of 5,566 metric tons was met by the supply from the industries established at Balaju, Kalaiya and Dharan, there was less dependence on imports for supply. These industries are estimated to have produced 4,447 metric tons in the Plan period.

During the Sixth Plan period, 187,099 metric tons of chemical fertilizers (89.90 percent of the estimated demand), consisting of 141,452 metric tons (109.00 percent) of nitrogenous fertilizers, 41,092 metric tons (85.00 percent) of phosphate and 4,555 metric tons (12.00 percent) of potash was imported during the Plan period against an estimated total requirement of 215,402 metric tons consisting of 129,292 metric tons of nitrogenous fertilizer, 41,802 metric tons of phosphate and 38,008 metric tons of potash.

A total consumption of 630,000 metric tons of petroleum goods (63.40 percent of the estimated demand), which includes actual consumption of 477,864 metric tons during the first four years and estimated consumption of 152,000 metric tons in 1984/85, has been estimated for the Sixth Plan period against an estimated demand of 994,079 metric tons.

During the plan period, petrol consumption increased by 1.90 percent, high speed diesel by 4.50 percent, L. P. gas by 4.30 percent and furnace oil by 7.40 percent. But the demand for kerosene oil and light diesel dropped by 0.10 percent and 2.10 percent respectively.

About 516,300 metric tons of coke and coal in total requirement was estimated for the Sixth Plan period and it was aimed that the Fuel Corporation would import them on the basis of a long term contract agreement for their assured supply. Because the Fuel Corporation did not fulfill this arrangement, concerned industries and private sector traders started importing coke and coal on their own. It is estimated that 142,532 metric tons of coke and coal was imported during the Plan period.

In the Sixth Plan period, the projected demand of writing and printing paper is 59,525.00 metric tons. Only 16,400 metric tons or 27.50 percent of the projected demand was estimated to have been imported. Of this 30 percent is used by the government and the remaining 70 percent by the non-government sector.

During the Sixth Plan period, the demand for newsprint was estimated at 7,143.00 metric tons of which 6,000 metric tons was required for Gorkhapatra Corporation alone. The Corporation imported 1,800 metric tons of newsprint during the period. A total of 3,000 metric tons of newsprint, including imports by the private sector is estimated to have been imported during the Plan period, which is 42.00 percent of the projected demand.

Projected demand and actual supply of the construction and development goods during the Sixth Plan period are given in Table 1.31.

Supply of Technical Manpower

There was a total supply of 19,975 technical manpower as of 1979/80. The final year of the Fifth Plan. The total requirement of technical manpower at the end of 1984/85 was projected at 39,472, including additional requirement of 19,487 during the Sixth Plan. Additional supply of technical manpower is estimated at 10,699 in the Sixth Plan period and total supply is estimated at 30,674 by mid-July 1985. At the end of the Sixth Plan, it is expected that there would be a shortfall of 8,788 in the supply of technical manpower. The severe scarcity is felt among basic level technicians. In this level alone, there is a shortfall of 4,204 persons which is 47.80 percent of total deficit in supply. In the middle level, the shortfall is estimated at 3,312 persons (or 37.70 percent) and in the higher level 1,272 (or 14.50 percent). In totality, even though there appears to have shortages in all the three levels higher, middle and basic levels-there appears to have surplus of 2 and 180 in scientific and technical group (higher level) and forest sector forester group (basic level) respectively. Normally supply of higher level technical manpower is fulfilled by those, returning from studies in the foreign countries. And during the Sixth Plan period, a total of 1,250 scholarships was utilised. Thus, the shortage of technical manpower was to an extent obstacle in the effective implementation of development projects. Project demand and actual supply of technical manpower are presented in the Table 1.32.

Table 1.31
Projected Requirements and Actual Supply of Development Goods
And Construction Materials during
Sixth Plan (1980-85)

Construction and Development Goods	Unit	Requirements during Sixth Plan	Actual supply during sixth plan	Percentage supply

1. Cement	In million tons (metric)	1.743	1.515	86.9
2. Iron and steel commodities 3. Bricks	In million tones (metric)	0.289	0.251	86.8
3. Bricks	In million pieces	1593.300	1385.700	87.6
4. Timber	In million cubic feet	0.819	0.434	52.9
5. Polythene pipe	In thousand tons	5.570	4.450	79.9
6. Mineral oils	In million tons (metric)	0.994	0.630	63.4
7. Coke and coal	In million tons (metric)	0.516	0.143	27.6
8. Chemical fertilizers (Nutrients)	In million tons (metric)	0.215	0.187	86.9
9. News-print	In thousand tons (metric)	7.140	3.000	42.0
10. Writing and printing paper	In thousand tons (metric)	59.530	16.400	27.5

Table 1.32
Projected Requirements and Actual Supply of
Technical Manpower during Sixth Plan
(1980-85)

in numbers

SN	Classification of manpower	Total Availability as of mid-July'80	Additional* demand in Sixth Plan	Projected Requirement in Sixth Plan	Total Supply in Sixth Plan	Shortage in Sixth Plan
1.	Higher level	3,217	3,381	6,598	5,326	1,272
	Scientific and technical	246	217	463	465	-2
	Civil engineering	701	751	1,452	1,233	219
	Other engineering	671	372	1,043	922	221
	Agriculture expert	754	1,456	2,210	1,537	673
	Forest-expert	135	191	326	204	122
	Health specialist	710	394	1,104	965	139
2.	Middle level	6,201	7,134	13,335	10,023	3,312
	Assistant scientific and technical	250	454	704	655	49
	Civil overseer	2,182	1,355	2,637	2,483	154
	Other overseer	1,740	1,083	2,823	2,094	729
	J. T.	1,055	3,011	4,066	2,353	1,713
	Ranger	277	247	524	442	82
	Health assistants	1,597	984	2,581	1,996	585
3.	Basic level	10,557	8,972	19,529	15,325	4,204
	Low level assistant scientific	983	720	1,703	1,576	127
	Sub-overseer	1,098	1,113	2,211	1,489	722
	Other sub-overseer	3,843	1,485	5,328	4,446	882
	J. T.A.	1,749	3,323	4,072	3,461	1,611
	Forestor	702	844	1,546	1,726	-180
	Low level health assistant	2,182	1,487	3,669	2,627	1,002
	Total (1+2+"3)	19,975	19,487	39,462	30,674	8,788

Physical Achievement

It was envisaged that the principal foodgrain crops and cash crops would increase annually by 2.80 percent and 3.90 percent respectively in the Sixth Plan period. And the target for their combined growth rate was set at 3.00 percent. During the first four years of the plan period, foodgrain crops increased by 7.40 percent and cash crops by 2.20 percent. Consequently as their combined growth the principal agricultural crops increased by 6.40 percent. Against the potential production situation of the fifth year of the plan period, foodgrain production is expected to grow by 6.20 percent and cash crops by 4.20 percent on annual basis with the consequent average annual growth in agricultural production by 5.90 percent during the entire Sixth Plan period.

The target for foodgrain production by the final year of the Sixth Plan i. e. 1984/85, was set at 4.346 million metric tons. The actual production by the fourth year was 4.246 million metric tons. The production of paddy and wheat surpassed the targets. The target set for the production of pulses was 95 thousand metric tons per year. However, the production attained was only 84 thousand metric tons with increase in production in the first two years. Among cash crop, the production of potatoes exceeded the target. But the production of sugarcane, oil, tobacco and jute is expected to fall short of the targets. In particular, the production of oil and jute fell sharply below targets. According to available statistics, the production of vegetables, fruits, meat, fish and milk products marked a favourable situation.

The distribution of agricultural inputs implements fell short of target of the Sixth Plan except for agricultural credit. In the first four years of the plan period, improved seed distribution attained 51 percent and chemical fertilizer 53 percent respectively of the targets of the Sixth Plan. Agricultural credit attained 68.00 percent of the target in the four years and it is expected the plan target will be met.

Total acreage with irrigation facilities in public sector was 1,98,481 hectares by the end of the Fifth Plan, i. e. 1979/80. The Sixth Plan had the target of more than doubling acreage under irrigation bringing total acreage to 4,31,963 hectares by extending additional irrigation facility to 2,33,482 hectares by the end of the Sixth Plan in 1984/85. In the first four years of the Sixth Plan, irrigation facilities were made available to 73,212 hectares. It is expected that 66,979 hectares thus additional 140,191 hectares (60 percent of the target) will receive irrigation facilities at the complete of Sixth Plan. This achievement has brought 338,672 hectares of land under irrigation and 13 percent of the cultivable land is expected to receive government irrigation facilities.

The target was set to have 42,872 hectares under afforestation programme in the Sixth Plan. In the first four years additional 25,284 hectares of land had come under afforestation. In the final year of the plan 12,162 hectares of land are expected to have afforestation. Thus the total area under afforestation is 37,446 hectares i. e. 87.30 percent of the Sixth Plan target.

There was an appreciable progress of achieving 87 percent of the target in afforestation. However, only 23 percent of the target could be fulfilled in the case of panchayat protected afforestation programme. With respect to soil and watershed conservation, control of 167 gorge (108 percent of the target) and terrace improvement in 280 hectare (125 percent of the target) are estimated to be completed during the Sixth Plan period. Though it appears that achievement to satisfactory compared to the target of the Plan, yet it hardly leaves any room for satisfaction because the set programme themselves are for limited vis -a-vis the magnitude of the problems prevalent in the country. On the other hand, the soil erosion problem continues to be worsening.

Industry

There was an appreciable increase in industrial production since the second year as a result of improvement in the power supply with the completion of the Kulekhani Hydel Project (capacity 60.00 Megawatts) and Devighat Hydel Project (capacity 14.10 Megawatts). The Sixth Plan had the target of increasing industrial production by 10 percent per annum. From the available statistics of the first four years, it is revealed that average annual rate of 10.40 percent was recorded, much in line with the Plan target. Industrial production could increase only at 0.40 percent in the first year of the Plan. But in the second, third and fourth years, industrial production increased at 10.50, 18.40 and 13.20 percent respectively. Keeping in view of the expected achievement in the final year, the average annual rate of increase of industrial production is estimated to be 10.30 percent with the Plan period.

Among the new industries in the public sector, Hetauda Cement Factory is likely to go into trial production within the Plan period. The expansion of Himal Cement has lagged behind the schedule. Only preliminary works could be undertaken towards the establishment of the proposed textile plant at Butwal. Construction works of the Vrikuti

Paper Factory at Nawalparasi is not expected to be completed during the Plan period. Construction works of the proposed paper factory at Nepalgunj could not be started. The establishment of Lumbini Sugar Mill is still at a preliminary stage. The progress of construction of Ganesh Himal Lead Zinc Industry and Kharidhunga Magnesite Plants have remained slow and the construction of Rosin Turpentine industry at Kailali has not progressed satisfactorily.

A target of disbursing Rs. 502.70 million in industrial finance through Nepal Industrial Development Corporation (NIDC) to private entrepreneurs was set in the Sixth Plan. NIDC has been able to disburse only Rs. 204.30 million in industrial loans in the first four years of the Plan. It is expected that Rs. 80.00 million in industrial credit would be extended in the final year. Thus, the total industrial credit made available within the Plan period is expected to be Rs. 284.30 million. This makes only 56.60 percent of the Plan target.

Industrial Enterprises Act 1981, Foreign Investment and Technology Transfer Act, 1982 and Ordinance 1984 related to industrial taxes are among the important measures introduced for encouraging the private entrepreneurs. However, necessary by-laws and other regulations have not been implemented during the Plan period in order to make the acts operative. Nor institutional arrangements have been made as yet to make these facilities speedily available to the industries.

Though the execution of the programmes for the promotion of cottage and small industries with World Bank assistance in the nine districts in Gandaki and Bagmati Zones was belatedly carried out from 1982/83, it seems to have picked up momentum appreciably of late. Under this programmes the credit of Rs. 46.40 million, through banks has been disbursed by FY 1983/84. This has helped establish 1,413 small industries and create 13,678 job opportunities. Different kinds of vocational and technical training were imparted to 27,140 persons against a target of 28,950 persons in the Plan period under cottage industries development programme.

The growth of tourist arrivals in 1980 and 1981 remained slow and picked up only in 1982. The number of tourist arrivals in that year increased by 8.50 percent and reached 175,000 persons. Tourist arrivals increased by 2.30 percent in 1983 and reached the level of 179,000 persons.

A study has been completed with the assistance of European Economic Community to prepare a well-coordinated tourism development plan with proper analysis of problems and prospects of the promotion of tourism. Publicity and information promotion of tourism remained the principal programmes under public sector for the tourists. Hotel Management and Tourism Training Centre provided training to 603 persons against the Plan target of 625 persons. Permission was granted for international charter flights under private sector with a view to promote tourist arrivals.

Transport and Communication

The Sixth Plan had set the target of constructing 1,950 km of roads within the Plan period. By the end of the fourth year (1983/84), 1,516 Km of roads was constructed. Keeping in view of the attainable progress in the last year 1984/85, it is expected that construction of 1,742 Km will be completed by the Plan period. This makes 89.30 percent of the target. In view of the upgrading works of existing roads, the net increases in the length of roads appears to be 777 Km only in the first four years and 233 km in the fifth year of the Plan period. This makes a net additional length of 1,010 Km during the Sixth Plan period. By the end of the Fifth Plan, there was a total length of 4,940 Km. with additional 1,010 Km, it is estimated that there is 5,950 Km of road in the country by the end of the Sixth Plan period.

The progress of the construction of black topped road and fair weather roads appears satisfactory. In the first four years of the Plan period, 89.40 percent of the target of the construction of black topped roads and 93.60 percent in the case of fair weather roads were achieved respectively. But only 57.30 percent of the target in case of gravelled roads was achieved. The total achievement including that of the final year is expected to be 97.80 percent for the black topped roads, 111.50 percent for the fair weather roads and 67.80 percent for the gravelled roads respectively during the Sixth Plan. Clearly the construction of gravelled road has lagged far behind target.

The construction target of suspension bridges by the Suspension Bridge Division is set at 300 with the Sixth Plan period. In the first four years 73 suspension bridges were completed and 56 suspension bridges are expected to be completed in the final year, thus totalling 129 suspension bridges, this clearly makes only 43.00 percent for the target. A target of constructing fifteen bridges for vehicular traffic was set in the Plan. Of this only 6 were constructed in the first four years. In the final year, only three more bridges are expected to be completed. This makes a total of 9 bridges which again makes only 60.00 percent of the target of the Sixth Plan. In the field of communications, the Plan had fixed the target of establishing additional 480 post offices. At the end of the fourth year 401 additional post offices were

established. In the final year 70 more post offices are expected to be added. Thus, a total of 471 post offices are expected to be established during the Plan period. This makes 98.10 percent of the target. The target for the installation of 23,450 telephone lines was set in the Sixth Plan. In the first four years 6,700 telephone lines were installed, making 28.60 percent of the target. The very slow progress in the installation of the telephone lines in Kathmandu was the main reason for this poor progress. In the final year, an addition of 7,200 lines is estimated to be installed. The total number of telephone lines at the end of the Sixth Plan period is thus expected to be 13,900. This makes 59.30 percent of the Plan target.

Electricity

By 1979/80, the total installed capacity of power was 68,346 Kilowatts 52,588 Kilowatts in hydro electricity and 15,758 Kilowatts in diesel plants. The Sixth Plan envisaged the target of the generation of a total power of 144,923 Kilowatts of which 124,000 Kilowatts would be from major hydro power projects, 5,833 Kilowatts from micro hydro power projects and 15,000 Kilowatts from diesel plants. There was power crisis in the first two years of the Plan. In the third year the addition of Kulekhani power project (capacity 60,000 Kilowatts) and the addition of Devighat project (capacity 14,100 Kw.) eased the power crisis to a large extent.

In the first four years of Plan, 86,045 Kilowatts were added. In the final year, 1,600 Kilowatts are expected to be added. Thus, in the Plan period, 87,645 Kilowatts is expected to be added, thus fulfilling 60.50 percent of the target. Transmission lines installed by the end of the fourth year is 90 Km. of 132 KV and 38 km of 66 KV. And with the expected completion of 110 km of 33KV in the fifth year, a total 238 km of transmission lines is expected to be completed during the Sixth Plan, 18.10 percent of the target. The transmission lines under installation-a) 542 km of 132 KV Hetauda-Biratnagar, Butwal-Nepalgunj and Dumkibas-Butwal, and b) 135 km. of 33 KV Dharan-Dhankuta, Trisuli-Dhuncha-Shomdang, Kharidhunga-Charikot, Ghorahi- Tulsipur, covering a total length of 677 km. are expected to remain so under construction.

Education

There was an appreciable progress in education in the first four years of the Plan period. Target of the literacy rate at 32.40 percent was set in the Plan. By the end of the fourth year, the literacy rate attained was 27.80 percent and is expected to reach 28.90 percent by the end of the fifth year.

The Sixth Plan envisaged the target of imparting access to primary education (class I-V) to 75 percent of the children of 6-10 years age. In the fourth year itself the target was exceeded and reached 76.10 percent. It is expected that 78 percent of the children will have access to primary level education by the end of the fifth year. Though progress in the lower middle level and middle level is expected to be low against the target, the progress nonetheless, is encouraging. In the lower middle level (Class VI-VII) the target was set at reaching 40 percent of the children (11-12 years age) and in the middle level (Class VIII-X) reaching 30 percent of the children (13-15 years age) in terms of access of education.

The progress attained is 34 percent and 23 percent respectively. By the end of the Plan period, it is expected that 35 percent of the children will have been receiving lower middle level education and 24 percent of children middle level education.

The target was fixed in the Plan to provide adult education to 900,000 persons. In the first four years, 254,000 persons were provided with adult education and by the end of the Plan 277,000 additional persons are expected to be receiving it. Thus, in the field of adult education, 28.20 percent of the target was met in the first four years and by the end of the Plan period, 30.70 percent of the target is expected to be achieved.

In the field of higher education, the target was envisaged to admit 21,244 students in different fields - 5,892 students in technical, 9,347 students in vocational, 6,005 students in general education. The progress of the first four years and that expected in the fifth year together shows that 108.40 percent of the target in technical, 43.30 percent in vocational and 69.40 percent in general would be achieved.

Health and Drinking Water

Special attention has been given to the extension of basic health services and medical care in providing minimum health services to the people in the Sixth Plan. The target was set in the Plan to open 467 health posts. In the first four years 161 health posts were opened. In the final year of the Plan 50 health posts are expected to be opened. So by the end of the Plan 211 additional health posts would be opened thus fulfilling 45.20 percent of the target (467 additional

health posts). Also, the target was set to employ 1250 rural health workers but only 511 health workers could be employed by the Plan period. According to the aim of converting gradually the health post into integrated health posts, 450 health posts in 23 districts have been converted into integrated health post partially or in full.

In the case of medical care; the number of hospitals and beds could not be increased as per the Plan target because of the delay in construction of hospitals and quarters. It is envisaged that 9 hospitals (capacity 15 beds) will be constructed against the Plan target of twenty five (one each in 25 districts) and 1,126 beds would be added against the target of 1,434 beds in the hospitals in operation. Regarding construction of 15 bed hospitals, hospital buildings are under construction in 20 districts. Programmes launched under preventive health services have contributed remarkably in the control of malaria, leprosy and other epidemic diseases.

In order to bring the birth rate to 40 from 42 and the child birth from 6.3 to 5.8, the target was set to provide 900,000 couples with family planning services. It is expected that 1.524 million couples would be provided with these facilities. This achievement has been possible because from the third year of the Plan period, family planning programmes were extended more effectively.

Drinking Water:

The target was to supply 317.40 million litres of water per day 177.80 million per day in the rural areas and 139.60 million litres per in the urban areas - through distribution by pipes within the Plan period. In the first four years of the Plan, 71.70 million litres per day were supplied in the rural areas and 52.20 million litres in the urban areas. Taking into account the possible water supply position in the fifth year, it is expected that the total supply of drinking water will reach 211.20 million litres per day by the end of the Sixth Plan-107.50 million litres per day in the rural areas and 103.90 million litres in the urban areas. Thus, only 66.60 percent of the Plan target. in water supply is expected to be achieved. This achievement will supply drinking "water to 12.20 percent of the total population 11.70 percent of the population in the rural areas and 79.90 percent of the population in the urban areas through the pipe system.

Table 1.33
Some Important Indicators of the
Economic Progress achieved during
Sixth Plan (1980-L.85)

	Unit	Situation			Progress in percent	
		1979/80	1983/84	1984/85 estimate	1980-84 first 4 years	1980-85 estimate 5 years
1. National product (at Constant prices 1974/75)	Rupees in billion	18.606 ¹	22.172	23.050	4.5 ²	4.4 ³
2. Foodgrains production	Metric tons in million	3.196 ⁴	4.286	4.336	7.6 ⁵	6.3 ⁶
3. Industrial production (base year 1974/75)	Production index	142.53	211.63	232.79	10.4 ⁷	10.3 ⁷
4. Command area	Hectare	198,481	250,984	338,672	26.4	70.6
5. Electricity (installed capacity)	Kilowatt	68,346	154,391	155,991	125.9	128.2
6. Road	Kilometer	4,940	5,717	5,950	15.7	20.4
7. Telephone lines	Number	13,880	20,580	27,780	48.3	100.1
8. Postal office	Number	1,358	1,821	1,891	30.3	35.4
9. Literacy	Percent ⁸	22.1	27.8	28.9	-	-
10. Primary education	Percent ⁹	63.9	76.1	78.0	-	-
11. Technical higher education	Students number	8,181	12,035 ¹⁰	12,834	47.1	56.9
12. Drinking water	percent ¹¹	10.6	18.8	22.4	-	.
(i) rural area	Percent	6.3	14.2	17.9		
(ii) urban area	Percent	75.8	80.7	79.9		

¹ 1979/80 was a bad year production wise ; in 1978/79 national product was Rs. 19.048 billion at constant prices of 1974/75;

² Compared to 1980/81 average for 3 years comes to 3.2 percent;

³ Compared to 1980/81 average growth rate for 4 years comes to 3.4 percent;.

⁴ 1979/80 was a bad year production wise, in 1978/79 foodgrain production was 3.691 million metric tons;

⁵ Compared to 1980/81 average growth rate for 3 years comes to 3.8 percent;

⁶ Compared to 1980/81 average growth rate for 4 years comes to 3.2 percent;

⁷ annual growth rate;

⁸ Population above 6 years Age;

⁹ Children between 6 to 10 years studying at primary classes;

¹⁰ Situation of 1983/84.

¹¹ Population receiving drinking water through pipes;

13. Health posts	Number	583	744	794	27.6	36.2
14. Hospital beds	Number	2,586	2,843	3,712	9.9	30.6

Table 1.34
**Achievement of major Physical
Targets in the Sixth Plan (1980-85)**

	Unit	Target of Sixth Plan	1980/81	1981/82	1980/81	1980/81	1980/81	Progress		Progress in percent against target	
								In four years	In five years estimate	In four years	In five years estimate
1. National production	Percent per year	4.3	8.3	3.8 ⁰	-1.4 ⁰	7.4 ⁰	4.0	4.5	4.5		
2. Agriculture Production	Do	3.0	15.7	4.0	-7.6	15.4	3.6	6.4	5.9		
(a) Foodgrains	Do	2.8	28.3	4.2	-10.2	20.2	1.7	7.4	6.2		
(b) Cash crops	Do	3.9	5.3	2.9	4.6	-3.7	12.9	2.2	4.3		
3. Industrial production	Do	10.0	0.4	11.5	18.4	12.0	10.0	10.4	10.3		
4. Command area	Hectare	233,482	9,375	1 1,388	14,025	17,715	41,600	52,503	94,133	22.5	40.7
5. Distribution of improved seeds	metric tons	25,725	1,824	2,566	5,641	2,998	8,775	1 3,029	21,804	50.6	84.7
6. Chemical fertilizer Distribution (Nutrients)	metric tons	215,402	22,458	23,823	31,278	37,297	57,200	114,856	172,056	53.3	79.8
7. Disbursement of Agricultural loans (A. D. B.)	Rupees million	1744.10	134.20	256.40	345.80	453.30	551.20	1189.60	1740.80	68.2	99.8
8. Tree Plantation	Hectare	42,872	3,256	5,305	7,355	9,368	12,162	25,284	37,446	59.0	87.3
9. Power installed ¹ Capacity	Kilowatt	144,923	10,096	60,997	460	14,292	1,800	86,005	87,645	59.4	60.5
10. Disbursement of Industrial loan (NIDC)	Rupees million	502.70	46.10	35.10	72.00	51.10	80.00	204.30	284.30	40.6	56.6
11. Roads	KM	1,950					233	1,516	1,702	77.7	89.3
(a) Black topped roads	KM	672						601	657	81.4	97.8
(b) Gravelled roads	KM	775						444	524	57.3	67.6
(c) Dust roads	KM	503						-471	562	93.6	111.5
12. Suspension bridges ²	Number	300	30	225	26.1	16	56	98	154	32.6	51.7
13. Airport	Number	2				1	1	1	2	50.0	100.0

14. Telephone lines	Number	23,450	1,400	100	200	5,000	7,200	6,700	13,900		. 59.3
15. Post Office	Number	480	96	96	100	109	70	401	471	83.5	98.1
16. Literacy	Percent	32.4	23.3	24.6	26.2	27.8	28.6	27.8	28.9	85.8	89.2
17. Adult education	Number	900,000	20,684	64,612	84,904	84,010	22,500	254,210	276,70	28.2	30.7
18. Admission of students in the schools	Number										
(a) Primary (class I-V)	Do	344,506	70,933	86,697	151,739	177,081 ⁰	90,136	426,450	516,587	123.8	150.0
(b) Low medium (class VI-VII)	Do	139,255	27,293	30,114	19,961	33,050 ⁰	13,950	110,418	124,369	79.3	89.3
(c) Medium (class VIII-X)	Do	156,162	23,324	26,073	28,042	16,165 ⁰	13,891	93,604	107,495	59.9	68.8

19. Admission of students (school going, children)												
(a) Primary (6-10 years)	Percent	75.0	65.6	67.9	72.9	76.1	78.0	76.1	78.0	101.5	104.0	
(b) Low, middle (11-12 years)	do	40.0	24.7	28.4	30.4	34.1	35.0	34.1	35.0	85.2	87.5	
(c) Middle (13-15 years)	do	30.0	16.8	19.4	22.0	23.1	24.0	23.1	24.0	77.0	80.0	
20. New students in higher education ³	number	21,244	-9,527	-12,731	-3,824	-8,255	23,478	-8,875	14,603		68.7	
(a) Technical	do	5,892	-648	1,127	259	-904	6,556	-166	6,390		108.4	
(b) Vocational	do	9,347	-5,093	5,113	-1,163	-2,832	8,021	-3,975	4,046		43.3	
(c) General	do	6,005	-3,786	6,491	-2,920	-4,519	8,901	4,734	4,167		69.4	
21. Hospitals and health centers												
(a) Hospitals	number	25					6	3	9	12.0	36.0	
(b) Hospital beds	number	1,434		10	247		869	257	1,126	17.9	78.5	
(c) Health posts	number	467	61	100			50	161	211	34.5	45.2	
(d) Ayurvedic	number	50	5	10	13	12	10	40	50	80.0	100.0	
22. Drinking water facilities	Million liters per day	317.50	21.00	17.50	34.20	51.10	87.40	123.80	211.40	39.0	66.6	
(a) Rural area	do	177.80	7.10	16.60	24.40	28.60	35.80	71.70	107.50	40.3	60.5	
(b) Urban area	do	139.60	13.90	5.90	9.80	22.60	51.70	52.20	103.90	37.4	74.4	

23. Population receiving drinking water	percent	35.5	12.3	12.8	15.7	18.8	22.4	14.7
(a) Rural area	do	31.7	7.2	8.5	10.8	14.2	17.9	10.2
(b) Urban area	do	87.2	71.8	74.8	84.1	80.7	79.9	80.7
24. Family planning services	thousand couples	900	216	223	284	303	301	1,026
(a) Laproscopic	do	200	23	31	45	66	70	165
(b) Short term	do	700	193	192	239	237	231	861
25. Approximate birth rate	per thousand	40						
26. Approximate death per thousand rate		17						
27. Total child-birth ⁴	Per woman(15-49 years)	5.8						
28. Child death rate	per thousand	130						

1. Power generated by industries for self-consumption not included.
2. Constructed by Suspension Bridge Division only.
3. Included all students (new admission and carry over) studying in the school level.
4. The target is set in the Sixth Plan period to reduce the child birth rate from 6.7 to 6.2.
5. According to the census of 1981.
6. Primary
7. Revised.

PART - II

CHAPTER 2

OBJECTIVES AND BASIC DEVELOPMENT STRATEGIES OF THE SEVENTH PLAN

Background:

The completion of the Sixth Plan period marks the end of the chapter on the history of nearly three decades of planned development of the country. When the country first embarked upon the process of a planned development in the fiscal year 1956/57, inadequate development of infrastructures was the major constraint. Past efforts in the process of planned development have brought about substantial and significant achievements in the development of physical and social infrastructures. Based on these achievements, a new chapter was added in the history of development, which led to the inclusion of far-reaching objectives such as fulfilling minimum basic needs of the people.

In the context of drawing up the outline of the Seventh economic development plan of the nation, it is but natural that the picture of the implementation status of the current sixth plan should come up for a brief review. At the time of the formulation of the sixth plan and thereafter for the first two and a half years of the implementation, on the one hand the attention of the entire nation was concentrated on the important political exercise and on the other, the third year of the plan dawned only to find the country in the grip of a severe drought. Despite all these, an impressive progress could be achieved during the plan period in major macro-economic indicators such as GDP.

Due to favourable weather conditions, the national production situation remained good in the first two years. In 1979/80, the base year of the sixth plan, a decrease in GDP because of unfavourable weather conditions took a turn for the better the following year and, as a result, GDP increased abnormally by 8.3 percent. In the second year also, GDP increased by 3.8 percent. In the third year, drought conditions held sway over a greater part of the country, bringing about a decline of 1.4 percent in GDP due to a sizeable reduction in agriculture production. Again in the fourth year, GDP increased by 7.4 percent. Thus, during the first four years of the plan period^{*}; the average annual growth rate of GDP is estimated to be 4.5 percent.

During this period, trends were unfavourable in the government finance monetary, price, foreign trade and balance of payments situations. As significant accomplishments remained elusive in the mobilization of revenue, reliance on deficit financing increased to finance public sector expenditures, until it reached the all time high of Rs. 2070 million in the fiscal year 1982/83 compared to Rs. 960 million in the previous year. In the fiscal year 1983/84 despite efforts to contain deficit financing, it did fall below the level of Rs. 1390 million. The excessive deficit financing led to the expansion of money supply with its adverse impact on price level and balance of payments position of the country.

During those four years, money supply increased at an annual rate of 14.9 percent and the price at 11 percent per annum. The continuous increase in imports without corresponding increases in export set the stage for the foreign trade balance to become more and more unfavourable. Decline in agricultural production due to unpropitious weather conditions followed by heavy pressure on imports, as a result of the deficit financing, disturbed after many years in 1982/83 the balance of payments position of the country as well. In that year, the country had to face a big deficit of Rs. 680 million. In order to reduce the deficits in balance of payments, administrative steps were taken to control import since 1983/84. Yet in that year also, balance of payments deficit remained at Rs. 130 million. Economic imbalance of this sort created a situation in 1983/84, the fourth year of the plan, where this quantum of public investment had to be kept within strict bounds. It now appears that the rate of public investment as envisaged in the plan may not at all be possible to maintain.

From a review of the plan implementation of the first four years, it appears that progress in important sectors will lag far behind the targets. In particular, during the period under review, achievements in power and irrigation, which have a pivotal role to play in expanding the productive capabilities of the economy, were so low that there is a fear that the attempts at rapidly accelerating the growth rate in the coming plan period may come up against severe obstacles. Progress of transport sector was good though specially, construction of suspension bridges, which were taken in hand to provide minimum rural transport facilities, failed to keep up a satisfactory rate of progress.

In the expansion of basic health service and drinking water facilities, too, the achievements fell far behind

^{*} Based on revised estimates, the estimates for the year 1980/81 are actual while those of the following three years are revised preliminary estimates.

the target set by the plan. The only exceptions were the education sector where the progress achieved was really encouraging.

In spite of the gap between targets and achievements, the nation was able to achieve some progress in various social and economic sectors.

The irrigation facilities provided under the public sector recorded an increase by 26 percent, bringing the total irrigated area to 251,000 hectares. The installed power, capacity has been more than doubled to 154 megawatts, which has been proved a great boon to the smooth functioning of industrial enterprises. Road facilities have gone up by 16 percent to 5,727 Kms. Similarly, telephone facilities have risen by 48 percent, to 20,580 lines. Literacy, which was 22.1 percent in 1979/80 has soared to 27.8 percent in 1983/84. Likewise, the ratio of primary school going age children estimated at 64 percent in 1980, reached 76 percent in 1984. Remarkable progress has been scored in the fields of lower secondary and secondary education. The proportion of people enjoying drinking water facilities has increased from 10.6 percent to 18.8 percent. During this period, serious attempts have been made strengthen institutional bases to stimulate development on various fronts.

In the final year of the plan period (1984/85), agricultural production is expected to be normal. In the year 1981/82, the 60 megawatt Kulekhani Project was commissioned. It was followed in the year 1983/84 by the completion of the Devighat project, which added 14.1 megawatt to the national grid. This led to the substantially improvement in power supply position which in turn contributed a great deal to overcome bottleneck affecting the establishment and operation of industries, and this is therefore expected to spur industrial activities. For these reasons, GDP is expected to increase by 4 percent this year. Thus, there is a strong probability that the average annual growth rate during the entire Sixth Plan period will be 4.4 percent. But the base year 1979/80 of the sixth plan was a bad year from the point of view of production. If the average annual growth rate of the later four-year of the Plan period is considered, the growth rate comes to be 3.4 percent. The target of the GDP growth rate of the sixth plan is 4.3 percent.

Although success has been scored in gaining limited goals, one cannot lose sight of the fact, first, that the execution of the plan has failed to proceed at the prescribed rate and, secondly, that no dynamism has been introduced in the development of the economy. Agricultural sector, the source of livelihood and employment of the bulk of the population, continues to lean heavily on uncertain weather conditions. Significant achievements in enhancing agricultural production and productivity are yet to be realized. Forest land, the principal source of fuel supply, is shrinking rather than increasing in area. Mounting erosion and landslide are undermining the base of the hill economy. On the other hand, the sharp rise in population is compounding the already complex economic problems. Failure to boost the production of traditional export goods has created situation where whatever is produced has to be diverted to meeting the needs of the growing population. Another fact that has weakened the export sector is that no new exportable items have been identified and created. In the absence of adequate efforts to mobilise internal resources, investment capabilities have been considerably narrowed down. On the other hand, sluggishness in taking firm steps designed to streamline and strengthen development administration has cast a shadow on the implementation of projects. This, in turn, has made the economy incapable of putting to good use the resources provided under the foreign aid. In this connection, it may be pointed out that the indigenous populations are not getting advantages from whatever job openings are being created by investments.

Viewed against this background, it becomes patently clear that mere mouthing of catchy slogans or coining of claptrap phrases cannot be relied upon to overcome the problems the nation is facing today as well as those which it will be saddled with tomorrow. The problems are there, standing out bright and clear, so are the means of getting to grips with them. Principal challenge of today is to resolutely put into effects those known means. In this context, the Seventh Plan should be viewed against the background of the following challenges:

- (a) To narrow down the gulf between planning and implementation, between word and deed, and to step forward to carry out what has been laid down and translate the vision into reality,
- (b) To focus the entire attention and endeavour of the nation on the tasks of increasing production and employment opportunities, and fulfilling the minimum basic needs of the common man as laid down so clearly in the sixth plan,
- (c) To build up the productive capabilities of the economy on the basis of the development of land and water resources, which form the physical endowments of the nation,
- (d) To devote proper attention to conserving and expanding the natural wealth, and
- (e) To take steps to tackle the population problems.

From this, it follows that what is needed is to concentrate our efforts towards giving concrete shapes to the objectives and development policies singled out in the current plan instead of talking about additional things and hunting for new catchwords in the course of the Seventh Plan period. If this is to be the line of action, certain amendments and alterations will have to be made in the development policies of the Seventh Plan, keeping in view those additional challenges that have emerged during the Sixth Plan period. Nevertheless, the basic approach should be not so much to scatter the limited financial resources at our disposal as to concentrate them on matters of top priorities as enunciated in the plan itself. Similarly, in view of the limited financial resources and shortage of technical manpower, the current projects and programmes may have to be subjected to a close scrutiny, and steps taken to strike out those that are either inconsistent with the objectives and development strategies of the plan or very low in priority rating. In conclusion, besides dedicating the political will and commitment to economic development, which is a logical thing to do against the background of the political stability prevailing in the country, effective implementation of the Seventh Plan largely hinges on two things. One of them is to be able to build up an atmosphere, which will allow an efficient harnessing of internal resources, and another is to give added strength and competence to development administration and to create such conditions as are designed to encourage the government employees to dedicate themselves to nation building under a new wave of eagerness, excitement and enthusiasm. Absence of these two things will mean that we shall once again fail in our attempt at bridging the gap between what we say and what we do; Moreover, to increase the tempo of local development works, the panchayat sector should be galvanized into action with a greater sense of accountability, and emphasis should be laid on topping local organizational set-ups, local leaderships and local resources to meet the minimum basic needs of the local people and also in responding to the demand for local development in line with the spirit of the principles of decentralization.

While working out the draft of the coming Seventh Plan, it has been the endeavour to keep the above mentioned points in mind constantly and unflinchingly.

2. Objectives:

Development goals of a nation are necessarily long term. They cannot be achieved within a sort time-span. That is why it is not generally found desirable to tamper with those objectives that the nation is striving for until they are fully achieved. The rationale of periodic plans is to attain those objectives, and they are designed solely with that end in view. Looked at from the standpoint of our economic conditions and realities, the objectives laid down in the Sixth Plan are of equal relevance and significance today. As the nation will still need a long time to reach those objectives, they have been set forth as the objectives of the Seventh Plan also. They are:

- (a) To increase production at a higher rate.
- (b) To increase opportunities for productive employments, and
- (c) To fulfill the minimum basic needs of the people.

(a) To increase production at a higher rate

The momentous challenge facing the nation has been the ways and means of increasing production and purchasing power. The existing problems of indigence and unemployment cannot be sorted out till the productive capacity of the nation and purchasing power of the people were stepped up. Also, without raising productivity the concept of social justice will be no more than a vision and a dream—a shadow without substance. Such is the hard economic reality of ours today.

In the decade ranging from 1971/72 to 1981/82 national production has succeeded in growing at the rate of 3 percent per annum, whereas the population has started growing by 2.66 percent every year. And as the agricultural sector failed to register substantial achievements, the development pace of the economy has been clogged up. Since there is a close and intimate inter-relationship between agricultural and non-agricultural sectors, lack of dynamism in the former has had the effect of limiting both the speed and scope of development in the latter. Dull and insipid growth of production cannot lead to the growth of the capacity to save, nor can it breathe a new life in the export trade.

Over the past several years population has been growing at a rate much faster than the national production, with the result that our development processes have been barely enough to sustain the increasing pressure of population, leaving us with nothing to push up the economic standard of the broad masses. There are signs that the performance of the sixth plan in terms of economic growth rate will be slightly better than its predecessor, but as the population has started growing at a faster rate than in the preceding years, the end result can be expected to be no more than a marginal improvement in the standard of living.

Not that there is a lack of enough potential for stepping up production. The agricultural sector is no exception in this regard. From the demonstrations of the research farms and the actual crop outputs of the pioneer peasants, it has been seen that farm output can be increased by three to four times more than at present. Nor do we lack the skill and technology to boost production to that extent. True it is that our peasants are mostly unlettered, but that does not mean that they are not endowed with the intellectual capacity to utilize those techniques with full knowledge and understanding. What is wanted is nothing but the means to place those techniques within their reach to provide them with sufficient amount of irrigation water, production tools and equipments required for the use of those techniques, and to ensure an effective framework within which they can hope to get a fair price for the larger number of things produced by their labour and investment. This is not to say that no attempt has so far been made to bring such a set-up to birth. But it appears that much more remains to be done to make it a viable unit.

Forest is another our national resources, and its development is necessary for the overall development of the economy. Through the effective conservation and utilization of these resources we can fulfill a number of multifaceted economic necessities of the nation—fuel woods to cook food; charcoal and raw materials to keep the industries running; timbers to build houses; fodder for animal husbandry; herbs to manufacture medicine; national parks for the development of tourism industry; soil conservation to maintain and keep up the fertility of land and to prevent disastrous floods and landslides. What we need now, however, is to make a Herculean effort to grapple with the problems arising out of the indiscriminate destruction of our forest resources.

Our nation has nature conferred an almost limitless wealth in the form of water, holding infinite development prospects for our economy. Much of the future development of our economy rests on the judicious and effective use of this vast resource. It can play a big part in the promotion of energy based industries, in the creation of electric-powered transportation system, and in the increment of our export capabilities along with rapid advances in electrification, irrigation, drinking water facilities, fish farming and tourism. It is, therefore, essential that further efforts be made to ensure a multi-purpose development and use of this valuable resource with our sights firmly set on its long-run prospects.

Although the full range of infrastructures required for a speedier industrialization programme has yet to come into being, it does not mean that there are no chances open to those who are willing to set up industries by optimizing the use of whatever basic conditions have been created. Chiefly, enough possibilities are there for setting up small industries based on indigenous farm products and imported raw materials. As far as export-oriented industries are concerned, attention can be focussed on improving the quality and increasing the quantity of those goods which have already made a dent, however small, in the fiercely competitive export market as a result of the efforts aimed at fostering the growth of such industries. To usher in an atmosphere conducive to industrial development, special attention has to be given to maintaining a good rapport between the government and the industrialists, taking steps to ensure prompt availability of industrial facilities to entrepreneurs, fostering harmonious relations between the mill-owners and workers, working out a balance between productivity and wage rates, keeping government control and interference in the industrial investment activities to the bare minimum and encouraging free competition.

Tourism has now appeared on the scene as a viable modern source of increasing foreign exchange receipts of the country. It has no less an important role to play as a generation of income and employment. Increasing efforts should be made to develop tourism on a big scale and in a planned way.

To ensure a fast growth of production, attention should be turned to the maximum utilization of facilities already installed. According to available data, only 42 percent of the capacity of irrigation projects are being tapped. From this, it follows that additional acreage can reap the benefit from irrigation facilities by improving the distribution networks alone if nothing else. In the areas having transport facilities, attempt should be made to develop horticulture and livestock for commercial purposes, and to set up small industries by taking advantage of the opportunities opened up by surface transportation. Attempts also can be made to foster increase industrial output by running the industries already commissioned in the public and private sectors to their full capacity. Areas that hold promise for quick production against small investment should be identified, and the flow of investment should be channeled that way.

(b) To increase opportunities for productive employment

The problem of employment has been further exacerbated by the steep growth of population. According to the census report 1981, the labour force has been augmented by 2 million within inter censal decade 1971-1981, which works out to an annual increment of 0.2 million. As job opportunities in non-agricultural sectors could not be created to the requisite extent, the pressure on agriculture, which has the dubious distinction of employing the

greatest number of people, went on increasing. The growth rate in the agricultural sector itself has been rather slow and leisurely. Hence, the effect of the rapid expansion in the number of the job-seeking people has been to further intensify the already complicated problems of semi-employment. This problem has already assumed formidable proportion in the hill areas, in particular, where lands that can be brought under the plough are limited. At the same time, educated unemployment seems to be on the increase.

The ultimate aim of any economic development is nothing else but to upgrade the living standard of the people at large an aim, which can be realized on condition that production and employment are stepped up considerably. The living standard of the bulk of the population can be pushed up through the creation of jobs. More jobs mean distribution of income among a wider section of the population. To include the employment-oriented development policy, in the Seventh Plan is, therefore, relevant to the present context also.

In view of the structure of the country's economy, the only source which can lead to the multiplication of employment, opportunities to a large extent seems to be a faster development of the agricultural sector. The scope of the non-agricultural sectors being very narrow at present, they cannot be expected to provide employment to a large segment of the population, no matter how fast is the rate of development of these sectors. In the decade between 1971 and 1981, this sector has been able to absorb only 17 percent (338,000) of the growing population, leaving the balance of 83 percent (1,660,000) with no choice except to have recourse to the agricultural sector. Again, the expansion of the non-agricultural sector is conditioned by the growth of the agricultural sector. To take the case of rural areas, agricultural growth helps increase employment by engendering economic activities in non-agricultural areas.

It is, therefore, essential that from the point of view of multiplying job opportunities also overall priority be now given to agricultural development.

To expand the scope of employment in the industrial sector, the imperatives of the limited internal market require that priority be accorded to the development of small, labour-intensive industries. If the labour intensive industrial development policy is to be made effective, it must be ensured that the policies governing, in particular, the industrial tax and credit concessions together with the industrial wages and labour welfare schemes are not devised in such a way as to provide impetus to heavily capital intensive industrial investments.

Foreign trade policies also should be put into effect in a manner supportive of increasing employment opportunities within the country. To this end, stress should be laid on export-promoting manufacturing activities and concentrated attention should be given to producing and exporting agro-allied and labour oriented commodities.

Improvement in the productivity and income level of workers is contingent upon the quality of work. Currently, unskilled labour occupies a dominant position in the aggregate labour force. Not only has this situation kept the domestic productivity at a lower level. Short supply of indigenous people who can offer the kind of skill on demand in the market has triggered an inflow of foreign labour. It has become, therefore, all the more important that vocational and skill-oriented trainings be evolved to make the workforce of the country more efficient and skillful. Moreover, it is high time that steps be taken to ban the unrestricted entry of foreign nationals in order to create conditions where our own compatriots are enabled to take full advantage of the new avenues opened up in the country as a result of economic development

(c) To fulfill the minimum basic needs of the people:

As the resources available for investment are limited, a decision should be taken on where to guide the flow of investment and for the purpose of increasing the supply of which commodities or services. It will be recalled that the target set by the sixth plan was to channel investment to meet the minimum basic needs of the people. During the Seventh Plan period also, it is necessary that the following be viewed as the minimum basic needs and that all attempts be centered on meeting them:

- 1) Food grain
- 2) Clothing
- 3) Fuelwood
- 4) Drinking water
- 5) Primary health cares and sanitation
- 6) Primary and skill-based education and
- 7) Minimum rural transport facilities.

Foodgrain:

Food is the basic of all human needs. Man can work with any enthusiasm only when he has enough to eat and is healthy. It is, therefore, not only essential but indispensable to invest in raising food production as much as possible.

Although investment has regularly been made in increasing food production over the past so many years, we have failed in our attempt to keep the growth of food production in step with the rise in population. In the decade between 1971 and 1981 our population has grown from 11,556,000 to 15,023,000 (a growth of 30 percent), while foodgrain production within the same period climbed from 3,486,000 metric tons to 3,829,000 metric tons (a gain of 10 percentage points only). As population growth has started out-stripping the volume of food production, the amount of supply available for internal consumption has dwindled more and more. Food production has now reached a level where it cannot be deemed sufficient to meet the minimum nutritional needs of the people. In the hill areas, food crisis is now so frequent that it has almost become an annual feature and the food deficit districts have been increasing in number. The rising cost of food distribution has exerted increasing pressure on the budget year after year. As a consequence of population growth, the foodgrain savings of the - Terai region have started declining, and as an increasing amount of the decreasing savings is being dispatched to the hills, foodgrain export has plummeted, throwing the foreign trade off balance. From the food crises arising out of the drought of 1979/80 and 1982/83 it has become more than clear that our foodgrains production position has come down to a really wretched level. It is clear that in the present situation all our attention and attempts be irrevocably committed to increase adequate food grain production. We shall be able to give proper attention to other acts of economic development only if our all out assault on the food production is crowned with success.

Clothing:

Another thing essential to the daily life of the people is clothing. Being a country with different climates, we require clothing suited to summer and winter conditions. At the moment we have to depend largely on foreign countries to meet our clothing requirements. Since there is an extensive market within the country, various kinds of cloth can be produced indigenously. The crying need is to launch solid programmes in the country for the production of essential raw materials. Industrial demands of those items that cannot be produced internally or that can be produced only at prohibitive costs can be met by import.

Being a labour intensive enterprise textile industry has the potential of generating employment opportunities in abundance. It has, therefore, become a thing of paramount importance that steps be taken to develop textile industry in a planned manner and on a wider scale. Clothing is one of the basic necessities of the general public and therefore, its production cost is to be at the minimum level and economical. Excessive protection of this industry is not desirable from the viewpoint of overall industrial development of the country. If imported clothes sell at a cheaper rate than the comparable indigenous products, the goal of providing people with low cost clothing will remain unfulfilled. For this reason, the formulation of textile industry development policies and drawing up of requisite plans should be preceded by a detailed study on the various technical and economic aspects involved in the development of textile industries within the country.

Fuelwood

The next thing that should draw our attention after food and clothing is firewood. The bulk of our household requirement for fuel, whether for cooking or heating, are met by fuelwood. In the case of the rural families, wood is the only source of energy. However much we increase our investment in the generation of hydro -electricity, it will be quite a long time before wood is supplanted by electricity, particularly in view of the fact that to an ordinary household, electricity cannot rival wood in price. As the purchasing power of our rural population is very low and the cost of production, very high, they will not be able to afford electricity for many more years to come. Under the present circumstances wood would remain to be the cheapest source of energy for the majority of our people compared to other energy alternatives.'

But our forest resources have been badly depleted within the last two decades chiefly on account of the high growth of population. In the 15 years between 1963/64 and 1978/79 the area covered by forest had shrunk from 6.4 million hectares to 4.3 million hectares. Of this, the land under forest is estimated to have shrunk from 4.6 million hectares to 3.9 million hectares in the mountain and from 1.8 million hectares to 0.4 million hectares in the Terai. In other words, 15 percent of the forest in the mountainous region and 78 percent in Terai have been decimated bringing the total to 33 percent. Depletion of forest in the neighborhood of villages and other human settlements has forced the inhabitants to spend a longer and longer time in gathering firewood. As it has become more and more difficult to stock up enough firewood they are being forced to fall back upon the sun dried cakes of cow-dung as a

supplementary source of fuel, at the cost of fertility of soil.

Of all the things, the most serious is that forests that are left with us are not enough to meet the annual fuel needs of the people. This is a situation, which helps intensify the depletions. If we fail to take rapid steps to tackle this problem on a war footing, the situation will go from bad to worse. According to studies made on the status of the forest wealth, it has been found that if the present rates of ravages are to go on unchecked, there will be not a single patch of forest left in the country within the next two decades.

The national demand for fuelwood cannot now be met on a short-term basis. Even if we draw up a plan to meet our annual requirements in the course of the next two decades, we shall have to put a degree of effort far greater than what we are used to now. According to a study made in this connection this target will be achievable only if we go on increasing the tree plantation rate in such a way as to cover an area of 50,000 hectares by 1990 and 120,000 hectares by 2000. The present rate of afforestation stands at 6 or 7 thousand hectares per year. From this one can easily form an idea about how extensive the scope of the tree plantation programme should be.

To step up the supply of firewood, reforestation and conservation programmes should be launched in the form of a campaign, particularly in areas close to human habitations both rural and urban. Effective steps should also be taken to implement such programmes by the panchayat and private sectors on a commercial basis.

Drinking Water

Another basic necessity is drinking water. By the end of the terminal year of the Fifth Plan, 1979/80, the facility of piped water was extended to 1,548,000 of the population. According to the census of 1981, the total population of the country is estimated to have reached 14,634,000. It will thus be seen that the population covered by the piped water distribution system stood at 10.6 percent in 1979/80. In the fourth year of the sixth plan, 1983/84, this facility was brought within the reach of 2,545,000 persons, which constituted 17.7 per cent of the estimated population (14,253,000) of that year.

In the hill region, in particular, human settlements are usually long way off from sources of water. In such a situation housewives have to devote a lot of time and energy to the task of fetching water-time and energy, which could have been better spent on some productive work. Further, contaminated water is at the root of all kinds of diseases. If enough potable water can be supplied, the time spent on bringing water can be diverted to productive works, which will naturally, help raise the productivity and income of the family. Besides, the resulting control of waterborne diseases will improve the health status of the people and push up the level of their productivity. That is why it is deemed essential that priority be assigned to expand the coverage of drinking water facility in the Seventh Plan.

Primary health care and sanitation

Emphasis has all along been placed on the expansion of the primary health care services as it happens to be the only way by which minimum health facilities to the rural population can be ensured. The number of health posts, which were to serve as the institutional medium for the delivery of the health care package, was increased year by year until it reached 744 in 1983/84. The present ratio between health posts and population is 1: 21, 845. There is a great need for multiplying their number with all speed so that people can derive benefit from whatever curative and preventive measures they are competent and equipped to provide. In addition, it is also urgently required that the quality of services made available through these health posts be improved appreciably.

At the same time, enough attention should be given to both rural and urban sanitation. Most of the diseases spring from ignorance and environmental pollution. To convince the people of the virtues of cleanliness, a publicity campaign should be mounted, using both the educational and publicity and broadcasting media. In this connection, it is most appropriate to activate village and town panchayats in such campaigns.

Primary and skill-based education and adult education

Literate and skilled labour is a pre-requisite to the all-round development of the nation. For this reason, any attempt directed at providing literacy and skill to the greatest number of people within the shortest possible time is a matter of national priority.

During the Sixth Plan period, much has been achieved in this direction. In 1983/84, the fourth year of the sixth plan, 76 percent of the children of primary-school age are estimated to have been enjoying primary education facilities. Until the above-mentioned year, literate population reached 27.8 per cent of the total population. Some progress was made in the development of technical and vocational education. Efforts in those directions should be continued in the years lying ahead.

Minimum rural transport facility

Transport has a highly significant part to play in a country like ours where the topography is dominated by mountains, rivers and streams. Development of transport links hitherto isolated pockets and settlements to developing areas and incorporates them with the stream of national economic development. It also makes it possible to explore new avenues of development. But on the other hand, investment in the construction of costly motorable roads of modern standard cannot be economically justifiable in those mountain regions where due to the backward state of their economies the volume of traffic tends to remain low. At the moment the policy will be to construct truck worthy single lane jeepable mud roads in such areas, depending on the density of traffic of each place, and to build mule tracks, suspension and wooden bridges to link up the villages with near by periodic markets and other commercial outlets. This will be the suitable investment policy to be adopted as part of the effort to provide minimum transport facilities in the rural areas. Later, as economic activities go on expanding, creating a correspondingly bigger volume of traffic, the roads designed for vehicular traffic can be widened and then gravelled and macadamized. As things stand now, the most appropriate transport development policy will be to link up a maximum number of places at the minimum level of cost.

3. Basic development strategies

To achieve the development objectives of the Seventh Plan, investment and efforts will have to be devoted to two directions simultaneously. The first direction is to help utilize to the full extent the infrastructures already created and to concentrate investment on programmes that are likely to boost production without undue loss of time. Secondly, the level of investment will be increased in the creation of those basic pre-requisites, which are essential to the strengthening of the foundations of the economy and to the quickening of the tempo of development in the years to come. If owing to resource constraint simultaneous advance on both these fronts is not possible, priority will be accorded to the first line of action. Subject to this fundamental investment policy, the following shall constitute our basic development strategies to achieve the objectives of the Seventh Plan.

a) To accord overall priority to the development of agricultural sector

In the present state of our country, to impart dynamism to agricultural sector is a matter of paramount importance, if we really mean to increase our production multiply employment opportunities and fulfil the minimum need of the people. Agriculture has been the source of income and employment to the majority of the people, Poverty is most rampant in the agricultural sector. Hence, to lift up the standard of living of the majority of the poor people, it is imperative that the agricultural sector be developed and advanced. Development of agricultural sector is essential to the industrialization of the country and the promotion of export trade. Industrial products will enjoy a bigger market if the purchasing power of the farmers can be strengthened. Similarly, the supply of industrial raw materials becomes possible only when the agricultural sector is developed and expanded. If we succeed in increasing the volume of production of foodgrains and other farm products in plenty and at low cost, the wages of industrial workers and prices of raw materials will remain at a low level, making our industries more able to stand up to international competition. If industrial commodities can be produced at a cheaper rate, they will be widely accepted in the domestic market. And in this process the foundations of industrial development will be consolidated. At the present stage, the development of export sector also hinges on our capacity to boost up agriculture production. Thus, from all considerations, since agriculture has to play a substantial role in the economic advancement of the country, it is essential to assign top priority to this sector during the Seventh Plan period also. Hence, with agriculture as the focal point, the policy will be to lay the development of economy on a strong foundation by linking up the development bases of industry and export trade with the progress of this sector.

b) To put stress on the development of forest resources and the soil conservation

Prominent among the less costly sources meeting the mounting fuel needs of the rural household at present is forest. It will continue to occupy this position of pre-eminence until we are able to extensively develop the water resources or enhance the income level of the village folk. For this reason alone, if for nothing else, development and promotion of the forest wealth deserves preference. To combat the serious problems facing the villagers on account of the destruction of forest, tree plantation programmes will be conducted on a war footing. The existing forest will be developed and improved under scientific management, and wide-ranging programmes will be launched to increase the production of firewood and timbers. Besides, to relieve the pressure on forest, programmes in large numbers will be put under way to popularize the use of fuel-efficient stoves and bio-gas plants.

As a result of the depredations of the forest wealth and cultivation of hill slopes, flood and landslide disasters are on the increase, and the fertility of the high lands is on the wane. These problems, which were born of the ecological imbalances, should now be taken up very seriously. To this end, soil and watershed conservation

programmes will be carried out on a wider scale. As these programmes are very costly and have wide ramifications, it will be necessary, on the one hand, to strengthen the means of enlisting popular participation in their implementation and to fix priorities in their implementation on the basis of urgency before initiating them, on the other. In addition, the present land use situation will be studied on its basis, policies and programmes relating to land use will be drawn up and put into effect.

c) To put emphasis on development of water resources

As natural resources have a prominent part to play in the socio-economic development of the country, the exploitation of this abundant resource is imperative for development. Of all the natural resources available in the country, water resources occupies the place of prominence. However, it has not been tapped according to need. Hence, to intensify the allround development campaign of the country, water resources will be mobilized as an important development resource.

Various programmes will be taken in hand to develop and expand irrigation facilities and power and drinking water supply services respectively in the interest of agricultural, industrial and domestic sectors that stand to gain direct benefits from the development of water resources. If the programmes enumerated above can be taken up as a single multi-purpose project, preference will be given to such a unified approach. To tie up the development bases of the country's economy with the mobilization and utilization of the water resource, steps will be gradually taken towards developing power-based transportation systems and inland waterways along with energy-based industries (e. g. chemical fertilizers). At the same time, special attention will be given to develop it as an exportable commodity. A master plan will be drawn up to maximize the use of water resources, which is so abundantly available in the country. Thus, particular attention will be given to mobilize this resource in such a way as to make it a source of foreign exchange earning of the country, in addition to meeting internal requirements. A clear-cut policy will be laid down and necessary arrangements made to implement the huge water resources development programmes on the basis of the mutual cooperation of the neighbouring countries.

Water is a renewable source. As such, programmes will be set afoot to preserve and enlarge it. While mobilizing this resource, due attention will be given to environmental aspects also. Besides, statistical information on water resources of the country will be regularly collected, and their potentialities will be constantly studied and analyzed.

The scope of activities of the existing water and energy commission will be expanded to enable it to play an active role in mounting comprehensive studies on the feasibility of utilizing and developing the almost limitless water resource of the country and on the ways and means of developing alternative sources of energy. It will also be increasingly associated with conducting proper studies on the economic and legal aspects of water utilization, evaluating project proposals, and re-evaluating completed projects. This commission will be evolved as a competent technical unit charged with carrying out all kinds of studies in connection with the development of water resources.

Institutional arrangements will be made to strengthen the implementation side of the water resources development and to assume full responsibility for detailed designs, planning, construction, and servicing of the approved projects.

(d) To emphasize the development of industries

The country is at the threshold of industrialization. The infrastructures needed for industrialization are coming up only slowly. Owing to the low purchasing power of the people, internal market is very small. As a result, there is very limited scope for the establishment of big industries. Taking into account the geographical situation of the country and present development status of the natural resources available within the country, the prospects for those large-scale industries to be set up with an eye to the external market do not appear to be very bright. Such being the case, the industrialization of the country has relied on the opening of small industries.

As the establishment of small industries does not call for a huge outlay of capital, sophisticated technology and modern management methods, they are well within the capacity of our small investors. Tailored to meet the demands of a limited market, these industries can be developed on a large scale. As such industries are by nature labour-intensive, their extensive proliferation can be turned into an important source of employment. And if concentrated efforts are directed toward intensive development of those industries, which have proven their capacity to compete in the external markets, they can also become a reliable source of foreign exchange earnings.

Attempts have been made to develop small industries since the previous plan periods. As a result, some success have also been scored. It is, however, necessary to put in more effort for their extensive development. The experiences gained so far -in setting them up will be reviewed, and special attempts will be made to remove the

bottlenecks and mistakes, wherever found, in order to ensure their steady progress.

(e) To emphasize the promotion of export trade

The mounting import requirements have increased the trade deficit and have adversely affected the balance of payments position. In this context, it has become essential to deal seriously with the question of promoting export trade. The first step in this direction will be to select from among goods that are being or can be exported to India and the third countries such items which have the highest export potentialities. The next step will be to put stress on increasing their production, improving their quality, and cutting down their costs of production in order to make them more competitive. To economize the transit costs in connection with the export trade with the third countries, steps will be taken to improve the current transit mechanism and procedures with the view of increasing efficiency and reducing costs.

(f) To emphasize tourism development

Tourism is another area, which is growing fast to provide employment to the people and augment the foreign exchange earning of the country. It holds a good prospect for wide expansion. Tourism promotion programmes will be made more effective by removing those obstacles that have stood in the way of attracting more tourists and lengthening their stay. And, steps will be taken for the private sector to make more involved in the investment programmes which helps to develop tourism.

(g) To curb the population growth rate

There is an urgent need to check the population growth, which is taking place at such a rate that can hardly be sustained by the country's economy. For this purpose, the policies and programmes already devised will be carried out with greater vigour and on a wider scale as well as in a coordinated manner. Concrete steps will also be taken to stem the flow of immigration.

(h) To consolidate the foundations of national economic integration

The policy which has been framed to promote the growth of different development zones on the basis of their respective natural endowments and development potentials in order to reduce regional imbalances and strengthen the basis of the integration of the economy will be followed in the Seventh Plan period, too. Agricultural, forest and land conservation, and tourism development programmes, in particular, will be launched on a priority basis to foster the productive capabilities of the remote and backward hill areas. In conformity to the planned objective of providing minimum basic requirements of the people, the policy will be to give priority to and raise the level of investment in these areas for the expansion of drinking water, basic health care, primary and skill oriented education, and rural transport facilities.

(i) To improve management of the economy by decentralizing decision-making and execution processes

It is not possible for the government to shoulder all the responsibilities for economic development, nor is that the proper way to achieve the objective of advancing the economic growth at a faster pace. Excessive concentration of economic decision-making processes and activities inhibits the enthusiasm, skill and capacity of the economic units and limits the development potentials of the economy. The proper step will, therefore, be to orient the economy in the direction of phase-wise decentralization.

(1) Local Panchayats

To try to satisfy all the wants and requirements, whether big or small of all the village and town panchayats scattered all over the country cannot be regarded as practical proposition. The appropriate thing would be for the local Panchayats as a representative of local people to step forward to overcome the hardship experienced by the local people and to take in hand those small developments works which have great importance in the local context. Now the Decentralization Act, 1983 has also been enacted. The aim of the Act is to speed up the process of development through the medium of popular participation, by entrusting the local panchayats with the task of local development. In order to realize this objective it is of utmost importance that the administration of the local panchayat units be strengthened and shored up and that their competence to mobilize local means and resources be geared up. Institutionalized development is not a matter that can be achieved at a stroke. It must be built from the bottom up. It calls for a good deal of time and energy. During the Seventh Plan period, concrete steps will be taken to develop in the village, town and district panchayats the ability to formulate, execute and maintain development projects and to mobilize resources. The policy of decentralization will be put into effect step by step.

(2) Government-owned corporations

His Majesty's Government has invested sufficiently in Government owned industrial and commercial

corporations. Still it has not been able to get adequate returns from them, on the contrary, there are some corporate bodies who continue to charge on the government budget even at this stage. They have become financial burdens instead of functioning as sources of revenue.

It is indeed high time that the government-owned corporations be run ably and efficiently after making suitable improvements in their managerial aspects. Excessive government controls and interference in them should be abolished and the managers should be given a free hand in conducting corporation business. Every corporation should have a clear notion of what the government expects from it. A measuring rod should also be devised to rate its performance. The performance of each manager should be evaluated and he should be rewarded or punished on its basis. Evolution of such a system of the rod and carrot is necessary in the interest of efficiency. Practical steps will be taken in this direction during the Seventh Plan period.

(3) Private Sector

An atmosphere which is suited to the private sector to play an active part in the economic development has to be created. As the investment activities of the private sector are determined by the interplay of market forces, attention will be given to make them more competitive and competent. For this purpose, government interferences and control in the investment, activities of the private sector and in the price fixing processes of goods, services and means of production will be kept at the minimum. Institutional bases that have a direct bearing on the efficient operation of private enterprises will be strengthened. Special attention will be given to providing support and assistance to those small farmers, industrialists and professionals, in particular, who are eager to improve their economic conditions by making good use of whatever capital, skill, application and zeal they have in their possession.

The economic policies of the government will be tilted in the direction of stimulating savings, investment and productive activities in the private sector. As the long-term benefits of the consumers are contingent upon substantial increase in the supply of goods and services, the economic policies in force now will be reviewed in detail, and those that impede or act as disincentives to the task of raising production and supplies will be amended as part of the effort to do away with distortions of all kinds. Steps will be taken to evolve an excellent rapport between the public and private sectors.

(j) To strengthen and consolidate development administration

From the experiences gathered over the past so many years it has become quite clear that the pace of economic development of the country cannot be intensified until the development administrative machinery is strengthened and made more efficient. In the absence of such an administrative structure, the formulation and implementation aspects of the economic development policies and programmes will continue to be weak and incompetent.

During the Seventh Plan period, top priority will be given to the task of making development administration more effective. The present organization duties and methods of the government administrative units will be studied in detail, and reformative steps will be taken to make them more capable and dynamic. Improvements will be made in administrative procedures and financial rules to remove the obstacles lying in the way of speedy and smooth implementation of development projects. To boost the morale of the government employees, the pay scales and other facilities applicable to them will be upgraded, and the system of giving rewards strictly on the basis of merit will be enforced. Agencies charged with framing economic and development policies, formulating and assessing development project and programmes, and collecting and processing statistical data will be placed on a firm footing. In order to make it able to mobilize revenue in an effective manner, tax administration will be made strong and skilled.

Steps will be initiated to make the analysis of the development projects and programmes more effective. Similarly, follow up and review mechanisms of project implementation will be made more result oriented. To this end, planning cells functioning in ministries of His Majesty's Government, the secretariat of National Planning Commission will be strengthened.

CHAPTER 3
ECONOMIC GROWTH RATE AND TARGET

During the Sixth Plan period (1980-85), production levels in agricultural and industrial sectors remained impressive. Increase in the agricultural production was satisfactory during the period except in the drought year 1982/83. In the industrial sector, improvement in the supply of electricity contributed to increasing industrial production. Due to these reasons, it appears that over the plan period, GDP will increase on an average by 4.4 percent per year, thus slightly exceeding the overall target of 4.3 percent. But a caution has to be exercised in interpreting this growth rate. It should be borne in mind that the base year 1979/80 of the Sixth Plan was an abnormal year from the point of view of production. Hence, if the growth rate is computed by taking the figures from the following year 1980/81 onwards, annual average rate of increase of domestic product during four years 1981-85 appears to be 3.4 percent. During those four years, productions of agricultural and industrial sectors are estimated to be 3.2 percent and 3.6 percent respectively.

Table 1
Economic Growth Rate

	Gross Domestic Product (Rs.in million at 1974/75 constant price)	Annual Change (Percentage)
1978/79	19048	2.4
1979/80	18606	-2.3
1980/81	20158	8.3
1981/82 ¹	20926	3.8
1982/83 ¹	20642	-1.4
1983/84 ²	22172	7.4
1984/85 ²	23050	4.0
(a) 1980-85 (5 yrs)		4.4
(b) 1981-85 (4 yrs)		3.4

1 Revised estimate

2 Provisional preliminary

Targets of Production, Investment and Savings in the Seventh Plan:

The Seventh Plan aims at raising the gross domestic product by 4.5 percent per annum. In order to achieve the above growth rate, the production of agriculture sector is to be increased by 3.5 percent and the production of non-agriculture sector, by 5.7 percent annually. It would be remarkable if the target annual growth rate of 4.5 percent could be achieved in the context of annual growth rate of mere 3.4 percent in the preceding four years. If these targets were achieved, the-contribution of agriculture sector would fall from 52.4 percent to 49.9, and the contribution of non-agriculture sector would rise from 47.6 percent to 50.1, during the plan period.

TABLE 2
Growth Target of the Seventh Plan Period 1985-1990 (At constant price of 1984/85)

Economic Sectors	Gross Domestic Product		Annual Growth Rate (Percent)	GDP (As percentage)	
	1984/85	1989/90		1984/85	1989/90
	Agricultural Sector	22080		26220	3.5
Non-Agricultural Sector	20060	26290	5.7	47.6	50.1
Gross Domestic Product	42140	52510	4.5	100.0	100.0

An investment outlay of Rs. 40960 million. is to be provided so as to increase gross domestic product by

4.5 percent. The estimated outlay is based on the estimate that incremental capital output ratio (ICOR) would be 4.2:1.0. Out of this total outlay, Rs. 17550 million is estimated to be in government sector and Rs. 23410 million, in non-government sector. Out of the amount to be invested in non-government sector Rs. 2000 million is estimated to be in panchayat sector and remaining Rs. 21410 million is estimated to be in private sector.*

During the Seventh Plan period, the investment outlay will slow down drastically with an annual increase of 3.3 percent only. Though outlay in the non-agricultural sector is expected to increase at an annual rate of 6.4 percent, this is likely to decline gradually in the government sector. In the fiscal year 1984/85, the share of investment in national production was 18.8 percent. The share of investment is estimated to be 17.8 percent in 1989/90. In this way, increasing share of steadily growing amount of investment has to be fulfilled from foreign balance. Due to this reason, the share of national saving in GDP will come down from 10.4 percent to 8.3 as an effect of gradual decline in national saving. In case of consumption, its share in GDP is estimated to reach 91.7 by an increment of 5 percent annually from 89.6 percent. These tendencies indicate that there is a greater prospect of increasing outlay through mobilising saving from an increase in GDP.

* Includes outlay of government corporations also.

Table 3
Estimate of Gross Domestic Production, Investment & Saving in the Seventh Plan (1985-1990)
(At 1984/85 Constant Price)

in Million rupees

				Annual Growth Rate (percent)		As percentage of GDP		
	1981/82	1984/85	1989/90	1982-85 (4 yrs)	1985-90 (5 yrs)	1981/82	1984/85	1989/90
	1 Consumption	32838.2	37741.0	48169.0	3.5	5.0	89.1	89.6
2 Total Investment	6487.6	7936.0	9350.0	5.2	3.3	17.6	18.8	17.8
Investment in Fixed capital Formation	(5800.8)	(7448.0)	(8746.0)	(6.4)	(3.3)	(15.7)	(17.7)	(16.7)
Government Sector	2459.8	3575.0	3467.0	9.8	(0.1)	6.7	8.5	6.6
Non-Government Sector	3341.0	3873.0	5279.0	3.8	6.4	9.0	9.2	10.0
Change in Stock	(686.8)	(488.0)	(604.0)	(-)	(4.4)	(1.8)	(1.1)	(1.1)
3 Foreign Balance	-2474.7	-3539.0	-5006.0	9.4	7.2	-6.7	-8.4	-9.5
Imports of Goods and services	7228.3	8669.0	11352.0	4.6	5.5	19.6	20.6	21.6
Exports of Goods and services	4753.6	5130.0	6346.0	1.9	4.3	12.9	12.2	12.1
4 Gross Domestic Product	36851.1	41138.0	52512.0	3.4	4.5	100.0	100.0	100.0
5 Domestic Savings	4012.9	4397.0	4344.0	2.3	-0.02	10.9	10.4	8.3

The growth rate of GDP by 4.5 percent annually shows that there is a greater prospect for the mobilisation of saving. This shows that every possible effort has to be made at the government level for the mobilisation of internal resources. For a few years, proportion of national saving seems to be on the decline. By the terminal year of the Sixth Plan i. e. 1984/85, the total population is expected to have reached the mark of 16.69 million. When this is taken into consideration the per capita income during the year has been estimated to have reached Rs. 2,525 in 1984/85 at the current price. If population is to grow at the rate of 2.66 percent per annum through Out the Seventh Plan period, the total population is projected to reach 19.03 million by 1989/90, the last year of the plan. If the GDP continues to grow at the targeted annual rate of 4.5 percent throughout the plan period, the per capita income in 1989/90, the final year of the Seventh Plan, is estimated to be Rs. 2,760 at 1984/85 constant prices. Hence, the per capita income is estimated to increase at the rate of 1.8 percent annually during the plan period.

Development Targets of the Seventh Plan

Since the agriculture sector has a decisive role to play in meeting the target of increasing gross domestic product throughout the plan period, top-most priority has been accorded to the development of this sector. Accordingly, targets are set at increasing production of all major agricultural crops by 4.3 percent by increasing the annual production of cereal crops by 4.1 percent and cash crops by 5.2 percent.

For achieving these production targets, programmes have been formulated to extend irrigation facilities to additional 235 thousand hectares of land, and to distribute 37 thousand metric tons of improved seeds and 396 thousands metric tons of nutrient chemical fertilisers. Target has been set to distribute agricultural credit amounting to Rs. 1504.7 million (net) including Rs. 899.6 million through Agricultural Development Bank and Rs. 605.1 through Commercial Banks.

If irrigation programmes were implemented according to the target, the irrigation facilities to be provided through government sector would increase by 70 percent and this would increase the total land under irrigation facilities to 574 thousand hectares of land at the end of plan period.

Another priority sector is forestry. It has been quite essential to conduct forest conservation and development activities in war footing in order to eliminate gradually problems of supply of essential materials like fuel wood and timber and to prevent soil erosion. In this context, it has been targeted to conduct afforestation programme. in an additional 175 thousand hectares of land during the plan period through both government effort and peoples participation. Effort of afforestation would be five times as much in the seventh plan period as compared to the afforestation of only 37 thousand hectares of land in the Sixth Plan period.

During the Sixth Plan period, it is estimated that average annual rate of increase of industrial production was 10.3 percent. In the seventh plan period, annual rate of increase in industrial production is estimated to increase at 12.7 percent because of capacity utilisation of industries. already set up in government and private sector, because of commencement of production of industries under construction and because of setting up of new industries.

Programme has been set to provide credit of Rs. 2560 million in the form of financial assistance to private sector entrepreneurs to establish industries and to aid in their capacity expansion and regular operation. This also includes Rs. 120, million to be distributed through Agricultural Development Bank and an amount Rs. 540 million to distribute through commercial banks for the development of cottage & small scale industries.

Efforts have to be made for the gradual development of export and tourism sectors in order to lessen in future the dependence on foreign aid as well as to strengthen the balance of payments situation. For this purpose, programmes have been included in. the Seventh Plan. Targets have been set up so as to increase income from export sector by 10.7 percent and number of tourist arrivals by 4 percent annually.

Regarding the development of infrastructure, installed capacity of electricity has been more than doubled and had reached 156 megawatts in the Sixth Plan period; The target set for the Seventh Plan is to install additional 107 megawatts to obtain the installed capacity of 263 megawatts of electricity by the end of year of 1989/90.

Regarding the transportation sector, total length of road in the year 1984/85 was 5,950 km. and the seventh plan targets to increase its length to a total .of 7,940 .Km. by an increment of 34 percent. In case of the construction of suspension bridges, the number of suspensions bridges constructed in the Sixth Plan was 709 and 373 suspensions bridges are targeted to be constructed during the ensuing plan period. It is targeted to more than double the number of telephone to 40,920 and increase the number of post offices by 34 percent to 2540.

In the education sector, it is targeted to increase the proportion of literate population from 28.9percent to 38.9percent till the fiscal year of the plan period. Under adult education programme, a total of 276 thousand adults were made literate during the Sixth Plan period. During the Seventh Plan period, programme has been formulated to make 1.5 million people literate. In the year 1984/85 primary education facilities were made available to 78 percent of children belonging to the age group of 6-10; and lower secondary education facilities were made available to 35

percent of children belonging to the age group of 11-12 and secondary education facilities were made available to 24 percent of the children belonging to the age group of 13-15. It is targeted to enhance the above proportion to 87 percent, 43 percent and 36 percent respectively in 1989/90, the final year of the Seventh Plan.

Towards the development of technical manpower, the target has been set to produce 14,677 students from higher technical schools.

Regarding the extension of health services target has been set to increase number of hospitals from 80 to 105, number of hospitals beds from 368 to 4,403 and to increase number of health posts from 794 to 1050.

Regarding the extension of drinking water facilities, by the fiscal year of the Sixth Plan, drinking water facilities were made available to 20.6 percent of the total population including 15.7 percent of rural population and 79.9 percent of the urban population. By the end of the Seventh Plan period the facility will be extended to 42.8 percent of the total population including 39.4 percent of rural and 86.5 percent of urban population.

With regard to family planning services, during the Sixth Plan period 1.327 million couples were provided with permanent and temporary family planning services. During the Seventh Plan period those facilities will be given a great boost and: there is a target to provide services to 2 million 925 thousand couples.

T ABLB 4
Physical Targets of the Seventh Plan (1985-90)

	Unit	Situation as of the final year of the Sixth Plan 1984/85	Seventh Plan Target 1985-90	Situation as of the final year of the Seventh Plan 1989/90
1. Major Agricultural Products	% Annual Growth	5.9	4.3	
(a) Foodgrains	..	(6.2)*	(4.1)	
(b) Cash crops	..	4.3	(5.2)	
2. Industrial Production	..	10.3*	12.7	
3. Irrigated Area	Hectares	3,38,672	235493.0	574165.00
4. Distribution of Improved seeds (Paddy, Maize, Wheat)	M. T.	21,804*	37450.0	
5. Distribution of Chemical Fertilizers	N. M. T.	1,72,056	396050.0	
6. Distribution of Agricultural Credit (Net) ¹	Rs. Million	715.5*	504.7	
7. Afforestation	Hectares	37,446 ¹¹	175000.0	
8. Power (Installed capacity)	KW	1,55,991	106765.0	262756.00
9. Distribution of Industrial Credit (Net) ²	Rs. Million	760.3*	2561.3	
10. Roads	KM	5950.00	2000.0	7950.00
(a) Black top	"	(2753.00)	(442.0)	(3195.00)
(b) Gravelled	"	(851.00)	(778.0)	(1629.00)
(c) Fair Weather	"	(2346.00)	(780.0)	(3126.00)
11. Suspension Bridges ³	Number	129*	373.0	
12. Airports	"	42.00	2.0	42.00
13. Telephone Lines	Number	27778.00	40,920	68700.00
14. Post Offices	..	1891.00	649	2540.00
15. Literacy Rate	Percent	28.90	38.9	38.90
16. Adult Education ⁴	Number	2,76,710*	15,00,000	
(a) Work Oriented	"		(7,50,000)	
(b) General Literacy	"		(7,50,000)	
17. Student Enrollment:	Number			
(a) Primary (1-5 Grade)	"	18,33,655	4,98,453	23,32,108
(b) Lower Secondary (6-7 Grade)	"	2,66,639	1,06,896	3,73,535
(c) Secondary (8-10 Grade)	Percent	2,28,502	1,62,328	3,90,830
18. Student Enrollment				
Percentage of Age Groups				
(a) Primary (6-10 years)	"	78.00	87	87.00
(b) Lower Secondary (11-12 years)	"	35.00	43	43.00
(c) Secondary (13-15 years)	"	24.00	36	36.00
19. Production of Students from higher education	Number	12,064*	14,677	
20. Hospital Health Centre				
(a) Hospital	"	82.00	25	107.00
(b) Hospital beds	"	3,368	1,035	4403.00
(c) Health Centre	"	26.00	-	-
(d) Health Posts	..	794.00	256	1050.00
(e) Ayurvedic Service Centre	..	125.00	50	175.00
21. Percentage of Population having drinking water facilities	% of population	20.6	42.84	42.8
(a) Rural	..	(15.7)	(39.4)	39.4
(b) Urban	..	(79.9)	(86.5)	86.5
22. Family Planning Service	1000 couples	13.27*	29.25	
(a) Sterilization	..	(235*)	(580)	
(b) Temporary Contraception	..	(1092*)	(2345)	

* Only the additional achievement during the Sixth Plan period (1980-85).

1 Net loan disbursed to agricultural sector by ADB and Commercial Banks.

2 Net loan disbursed to industrial sector by Agricultural Development Banks, Commercial Banks & Nepal Industrial Development Corporation.

3 Only the constructions of Suspension Bridge Division.

4 Percentage of literate population above 6 years of age out of total population.

Allocation of Total Development-Outlay

Though the amount to be invested in the public sector is Rs.17.55 billion, total development outlay will be Rs. 29 billion. Direct development outlay in the public sector will be Rs. 27 billion as Rs. 1 billion each will be provided to Private Sector and Panchayat Sector. Of this total development outlay, 65 percent is estimated to

be spent in the form of investment. Total development outlay during the Seventh Plan period is estimated to be Rs. 50.41 billion, including direct development outlay of Rs. 27 billion in the Public Sector, investment of Rs. 2 billion in Panchayat sector and investment of 21.47 billion in private sector. Total development outlay is estimated to be allocated to social and economic sectors in public, panchayat and private sectors as follows:

TABLE 5
Allocation of Total Development Outlay (At 1984/85 Constant Price)

	Public sector	Panchayat sector	Private Sector	Total Development Outlay	Percentage
Agriculture, Irrigation and Forest	8380	550	8350	17280	34.3.
Industry, Mining & Power	7040	30	3370	10840	21.5
Transportation and Communication	5130	600	1530	7260	14.4"
Social Service ¹	6450	820	7760	15030	29.8
Total	27000	20002	214103	51410	100.0

1. Includes construction of houses and other miscellaneous development expenditures.
2. Includes Rs. 1000 million development assistance from His Majesty's Government to Panchayats.
3. Includes total financial assistance Rs. 1000 million that is to be distributed by HMG through financial institutions and commercial banks to private sector which includes an amount of Rs. 250 million each for industry and cottage as well as small scale industries and Rs. 1500 million for the development of agriculture.

During the Seventh Plan period, it is expected that panchayat organisations will play a significant role for the local development of village and town under the Decentralization Act, 1982. District level development programmes that have been conducted by HMG will be formulated and implemented through District Panchayats. Besides this, financial assistance of Rs. 1 billion will be made available from HMG in five years as grants to Districts Panchayats for local development programmes. An amount of Rs. 1003 million is estimated to be mobilized by panchayats by implementing Panchayats Development and Land Tax and mobilizing local labour and resources from local taxes panchayat are authorised to collect by such laws. In this way, an outlay of Rs. 2 billion is expected to be made available to the panchayat sector.

His Majesty's Government will provide Rs. 500 million and Rs. 250 million respectively to Agriculture Development Bank and Nepal Industrial Development Corporation in order to provide financial assistance to private sector entrepreneurs to provide support for increasing investment in agriculture & industry. Besides this, refinance amounting to Rs. 250 million will be provided by HMG through commercial banks for the development of cottage and small scale industries in the private sector. Balance amount of Rs. 21.10 million needed for the investment in private sector is estimated to be met from the savings of the private sector. Investment in the private sector includes the investment to be done by Government Corporation from their own savings also.

Projection of Balance of Payments Situation

The tendencies that were observed in the balance of trade and payment situation during the Sixth Plan period were as follows:

- (1) Export could not increase in proportion to the increase in GDP.
- (2) The decisive role played by weather in the export trade has remained as it is because of the dominance of agriculture and agro-based commodities in total volume of trade,
- (3) Though there has been some change in commodity-wise constitution of export trade due to increase in the proportion of industrial goods, stability has yet to be imparted to export by improving quality, production & cost of production of such goods.
- (4) Balance of trade continued to be unfavourable due to the increasing proportion of import in GDP.
- (5) Income from tourism sector has not been able to improve balance of payments situation.
- (6) The deteriorating balance of payments situation with overseas countries has a tendency to, affect the balance of payments situation with India due to an increment in imports from that country.

In the first year (1980/81) of the Sixth Plan, export increased abnormally by 38 percent due to, favourable climate over the unfavourable one in the previous year. Export declined in the two, consecutive years. Improvement in the export could occur after 1983/84. But this improvement was due only to, the

increase in valuation price in Nepalese-Rupees in export statistics as a result of gradual devaluation of Nepalese currency in relation to, U. S. Dollar and inflation in the International Market.

There is no, increase in the quantity of export and has remained stable over the last 7 or 8 years. This kind of *status qua* is estimated to persist even during the Seventh Plan period. But inability to, increase export would have serious impact on the balance of payment positioning the Seventh Plan. As such, during the Seventh Plan period effort has to be done to increase export at a rate of 2.5 percent per annum at constant price. A total amount of Rs. 11640 million will be accrued from export if the estimated increase in exports were achieved.

Import is estimated to, increase tremendously during the Seventh Plan period. To, contains the rate of import within an annual rate of 6 percent at constant price, measures to, adopt are suitable exchange rate, appropriate fiscal and monetary policy, and to, central import of luxurious goods. If this increasing rate of import can be limited to, 6 percent, remittances for import could be contained to, Rs. 44640 million. in. the plan period. The total trade deficit during the plan period will still be Rs. 33000 million.

Tourism has remained a principal source of service income of foreign exchange and Indian currency, But during the Sixth Plan period, though number of tourists has increased, a decline is recorded in its income. This supports the fact that there is a leakage in foreign exchange earning from tourism. As such, it will be essential to, pay attention to check these leakages.

Special steps will have to, be taken to, make programmes of tourism promotion effective to, increase earnings from this sector. During the plan period, income from tourism sector is estimated at Rs. 4620 million by increasing earnings at the rate of 4 percent per annum. Other source of service income included during the Seventh Plan period was local expenditure of diplomatic missions in Nepal Since the constructions of big buildings i.e. 'Works of high. cast of diplomatic missions have been completed, now it cannot be expected that there will be further increase in this amount. Therefore, during the Seventh Plan period, income from other service is estimated to increase at a rate of 6.2 percent per annum, making the total amount Rs. 12920 million. Service payment is estimated to increase at a rate of 2.5 percent per annum making the total payment Rs. 6450 million. In this way, net earning from service income is estimated to be Rs; 11090 million.

During the Seventh Plan period, it is estimated that there will be a rapid increase in payment of interest on foreign loans and at the final year of the plan, annual payment amount will be Rs. 330 million. Total payment of interest in five years will be Rs. 1170 million. Since investment income is estimated to be Rs. 500 millions, net payment during the plan period' is estimated to be Rs. 670 million.

Transfer income will increase at a rate of 2.5 percent per annum and transfer payment will increase at a rate of 10 percent per annum by bringing in an amount of Rs. 3940 million net total income from this sector. Transfer income mainly includes remittance received from Nepalese working in foreign countries and transfer payment mainly includes income that foreign contractors send to their countries through earning in Nepal.

Though there has been investment in net service and transfer income, trade deficit has increased tremendously and as a consequence deficit in current account will increase at a rate of 9.2 percent per annum making annual deficit of amount Rs. 4410 million at the final year (1989/90) of the Seventh Plan. This was estimated to be Rs. 2840 million at the final year 1984/85 of the Sixth Plan. Total deficit amount of current account during the Seventh Plan period is estimated to be Rs. 18640 million.

During the Seventh Plan period, the total foreign aid that will be received is estimated to be Rs. 20480 million including grant assistance of Rs. 10400 million and loan assistance of Rs. 10080 million. As principal to be paid during the period will be Rs. 820 millions, net foreign aid to be recovered will be Rs. 19660 million. This amount will enable to meet the deficit of Rs. 18640 million of current account making it surplus of Rs. 1020 million in balance of payments. Foreign exchange reserve in Nepal Rastra Bank seems to be increased by Rs. 1 billion by the fiscal year 1989/90 so as to meet import expenditure of at least four months. As such, balance of payment surplus of Rs. 1 billion is essential during the plan period.

Favourable or unfavourable balance of payment position in the Seventh Plan period depends mainly on whether or not income from export & tourism could be increased by 2.5 percent per annum and 4 percent per annum respectively and whether or not the rate of increase of import could be contained at 6 percent per annum. These growth rates are projected at constant price of 1984/85. Since price rise is estimated to be 8 percent per annum, export & tourism earnings at current price have to be increased at annual rate of 10.7 percent and 12.3 percent respectively, and an annual rate of increase of import have to be contained at 14.5 percent. If these could not be done, hurdles will appear in development process due to balance of payment crisis.

TABLE 6
Projection of Balance of Payments Position of the
Seventh Plan (1985:-1990) Period*
(At 1984/85 Constant Price)

1	Balance of Trade Export,	-5310.0	7.3	-7552.6	-32997.9
	F.O.B. Import,	2160.0	2.5	2443.9	11637.7

	C.I.F.	7470.0	6.0	9996.5	44635.6
2	Service Income, Net	1771.0	7.5	2547.1	11087.5
	Service Receipts	2970.0	(5.6)	(3902.1)	(17541.8)
	Travel	820.0	4.0	997.7	4619.1
	Others	2150.0	6.2	2904.2	12922.7
	Service Payments	(1199.0)	(2.5)	(1355.0)	(6454.3)
	Travel	323.0	1.0	339.5	1664.1
	Others	876.0	3.0	1015.5	4790.2
3	Investment Income, Net	-3.72	43.20	-224.2	-671.90
	Receipts	90.0	3.4	106.6	498.3
	Payments	127.2	21.1	330.8	1170.1
4	Transfer Income, Net	740.0	2.1	820.0	3939.5
	Receipts	780.0	2.5	884.5	4208.2
	Payments	40.0	10.0	64.5	268.7
5	Current Account Balance, Net	-2836.2	9.2	-4409.7	-18642.8
6	Foreign Aid, Net	3252.1	6.4	4429.8	19662.9
	Foreign Grants	1470.0	11.8	2568.0	10400.0
	Foreign Loans, Net	1782.1	0.9	1861.8	9262.9
	Foreign Loans Gross	(1880.0)	(2.1)	(2082.0)	(10080.0)
	Amortization	(97.9)	(17.6)	(220.1)	(817.1)
7	Other Capital Items, Net	-260.0			
8	Overall Surplus or Deficit (-)	155.9	-	20.1	1020.1

CHAPTER 4
PUBLIC SECTOR DEVELOPMENT PROGRAMMES AND
PROVISION OF FINANCIAL RESOURCES

Since the beginning of the Sixth Plan, scarcity of domestic resources has emerged as a main obstacle in expanding the public sector investment programmes. The amount of revenue surplus necessary for financing development expenditures had been on the decline due to the fast expansion of regular expenditures on the one hand and the failure of revenue growth rates to surpass the regular expenditure on the other. If this trend of revenue earnings and regular expenditures is to persist, the surplus is bound to become negative in the Seventh Plan. Because of the difficult government finance situation, the growth rate of development expenditures has been nominal since the fourth year of the Sixth Plan, and even has decreased in terms of constant prices. In this context, it has become imperative to adopt effective features to mobilise increasing resources to meet the public sector development outlays in the Seventh Plan.

TABLE 1
Revenue Surplus and Development Expenditures
(At Current Market Prices)

	Revenue Surplus	Development Expenditures	Share of Revenue Surplus in Development Expenditure (percentage)
1979/80	697.6	2308.6	30.2
1980/81	1039.2	2731.1	38.1
1981/82	1041.4	3726.9	27.9
1982/83	838.5	4982.1	16.8
1983/84	1146.0	5059.9	22.6
1984/85*	800.0	5500.0	14.5

* Estimated.

Size of Development Outlay and Sources of Finance

In the context of the emerging financial situation, the size of the public sector development outlay has been limited to Rs. 29 billion for the Seventh Plan Period. The need to limit the size of development outlay has been dictated mainly by three factors.

Firstly, the presently apparent indications of the slow growth rate of revenue generation points out the failure to take timely corrective measures in accelerating the growth of revenue generation. Though corrective measures have been taken presently, many years will have to be spent before the results are expected from these measures, and hence a significant achievement cannot be expected in the plan period.

Second is the uncontrolled growth of regular expenditure. With the increase in the number of completed projects along with their cost of repair and - maintenance in regular expenditure is not unnatural. It is essential to make adequate provisions for repair and maintenance. But it is not the only cause for the increase in the regular expenditure. Regular budget has not made adequate provisions for the repair and maintenance of projects, and implementation and maintenance cost of many regular works have been met from development budget. Specially due to the raise in the salary scales towards the end of the (Sixth) Plan period, the administrative expenses have been enormous and it will be difficult to check the increase of regular expenditure if the trend of overstaffing continues. Unless efforts are made to install cost-effective administrative machinery it will be very difficult to check this increase. Another cause for this increase in regular expenditure is the increasing burden of loan and interest repayment of domestic and external loans. In the Seventh Plan period, this kind of expenses is estimated to be Rs. 4.79 billion at constant prices, which amounts to 25 percent of estimated total regular expenditure. Due to all these causes, immense cut in the regular expenditure is unlikely in the Seventh Plan period.

The third reason that necessitated to curtail the size of development outlay is the inability of the economy to utilise all available foreign aid. Though emphasis has been laid from time to time to enhance absorptive capacity, we have not succeeded enough in this front. As it will be unrealistic to seek the use of foreign aid beyond the absorptive capacity, the size of development expenditure has been limited from this view point also.

In determining the size of development expenditure of Rs. 29, billion for the Seventh Plan, it has been assumed that appropriate measures will be taken in these three areas -mobilisation of revenue, control of regular

expenditure and improvement in the absorptive capacity.

It has been estimated that Rs. 22.06 billion at constant prices will be collected as revenue during the plan period assuming the average annual growth rate of revenue to be 4.4 percent due to the expansion of economic activities in the Seventh Plan period. The regular expenditure will grow annually by 7.1 percent and will amount to Rs. 18.79 billion. Thus the revenue surplus of Rs. 3.09 billion will be available to meet development expenditures. It has been projected that Rs. 20.48 billion of foreign aid would be utilized as a result of the gradual strengthening of the development administration. In terms of resources, Rs. 2.57 billion will be available from these two sources, thus constituting 81.3 percent of total development expenditure of Rs. 29 billion.

Deficit of Rs. 5.43 billion (18.7 percent of development expenditure) has to be mobilised through the proper combination of measures like mobilisation of additional revenue and raising of internal loan. As adequate revenue could not be mobilised, deficit financing was adopted since 1981/82. As a result, country's balance of payments position and domestic prices deteriorated, culminating in serious economic difficulties. Efforts have been made to curtail the amount of deficit finance since 1983/84, but without any success and the cut in deficit financing has been at the cost of development expenditure. Greater reliance cannot be placed on internal loan due to three reasons. First, loan mostly from the banking sector has an expansionary effect on the money supply and adversely affects the domestic and external economic balance.

Experience has proved this fact. Second since this measure calls for competition with private sector for financial resources, it goes contrary to the objective of the plan to encourage private sector participation in economic development. Third, tax revenue and loan have different impact on the budget. The tax revenue has not to be refunded whereas the amount mobilised from loan has to be paid back along with interest. Keeping in view the increasing burden of debt services in the regular budget, financing through loans should be viewed only as a temporary measure to meet short term financial needs. Even at present the annual amount of internal loan that the government raises is very high compared to the annual revenue (It is estimated to be 35 percent in 1984/85). It is, therefore essential to cut this size of the internal loans so as to improve the balance of payments situation and price level, and to reduce debt servicing liabilities.

Keeping this in view policies of permanent nature in mobilising additional revenue and, in gradually lessening reliance on internal loan are to be adopted to meet the deficit of the development outlays in the Seventh Plan. Accordingly, Rs. 1.93 billion will be realised by changes in the tax policies and by strengthening the tax administration and the balance amount of Rs. 3.50 billion to be raised in the form of internal loans. Proposed loan amount for the Seventh Plan is to be very minimal in comparison with such loan raised during the Sixth Plan period. Of the proposed loan amount, Rs. 2.50 billion will be raised from the banking sector and Rs. 1.00 billion from non-banking sectors.

According to the forecast, development outlays will increase only by 1.8 percent annually and will amount merely to Rs. 6.00 billion in the last year of the plan from Rs. 5.50 billion in 1984/85. Thus only Rs. 0.50 billion will be an increment in the development outlay within the five years of the Plan. Main reasons for the need to limit the development outlays are due to the need to meet increasing regular expenditure from the additional revenue generated from regular growth and from new measures and due to the necessity of gradually curtailing the amount of internal loan. Another significant change in the financial position that the forecast indicated is the growth of foreign aid component from 61 to 70 percent in the plan period and the need to allocate significant part of additional scarce internal resources to meet the additional HMG contribution to utilise this foreign aid (on the supposition that the proportion of HMG contribution for the utilisation of foreign aid is $1.00 = 0.22$). As such development programmes to be implemented from HMG's own resources have to be curtailed

Mobilisation of Internal resources

Great efforts have to be made for the mobilisation of additional resources to meet the deficit internal resources for the public sector development outlay in the Seventh Plan. Specifically following measures have to be adopted:

The base of the tax revenue is very narrow. Custom duties collected on the imported goods and sales tax have remained the main source of revenue. As tax revenue is mainly dependent on imports, it has made it difficult to remodel the import policy suitable to the country's economic development and to frame a firm revenue structure. It is necessary to be less reliant on this source of revenue as there is a need to control the imports in the Seventh Plan period. Therefore, a need to explore alternative sources of revenue to enhance the level of internal resources is more clearly felt.

Though agriculture is the main source of gross domestic product, mobilisation of resources from this source has not been adequately done. No revision has been brought in the rates of land revenue since the last seventeen

years. Because of large scale concession annual revenue collection of Rs. 0.12 billion in the Fifth Plan period has declined recently to Rs. 0.08 billion. To mobilise more resources from agricultural sector, measures like revision of the rates and of structure of rent the identification of appropriate medium of direct tax on the agricultural income are necessary.

Income tax from non-agricultural sector also has been systematically collected. Base of income tax has eroded because of weak tax administration and many concessions allowed thereto. After a thorough review of present tax structure, institution of low rates of income taxes with minimum of tax concessions in lieu of high rates will probably help reduce tax evasion and tax leakages too.

Revenue collected from urban land holdings and housing properties is also limited. The main reasons for this are the concessions granted to the industries and hotels, the higher rates of such concessions, inability to update the assessment of land holding and housing properties and lack of strict follow up to collect such taxes after identification of evaders of such taxes. The base of indirect taxes like excise imposed on domestic production and sales tax is also narrow. Main sources of indirect tax revenue has been alcohol and cigarettes. To extend the base of these taxable resources, it is necessary to reassess the facilities offered to the industries and to revise the rates of these taxes, accordingly.

Elasticity of tax revenue to national income is very low at present. Due to this reason, the increase in national income has not adequately been reflected in the generation of revenue. To enhance the elasticity of tax revenue, measures to replace -existing taxes rates based on quantity by advalorem taxes, wherever possible, can contribute to the increase in resource mobilisation.

Another main issue that pertains to the aspect of resource mobilisation is the tax concessions allowed to industries for the sake of industrial development. It is high time now to take steps to assess contributions to the revenue from these industries also, based on revision of tax facilities these industries are enjoying in accordance with the policy of industrial promotion.

Additionally new sources of revenue should be identified. Sales taxes can be levied on the services offered by corporations like telephone, telecommunication, electricity, drinking water. It is necessary to determine appropriate rates of duty for the services charging low rates at present after the reassessment of such duties.

Revamping of tax administration has been the priority issue for the effective collection of revenue. Institutional and professional development of revenue administration should immediately be taken up. Only by doing so, system of revenue collection can be made effective and leakages, checked.

There are still additional measures to be adopted to tap the net profit of the government owned-corporations and thereby, enhance their contribution level to government revenue. Despite steps undertaken to run these public corporations professionally and efficiently, it is now time that concrete measures be introduced to enhance their level of efficiency.

It has become difficult to finance for additional development outlays as government failed to realise adequate returns from investment need in different sectors. The revenue collected from different services like irrigation, mini-hydel plants, transportation, drinking water projects, sewage, higher education, hospitals is not even enough to meet the cost of repair and maintenance, let alone the recovery of such investment. To continue further investment in the development of such sectors demand changes in this situation. For this, fixation of appropriate duties and their effective collection must be insured.

In addition to above measures to achieve higher level mobilisation of resources, measures also must be taken to restrain the growth of regular expenditure. Specific control should be exercised on the recruitment of extra personnel in the government offices than these are absolutely necessary. Measures also should be adopted to close down or integrate unnecessary offices after the detailed study of work volume of each of these. Subsidy policies should also be reviewed and the budget relieved of the pressure emerging from the increasing subsidies provided in the distribution of foodgrains and chemical fertilizers.

In case the measures cited above for the mobilisation of resources and control of regular expenditure are not taken up in time, a great difficulty in the adequately mobilisation of internal resources would render the meeting of the targeted amount of outlay for the government sector extremely difficult.

Utilization of foreign aid

No specific improvement in the utilization of foreign aid seemed to have been brought about in the Sixth Plan period. Only 39 percent of total available foreign aid was utilized in that period. As of July 15, 1985, balance of unutilized foreign aid including grants and loans amount to Rs. 19.72 billion. Though a sharp increase in the foreign aid is unlikely due to the unfavourable international aid climate, it is expected that foreign aid to the tune of Rs 23.15 billion will be available for the Seventh Plan period. This is at the rate of Rs 4.63 billion annually at constant price of

1984/85. Thus it is estimated that the total foreign aid of Rs 4.87 billion together with the amount as of July 15, 1985 and those to be available in the plan period will represent the total fund that should be utilized in the Seventh Plan.

Thus, our problem lies not in the exploration of further aid but in failure to effectively use foreign aid already available. If the past experience of the Sixth Plan is any guide to future, it is doubtful whether or not even 40 percent of available foreign aid could be spent. The requirements of foreign aid utilization in the Seventh Plan, however, is based on the estimate that 50.1 percent of foreign aid or Rs 20.48 billion would be utilised.

Unless there is a substantial improvement in our absorptive capacity, it will be very difficult to utilize foreign aid. As such concrete steps should be taken towards the solution of present obstacles (like delay in the approval of tender, weaknesses in administrative management and coordination, and impractical financial rules and regulations etc.) to enhance the absorptive capacity.

In order to enhance the foreign aid utilization and to boost up production without loss of time, a substantive portion of foreign aid that will be available in the Seventh Plan should be channelised towards activities directly contributing to the increase in production. This approach will greatly aid in the speedy utilization of foreign aid and in attaining the objective of increasing production and of meeting the minimum 8 basic needs of people.

Appropriation and Allocation of Development Expenditure

As a great stride is unlikely in overcoming the scarcity of internal resources and in boosting the absorptive capacity, size of development expenditure for the Seventh Plan period cannot be increased immensely; Therefore, development expenditure has been limited to Rs 29 billion. At constant prices, development expenditure had shrunk to Rs 5.50 billion in the fourth and fifth year of the Sixth Plan.

In context of total expenditure of Rs 25.33 billion during the Sixth Plan, the proposed development outlay of Rs 29 billion is bigger by only 14 percent at the constant price of 1984/85. Development expenditure is estimated to increase by 1.8 percent annually during the plan period. According to the estimates, development expenditure has increased by 8 percent in the Sixth Plan period at constant price of 1984/85.

As the size of development expenditure cannot be increased beyond Rs 29 billion, the following investment policies should be adopted while allocating of development expenditure in the Seventh Plan.

1. To allocate resources to priority projects under construction for their early completion.
2. To chalk out non-priority projects from the plan itself after reassessment of the projects programmes under implementation.
3. To take up new projects to the extent the surplus resources permit after allocating resources for the completion of projects under implementation.
4. While taking up new projects, to give first priority to projects and programmes that are helpful for the fuller utilisation of infrastructures already created with minimum of investment, thereby contributing to the increase in production and to place second priority to projects and programmes that will enhance production and help meet minimum basic needs as envisaged in the plan.

Adequate statistics and materials have not been available to formulate five years programme in accordance with above policies. Decision has yet to be taken on what projects and programmes under implementation should be continued in the plan and what projects and programmes are to be chalked out or amended following closely to the plan objectives. Similarly, detailed study and cost benefit analysis have not been done to identify the economic justification of proposed projects and to identify whether these could fulfil the plan objectives or not. In this context, it is not sought to incorporate a detailed list of all projects and programmes. As such, efforts have been made to provide guidelines on the priority allocation to public sector investment programmes of different sectors according to the objectives of the Seventh Plan. At the time of formulation of annual development plan and budget preparation, practice of incorporating projects and programmes in the annual plan only after their detailed analysis will be pursued.

In allocation of resources for public sector in the Seventh Plan, policy of allocating more resources to priority sectors will be adopted. Accordingly priority will be assigned to and more resources allocated for the development of agriculture, irrigation and forest sectors. For this sector, 30.6 percent of total development outlay has been earmarked. Second priority has been assigned to the development of industries and power for which 26 percent of total development outlay has been earmarked. Emphasis has been laid on the development especially of cottage and small scale industries in the context of the industrial development. In power, emphasis has been laid on the completion of Marshyangdi hydro-electricity project, and on the extension of the transmission lines. For the social service and miscellaneous sectors 25.7 percent of the development outlay has been earmarked. In the social service sector, priority has been assigned to primary education, adult education, vocational and technical education, drinking water and basic health services. Emphasis has been placed on the qualitative rather than quantity on services in the

development of education and health services. For the development of transport and communication, 17.7 percent of development outlay has been earmarked. In transportation, emphasis is placed on the completion of remaining part of western sector of East-West highway and on the construction of projects like suspension bridges to facilitate services of transportation.

Of the development outlay of Rs 29 billion, amounts have been set aside to provide refinance of Rs 500 million for Agricultural Development Bank and Rs 250 million for Nepal Industrial Development Corporation to assist private farmers and entrepreneurs for agricultural and industrial development, and of Rs 250 million to Commercial Banks for the development of cottage and small scale industries. A development grant of one billion rupees has been earmarked to aid Panchayats in the implementation of local development programmes.

TABLE 2
Source of Public Sector Development Outlay in the Seventh Plan (1985-199V)
(At the Constant Price of 1984-85)

Revenue (General Growth)	3870	4.4	4800	22060	+930
Regular Expenditure	3070	7.1	4300	18970	+1270
Development Expenditure	5000	1.8	6000	29000	+500
Source of Development Expenditure					-340
A. Revenue Surplus	800	6.8	460	3090	
B. Foreign Aid	3350	(11.80)	4650	20480	
Foreign Grant	(1470)	(2)	(2570)	(10400)	
Foreign Loan	(1880)		(2080)	(10080)	
C. Internal Resources	1350		890	5430	-460
Additional Revenue Mobilization	(-)		(690)	(1930)	(+690)
Internal Debt	(1350)		(200)	(3500)	(-1150)
Banking Sector	850		100	250	
Non-banking Sector	500		100	100	
Source of Financing (in percent)					
Domestic	100		100.0	100.0	
Resource (A+C)	39.1		22.5	29.4	
Foreign Aid	60.9		77.5	70.6	

TABLE 3
Allocation of Development Expenditure in the
Public Sector for the Seventh Plan (1985-90)
(At 1984/85 Constant Price)

Title	in Million rupees	
Agriculture, Irrigation & Forest	8876	30.6
a) Agriculture	3983	13.7
b) Irrigation	3296	11.4
c) Land Reform	27	0.0
d) Co-operative	18	0.0
e) Cadastral Survey	202	0.8
f) Forest	1257	4.3
g) Resettlement	41	0.2
h) Meteorology	52	0.2
Industry, Mining and Power	7547	26.0
a) Industry	208	6.9
b) Cottage Industry	400	1.4
c) Mining & Geology	128	0.4
d) Power and Energy	4813	16.6
e) Commerce	80	0.3

f) Labour	3	0.1
g) Tourism	4	0.3
Transportation and Communications	5133	17.7
a) Transportation	4595	15.8
i. Roads	(3382)	(11.7)
ii. Suspension Bridges	(199)	(0.7)
iii. Other bridges	(149)	(0.5)
iv. Aviation	(839)	(2.9)
v. Other transportation	(25. 8)	0.0
b) Communications	538	1.9
i. Postal Services	(32)	(0.1)
ii. Telecommunication	(506)	(1.8)
Social Services	7330	25.3
a) Education & Culture ¹	3010	10.0
b) Health	1337	4.6
c) Drinking Water	989	3.4
d) Panchayat	1741	6.0
i. Development Grant	(1000)	(3.4)
ii. Others ²	(741)	(2.9)
e) Housing and Town Planning	158.1	0.5
f) Information and Broadcasting	16.1	0.1
g) Social WEelfare ³	78.1	0.3
Miscellaneous:	115.4	0.4
a) Administrative Reform	56.5	0.2
b) Planning	11	0.0
c) Statistics	15	0.1
d) Population	22	0.1
e) Environment	11	0.0
Total	29000.0	100.0

1 Including Science and Technology (Rs. 73.2 million)

2 Including the registration of vital statistics (Rs. 6.4 million)

3 Including Social Services National Co-ordination Council (Rs. 70.0:million)

TABLE 4
Balance of Payment Projection for the Seventh Plan Period (1985-90)
(At 1984/85 Constant Price)

		in Million rupees			
		1984/85	Annual Growth Rate (Percent)	1989/90*	5 years total 1985/90
1	Trade Balance	-5310.0	7.3	-7552.6	-32997.9
	Exports, F. O. B.	2160.0	2.5	2443.9	11637.7
	Imports, C. I. F.	7470.0	6.0	9996.5	44635.6
2	Service Income, Net	1771.0	7.5	2547.1	11087.5
	Service Receipts	(2970.0)	(5.6)	(3902.1)	(17541.8)
	Travel	820.0)	4.0	997.7	4619.1
	Others	2150.0	6.2	2904.4	12922.7
	Service Payments	(1199.0)	(2.5)	(1355.0)	(6454.3)
	Travel	323.0	1.0	339.5	1664.1
	Others	876.0	3.0	1015.5	4790.2
3	Investment Income, Net	-37.2	43.2	-224.2	-671.9
	Receipts	90.0	3.4	106.6	498.3
	Payments	127.2	21.1	330.8	1170.1
4	Transfer Income, Net	740.0	2.1	820.0	3939.5
	Receipts	780.0	2.5	884.5	4208.2
	Payments	40.0	10.0	64.5	268.7
5	Current Account Balance, Net	-2836.2	+9.2	-4409.7	-18642.8
6	Foreign Aid, Net	3252.1	6.4	4429.8	19662.9
	Foreign Grants	1470.0	11.8	2568.0	10400.0
	Foreign Loans, Net	1782.1	0.9	1861.8	9262.9
	Foreign Loans, Gross	(1880.0)	f(2.1)	(2082.0)	(10080.0)
	Amortization	<97.9)	17.6)	(220.2)	(817.1)
7	Other Capital Items, Net	-260.0	-	-	-
8	It Overall Surplus or Deficit	155.9		20.1	1020.1

*Estimated on the basis of exchange rate US \$ 1 = Rs. 18.10 and the rate of inflation of 8 percent per annum

CHAPTER 5

PROVISION OF CONSTRUCTION MATERIALS

Introduction

Construction Materials like cement, iron steel goods, bricks and development materials like pipes, petroleum products, coke & coal and chemical fertilizers play an important role in the development & construction projects. As such, an attempt has been made to estimate quantity, cost of construction & development materials and study supply provisions of these materials while formulating periodic plan.

The Sixth Plan had emphasized the promotion of the domestic production of such construction and development materials, economising the use of imported materials and the research in the use of local materials in the Hill areas. There has been some achievements towards the promotion of domestic production of construction materials. Hetauda Cement Factory has reached the phase of trial production and capacity expansion of Himal Cement Factory is underway. If the production of iron rods has increased from industries of the Eastern and Central Development Regions, production of polythene pipes and corrugated sheets necessary for the construction of school and hospital buildings has commenced in the Sixth Plan Period. However, the proposed Arc Furnace in Parwanipur and Fused Magnesium Phosphate (F.M.P.). Fertilized factory, in Kharihunga, could not be materialized in the plan period.

Basic construction and development materials like cement, iron and steel goods, bricks, timber, polythene pipe, petroleum products, coke and coal, chemical fertilizers, paper, news print and explosives have been included in projection of basic materials needed for the Seventh Plan. At the conclusion of the Seventh Plan, 63.9 percent of cement, 16 percent of iron rods, almost 100 percent of bricks, timber, polythene pipes, paper are estimated to be supplied from internal production, but cent percent of petroleum products, chemical fertilizers, newsprints, coke & coal, have to be

imported. Objectives and policies of the Seventh Plan regarding supply of development & construction materials will be as follows:

2. Objective

- (i) To make supply system of development & construction materials effective.
- (ii) To be less dependent on imported materials, continued efforts will be made to replace imports by domestic production by establishing industries that are feasible and that are based on local raw materials.
- (iii) To minimise the use of imported materials.

3. Policies

- (i) To emphasize the full capacity utilization of industries producing construction materials.
- (ii) To adopt appropriate tax and import policies so as to encourage private sector in the import of construction materials, if in cases where there already is not an institutional unit specialising on the import of such materials.
- (iii) To adopt appropriate policies to "promote the domestic production of construction materials.
- (iv) To emphasize on research towards production and improvements in the quality and techniques of use of local materials so as to encourage maximum use of local materials like stones, slates, lime, timber in the hill and remote areas inaccessible by modern transport, and
- (v) To emphasize on the up-date monitoring, by concerned institutions on balancing demand and supply situation of materials necessary for the implementation of development and construction projects in each Development Region and on planning the supply, distribution and storage system of development and construction materials accordingly.

4. Demand and Supply Estimates of Materials

1. Cements

It is estimated that 2,507,200 M. tons of cement will be required for the construction works in the public and private sectors during the Seventh Plan. Out of this 60 percent of 1,504,320 M. tons of cement is estimated for different development projects in the public sector and the rest for the private sector. If the Chobhar and Hetauda Cement Factories in the Central Development Region manufacture according to their capacity 1,602,200 M. ton of cement (63.9 percent of total estimated demand). will be supplied from within the country. Feasibility studies will be conducted for setting up of Cement Factories in other Development Regions also.

2. Iron and Steel Goods

The estimated requirement of iron and steel materials like iron rods, strip steel, plates, sheets, sectional steel is estimated to be 410,178 M. tons in the Seventh Plan period. Of the estimated requirement 267,769 M. ton (65 percent) is estimated to be consumed by public sector and the remaining 142,409 M. ton (35 percent) by the corporate and private sector. At present, the total annual capacity of industries producing iron rods is

11,500 M. ton. In addition to the capacity expansion of these industries, feasibility of iron industry based on local iron deposits will be reconsidered.

3. Bricks

During the Seventh Plan period, the total requirement of bricks, is estimated to be 2470 million pieces. Thirty percent or 740million pieces of bricks and seventy percent or 1730 million pieces are estimated to be required for the public sector and private sector work respectively. Though all demand for bricks are met from domestic production, brick manufactures have not been able to produce the demand due to the scarcity of fueiwood and due to the difficulties in the import of coke and coal. In the Seventh Plan period, efforts will be made to overcome these difficulties

4. Timber

Requirement of timber is projected to be 625,638 cu. metre in the Seventh Plan. Out of this 125,128 cu.metre of timber (20 percent) is estimated to be expended in public sector works and the remaining 500,510 cu. metre, (80 percent) for corporate and private sector works.

Supply of timber is being met from the forests within the country. [n addition to the demand for timber, demand for fuelwood is also increasing, as a result of which forest acreage is on the decline, affecting the supply of timber, Emphasis will be laid as such on the development of forests.

5. Polythene Pipes

As Seventh Plan has laid emphasis on expansion of drinking water facilities demand for polythene pipes is estimated to be around 8,300 M. tons. Of these, 7,055 M. ton (85 percent) and the remaining 1,245 M. too are estimated to be expended in the public sector and private sector respectively. As production from industries in Balaju, Dharan and Kalaiya wilJ meet above requirements. it does not seem necessary to import polythene pipes.

6. Chemical Fertilizer

The total requirement of Chemical Fertilizers is estimated. to be 426,500 M. tons of nutrients in the Seventh Plan. Of the required nutrients, more than 95 percent will be needed for the private sector and the rest will be expended in the Government agricultural farms. As all requirements of chemical fertilizers are met from imports, emphasis will be. placed on application and promotion of .local organic fertilizers and studies will be conducted as to assess the feasibility of chemical fertilizer industry to gradually reduce the dependence on imports.

7. Mineral Oil Products

Under mineral oil products are included petroleum products like petroleum, high speed diesel, kerosene, furnace oil, aviation fuel, light diesel, light petroleum gas etc. These petroleum products are necessary for different sectors from day to day transport services to construction works, agriculture, industries etc. Though oil prospecting and exploration works are being conducted in the country, it will take several years before an oil prospect is identified, exp lored and drilled for oil production.. So the country has to depend on imports for all these petroleum products in the plan period. In the Seventh Plan Period, a total of 826,013 M. tons of petroleum products is estimated to be required for public and private sectors as presented below.

TABLE 1
Projected Demand of Petroleum Products for
The Seventh Plan Period (1985-90)

Name of the products	Unit	Public Sector	Private Sector	Total
Petroleum	M.ton	36,051	36,052	72,1031
H. S. D	„	1,00,620	201,239	301,8591
Kerosene	„	15,664	140,974	156,6381
Light Diesel Furnace	„	2,910	26,185	29,0951
Oil Lubricants	„	11,429	34,285	45,7141
Aviation fuel	„	6,478	7,918	14,3961
Jute Batching Oil ²	„	99,967	17,641	117,6081
LP. Gas ²	„	1,120	1,680	2,800
Asphalt ²	„	-	12,000	12,000
P.B.M. ²	„	63,500	63,500	-
Hexane ²	„	-	400	400

1/ Source: Ministry of Commerce

2/ Projected from the growth rate of sale quantities in the Sixth Plan .Period. .

8., Coke and ,Coal

Coke and Coal are beginning to replace the role of fuelwood in the domestic and industrial fuels. Specially in the, border areas where fuelwood is beginning to be scarce, coal has, been the alternative source of fuel. With the establishment of new industries requirements of coal and coke has increased tremendously. In the Seventh Plan period, 743,712 M. tons of coke and coal might be required. As there are no good coal deposits in the country, all requirements of coke and coal except some lignite are met from imports.- With the increase in the price of oil, price 'of coke and coal has also increased. Emphasis will be laid in the Seventh Plan' on the institutional set up to regularise imports and supply of coal under long term contractual agreement,

9. Writing and Printing Paper

The maximum requirement of writing and printing paper in the Seventh Plan period is estimated at 75,768 M. tons. Part of this requirement will be met from the production of Bhrikuti Paper Factory in Nawal Parasi. Additionally the commissioning of Nepalgunj Paper Factory, will add to the domestic supply. In order to meet the total requirements of paper in the plan period the country will still have to depend mainly on import. Of the quantities of writing and printing paper, it is estimated that 50 percent will be required for the public sector, and 50 percent for the private sector.

10. Newsprint

In the Plan period, it is estimated that maximum of 6,149 M. ton of newsprint will be required. Of this, 4,612 M. ton (75 percent) will be consumed in the public sector, and the rest 1,537 M. ton (25 percent), in the private sector.

11. Explosives

It is estimated that 7,755 M. ton of gelatin, 5,940,750 detonators, and 8,400,375 metres of fuse wire will be required in the Seventh Plan Period. More than 97 percent of this requirement will be consumed by the construction works in the public sector and the rest by the private stone quarry workers.

5. Provision of Materials

As a separate Ministry of Supplies has been set up, projection and supply of development and construction materials except the explosives has been the responsibility of this Ministry. Among these; development and construction materials, supply and distribution of cement, iron and steel goods, writing and printing paper and newsprint are managed by the National Trading Ltd. and private traders; timber by the Timber Corporation of Nepal; Mineral oil products by Nepal Oil Corporation; and chemical fertilizers by the Agricultural Inputs Corporation. The liberal approach will be adopted to encourage private traders to import cement, iron and steel goods, coke and coal. All requirements of Coke and Coal in the public sector will be met by institutional import arrangements under long term contractual agreements. Among development and construction materials that will be made available under quota allotments from India and under aid-in-kind from other countries, the policy will be to assign Agricultural Inputs Corporation to import. Chemical fertilizers and concerned institutional including National Trading Limited to import other materials.

6. Estimate of Expenditure for Construction Materials:

Different development and construction materials that will be needed (or the Seventh Plan are listed in the table below. It is estimated that the cost of these materials will be 19 billion and 360 million rupees at the constant price of fiscal year 2041/42. It is estimated that only for the petroleum products, the cost will be Rs. 3 billion and Rs. 700 million.

TABLE 2
Projected Demand of Construction and Development Materials for
The Seventh Plan (1985-90)

Item No.	Description	Unit	Quantity
1	Cement	Metric Ton	2507200.0
2	Iron and Steel goods	„	410178.0
3	Bricks	Million pieces	2470.0
4	Timber	Cubic Meter	625638.0
5	Polythene pipes	Metric Ton	8300.0
6	Chemical Fertilizer	„	426500.0
7	Mineral oil products	„	826013.0
8	Coke and Coal	„	743712.0
9	Writing & Printing paper	„	75768.0
10	Newsprint	„	6149.0

11	Explosives		
	a) Gelatin	„	7755.0
	b) Detonators	Units	5940750.0
	c) Fuse wire	Metre	8400375.0

CHAPTER 6

PROVISION OF TECHNICAL MANPOWER

1. Background

As skilled and trained manpower is essential for effective implementation of periodic development plans of the country the provision manpower is utmost necessary. In fact, quantitative as well as qualitative growth manpower is quite necessary as is the growth in financial investment for the achievement of the plan targets. At present, lack of trained administrative personnels and technicians has been a great obstacle in the speedy use of investments in the country. As a result of previous years' efforts, there has been a good deal of success in increasing supply of medium, and basic level technicians to some extent, yet high level technicians are still estimated to be in short supply, Non-availability of required labour force in the market on the one hand and inability in mobilizing basic level technicians of local villages effectively for lack of trainings on the other are among main reasons that are hampering the supply of manpower in accordance with the need for the effective implementation of the programmes as set in the plan. Similarly lack of effective management in providing internal and foreign training to personnel as needed is also hampering the supply of required manpower. Since it takes along time to produce such technicians, it may adversely effect the implementation of periodic development plans in future. Hence, efforts are to be made further for extending various educational facilities, in the country and for the management of many more scholarships for higher education board so as to increase the supply of manpower in the deficit areas.

It was estimated that of the requirement of various types of technical personnels totaling 39,462 persons, 36,158 persons will be available, with a shortfall of 3,304 persons by the end of the Sixth Plan for the implementation of development programmes in the public sector. But the revised supply situation is estimated to be 30,674 persons only, thereby being shortfall 8788 persons. In this way, a shortage of 8788 technical personnels is estimated by the end of Sixth Plan whereas by the end of the Fifth Plan whereas by the end of the Fifth Plan it was only 4,893 persons. It is clear that the demand for technical manpower will grow corresponding to the growth of development programmes in connection with the all round development of the country. But if supply does not increase in accordance with this demand, a big gap between the demand and supply may be created affecting the pace of development. In view of the situation, efforts are top be made henceforth for the proper arrangement in providing more trainings and study opportunities in the country and aboard.

The objectives and policies laid down in the Sixth Plan for the provision of technical manpower have been sret forth in the Seventh Plan also with an added impetus since those objectives and policies singled out in the Sixth Plan are also equally relevant, and significant today's and have been hence, reinstated in the Seventh Plan.

2. Objectives

In view of development objectives of the Seventh Plan, the objectives of manpower planning has been set as follows:

- a. To utilize the available technical manpower to the maximum
- b. To maximize productivity and employment prospects of technical manpower.
- c. To strike out a balance by removing disparities between demand and supply of manpower.

3. Policies

Following policies shall be adopted to meet those objectives:

- a. To determine the number of students' enrollment in technical institutes in accordance with the projected demanded projection for technical manpower,
- b. To extend capacities of technical institutes and if found necessary, establish new additional institutes so to enhance quantitative as well as qualitative level,
- c. To obtain more scholarships from abroad and send people for training and study abroad so as to increase supply of particular type of high level technicians.
- d. To extensively conduct appropriate formal and informal training in the country to meet the shortage of medium and basic level manpower and to make necessary arrangement for the mobilization of basic level local skills by making them more efficient ,
- e. To help mobilization and utilization of technical manpower by means of modification in their career development, benefits, facilities, and recruitment procedures etc.
- f. To ensure the employment of technicians in related fields in which they have got training or have studied, and
- g. To secure of foreign advisors only in those areas where Nepalese national are not available,

4. Operational Policy

Following operational policies will be adopted:

1. To make demand projections for technical manpower with subjects categorization that are necessary to implement development programs set in the national plan,
2. To make supply projections of technical manpower with subjects categorization both to be produced at home as well as from abroad under foreign scholarships,
3. To meet the shortage of technical manpower by means of short term skill development trainings.
4. To study and analyze manpower situations of the country and to identify means for mobilization and utilization of technical manpower,
5. To make necessary and timely amendments in existing, rules and regulations regarding the management of scholarships of foreign training and of study as well as trainings at home with a view to increase production and mobilization of skilled manpower in deficit areas.

5. Classification and Level of Manpower

Technical personnels for the implementation of manpower development schemes for the Seventh Plan are divided into five sectors which are as follows: (1) Engineering (2) Health (3) Agriculture (4) Forestry & (5) Scientist and Technicians. Those technical personnels- are divided into three levels (1) High Level (2) Medium Level and (3) Basic Level. High level includes all gazetted officials of His Majesty's Government and similar other officials; Medium level, all non-gazetted 1st class and similar other personnel and Basic level the non-gazetted 2nd class or similar other officials. Out of these, Engineering sector is further classified into four sub-sectors namely Civil, Mechanical, Electrical and others; Health sector is reclassified into seven sub-sectors in the high level namely Doctor; Nurses, Radiography, Pharmacy, Ayurved etc, eight sub-sectors in the high level and sub-sector in the basic level. Similarly the Agricultural Sectors has been broken into three sub-sectors namely Agricultural Sciences, Animal Sciences & other. General Forestry, Forest Research , Soil and Water Conservation, Wild life and others in High Level and Rangers. Lab Technicians, Saw Miller, Loggers and allied in the Medium Level and Basic level are separately classified under the Forest sector. But Scientists and Technicians are not further divided into any sub sector since that sector covers a lot of subjects.

6. Demand for manpower

Since more programs will be launched with more investments in the Seventh Plan that in the Sixth Plan, it is clear that the demand for manpower required for the public sector during the Seventh Plan period is made.

In Engineering sector, it is estimated that there will be total stock of 12667 persons by the

end of the fiscal year 1984/85. The total demand projection for the Seventh Plan in this sector is estimated to be 7880 persons among whom 2827 persons were taken as shortfall during the Sixth Plan and 5053 persons as additional requirements for the Seventh Plan. Thus keeping in view the pattern of plan investments and on past experience, the total estimated personnel required by the end of the fiscal year 1989/90 is projected to be 20547. The present projection shows that the demand for the all level of technical manpower will increase remarkably as in the past. During the Seventh Plan period demand for civil engineers at the high level is prominent but the same for medium and basic level technicians will increase in all categories. The demand projection for Engineering sector manpower is shown in Table 1.

In Health, 5588 persons are the total estimated stock by the end of the fiscal year 1984/85. The total demand projection for the sector during the Seventh Plan period is estimated to be 3502 persons. Out of this 1766 persons are the deficit during the Sixth plan period and 1754 persons are new additional requirements for the Seventh Plan. Thus, the total estimated projections required by the end of the fiscal year 1989/90 is projected to be 9108. The projection based on historical trends shows the remarkable increase at all level of technical manpower in this field. During the Seventh Plan while demand for doctors is note worthy at the high level, demand for staff nurses, health assistant radiographers, pharmacists and lab technicians will be prominent at the medium level. So are the likely demand at the basic level manpower in almost all categories. The demand projection for Health sector manpower is shown in Table No. 2.

In Agricultural manpower, there will be total stock of 7351 persons by the end of the fiscal year 1984/85. In this sector, the deficit of 3,997 persons during the sixth plan and additional projected requirements of 3143 persons during the Seventh Plan totals to the projected of 7140 persons during the Seventh Plan. By the end of FY 1989/90 the projected demand along the total stock of the sixth plan will end up with estimated positions 14491 persons. The present projection estimates the remarkable increase in demand for technical manpower in all categories. During the Seventh Plan period the estimated demand for Agricultural Sciences is remarkable at all level of Agricultural sector manpower is shown in Table No.3

In forest manpower, the total estimated stock by the end of the fiscal year 1984/85 seems to be 2372 persons. Deficit of forest manpower during the sixth plan period, were 204 persons at high and medium level, while there was surplus of 180 people at the basic level. Thus in this sector, the total deficit of 24 persons during the Sixth Plan along with the additional requirements of 649 persons during the Seventh Plan totals to 673 persons as total demand projections for the Seventh Plan period. The total stock of the sixth plan along with the total demand projections of the Seventh Plan makes the total 3045 persons by the end of the fiscal year 1989/90. As in other sectors there will be remarkable increase of demand for manpower in this sector also General forestry at the high level and forest ranger at the medium level will be remarkable in this increase in demand. The demand projection for forest sector manpower is shown in Table No. 4.

In Scientists and Technical manpower, there will be a total stock of 2696 persons with a deficit of 174 persons by the end of the fiscal year 1984/85. The total stocks deficit and additional demand for 1471 persons during the Seventh Plan period will end up with total required positions of 4371 by the end of the fiscal year 1989/90. Demand for the basic level manpower will be more than the demand for manpower at other level. The demand projection for Scientists and Technicians is shown in Table No. 5.

As mentioned above, there will be a total stock of 30,647 technical persons in all of the five sectors by the end of the fiscal year 1984/85. Among them, the highest stock is 15325 persons at basic level and after that 10023 and 5326 persons during the sixth Plan long with the additional demand for 12070 during the Seventh Plan total to the demand projected for 20858 persons during the Seventh Plan period. Among the projected figure, the highest demand 9110 persons at the basic level, while the required medium and high level manpower are 7867 and 3881 respectively.

Similarly, the total estimate required positions by the end of the fiscal year 1989/90 at the high, medium, and basic levels are 9207, 17890 and 24435 respectively making a total requirements of 51531. The demand projection for total manpower is shown in Table No. 6.

Table No. 1

**Demand Projection Engineering
Manpower during the Seventh Plan
Period (1985-90)**

Manpower Classification	Stock by the end F.Y. 1984/85	Deficit during the Sixth Plan	Demand projection for additional manpower	Demand projection for total manpower	Total estimated posts required by the end of the F.Y. 1989/90
1. High level	2155	340	951	1291	3446
1.1. Civil Engineer	1233	219	413	632	1865
1.2. Mechanical Engineer	199	10	129	139	338
1.3. Electrical Engineer	312	16	207	223	535
1.4. Others	411	95	202	297	708
2. Medium Level	4577	883	2349	3232	7809
2.1. Civil Overseer	2483	154	1543	1697	4180
2.2. Mechanical Overseer	740	80	400	480	1220
2.3. Electrical Overseer	390	42	343	385	775
2.4. Others	964	607	63	670	1634
3. Basic Level	5935	1605	1753	3357	9292
3.1. Civil Tradesmen	1489	722	395	1117	2606
3.2. Mechanical “	2220	353	535	888	3108
3.3. Electrical “	780	353	232	585	365
3.4. Others	1446	176	591	767	2213
Grand Total (1+2+3)	12667	2827	5053	7880	20574

Table No 2

**Demand Projection for Health Manpower during the
Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the sixth plan	Demand projection for additional manpower	Demand projection for total manpower	Total estimated posts required by the end of the FY 1989/90
1	2	3s	4	(3+4) 5	(2+5) 6
1. High level	965	139	411	550	1515
1.1. Doctor	716	55	182	237	953
1.2. Nurse(Gazatted)	116	28	137	165	953
1.3. Sr. Radiographer	6	7	8	15	21
1.4. Pharmacist	47	13	17	30	77
1.5. Medical Technology	25	11	12	23	48
1.6. Chief Kaviraj Auyurbed)	18	10	13	23	41
1.7. Others	37	15	42	57	94
2. Medium level	1996	585	912	1497	3493
2.1. Nurse	612	233	429	662	1274
2.2. Health Inspector	55	32	27	59	114
2.3. Health Asst./SAHW	939	82	126	208	1147
2.4. Radiographer	63	46	53	99	162
2.5. Pharmacist	71	80	35	115	186
2.6. Lab Technician	111	53	88	141	252
2.7. Kaviraj (Ayurbed)	128	33	54	87	215
2.8. Others	17	26	100	126	143
3. Basic Level	2627	1042	431	1473	4100
3.1. ANM	1420	370	148	518	1938
3.2. CMA/AHW	1021	570	223	793	1814
3.3. Lab Assistant	86	-	26	26	112
3.4. Vaidya (Ayurbed)	46	55	14	69	115
3.5 Others	54	47	20	67	121

Table No. 3

**Demand Projection for Agricultural Manpower
During the Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the Sixth Plan	Demand projection for additional manpower	Demand projection for total manpower	Total estimated posts required by the end of the FY 1989/90
1	2	3	4	(3+4) 5	(2+5) 6
1. High Level	1537	673	825	1498	3035
1.1. Agricultural Science	773	403	549	952	1725
1.2. Animal Science	324	110	134	244	568
1.3. others	440	160	142	302	742
2. Medium Level	2353	1713	634	2347	4700
2.1. JT (Agricultural Science)	1251	1059	369	1428	2679
2.2. JT (Animal Science)	529	333	133	466	995
2.3. Others	573	321	132	453	1026
3. Basic Level	3461	1611	1684	3295	6756
3.1. JTA (Agriculture Science)	2223	1297	797	2094	4173
3.2. JTA (Animal Science)	611	199	338	537	1148
3.3. Others	627	115	549	664	1291
Grand Total (1+2+3)	7351	3997	3143	7140	14419

Table No 4

**Demand Projection for Forest Manpower
During the Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the sixth Plan	Demand projection for additional manpower	Demand Projection for total manpower	Total estimated posts required by the end of the end of the FY1989/90
1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	204	122	137	259	463
1.1. General Forestry	138	66	59	125	263
1.2. Forest Research	15	8	12	20	35
1.3. Soil and water conservation	15	13	18	31	46
1.4. Wild Life	13	15	15	30	43
1.5. Others	23	20	33	53	76
2. Medium Level	442	82	310	392	834
2.1. Forest Ranger	386	32	251	283	669
2.2. Lab Technician	26	18	22	40	66
2.3 Others	30	32	37	69	99
3. Basic Level	1726	180	202	22	1748
3.1 Ass. Forest Ranger	1221	190	103	87	1134
3.2. Ass. Lab. Technician	284	52	23	29	255
3.3. Saw Miller	14	81	6	24	38
3.4. Loggers	57	12	10	22	79
3.5. Others	150	32	60	92	242
Grand Total (1+2+3)	2172	24	649	673	3045

Table No. 5

**Demand Projection for Scientists and Technical Manpower
During the Seventh Plan Period (1984/85)**

Manpower	Stock by the end	Deficit	Demand	Demand	Total estimated posts required
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Classification	of the FY 1984/85	during the sixth Plan	projection for additional manpower	Projection for total manpower	by the end of the end of the FY1989/90
1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	465	2	285	283	748
2. Medium Level	655	49	350	399	1054
3. Basic Level	1576	127	836	963	2539
Grand Total (1+2+3)	2696	174	1471	1645	4341

Table No 6

**Demand Projection for Total manpower
During the Seventh Plan Period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the sixth Plan	Demand projection for additional manpower	Demand Projection for total manpower	Total estimated posts required by the end of the FY1989/90
1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	5326	1272	2709	3881	9207
1.1 Engineering	2155	350	951	1291	3446
1.2 Health	965	130	411	550	1515
1.3 Agriculture	1537	672	825	1498	3035
1.4 Forestry	204	122	137	259	463
1.5 Scientists and Technicians	465	2	285	283	748
2. Medium Level	10023	3312	4555	7867	17890
2.1. Engineering	4577	883	2349	3232	7809
2.2. Health	1996	585	912	1497	3493
2.3. Agriculture	2353	1713	634	2347	4700
2.4. Forestry	442	82	310	392	834
2.5. Scientists and Technicians	655	49	350	399	1054
3. Basic Level	15325	4204	4906	9110	24435
3.1. Engineering	5935	1604	1753	3357	9292
3.2. Health	2627	1032	431	1473	4100
3.3. Agriculture	3461	1611	1684	3295	6756
3.4. Forestry	1726	180	202	22	1748
3.5. Scientists and Technicians	1576	127	836	963	2539
Grand Total (1+2+3)	30674	8788	12070	20848	51532

7. Supply of Manpower

The supply projection of manpower for the Seventh Plan rely upon the supply from the outcome of the educational institutions and technical institutions under Tribhuvan University of the country along with the arrivals of those who have returned from the abroad after completing the study and enrolled in the public sector during the plan period. The estimates of promotion of manpower to the higher post are also made and thus included in the projection of internal supply.

The total stock of Engineering manpower is estimated to be 12,667 persons by the end of the fiscal year 1984/85. During the Seventh Plan period the supply from the internal production and that from the returnees from abroad after completing the study are estimated to be 4,265 persons and 536 persons respectively making a total supply of 4,801 by the end of the fiscal year 1989/90. Civil engineers will be the highest supply among the productions from the educational institutions in the country during the plan period. Similarly civil engineers also seem to be the highest among the returnees from abroad. The supply projection of Engineering manpower is given in Table No.7.

In Health, the total stock of manpower is estimated to be 5,588 persons by the end of the fiscal year 1984/85. During the Seventh Plan period the supply from the internal production and that from the returnees from abroad after completing the study are estimated to be 2,282 persons and 168 persons respectively making a total supply of 2,450 persons. Thus the total estimated stock by the end of the fiscal year 1989/90 in this sector is estimated to be 8,038 persons. In the high level. M.B. B. S. doctors seem to be the highest supply among the total productions from educational institutions in the country. In medium and low level, almost all types of personnels are expected to be supplied equally from the internal source. Only high level technicians are supposed to be the returnees from abroad and among them M. B. B. S. doctor will be the main in number. The supply projection of Health manpower is given in Table No.8.

In Agriculture, the total stock of manpower by the end of the fiscal year 1984/85 is estimated to be 7,351 persons. During the Seventh Plan period the number of outcome from the internal supply and returnees from abroad after completing the study is expected to be 3,458 persons and 550 persons respectively making a total supply of 4,008 persons. Thus the total estimated agricultural manpower stock by the end of the fiscal year 1989/90 is estimated to be 11,359 persons. According to the projection, Agricultural Science seems to be the highest in number among the total outcome of the country as well as among the returnees from abroad. Similarly, supply of all the medium and basic level manpower are estimated to be met internally. The supply projection of Agricultural manpower is given in Table Nos.9.

In Forestry, the total manpower stock by the end of the fiscal year 1984/85 are estimated to be 2,372 persons. During the Seventh plan period the internal supply from the educational institutions in the country and the returnees after completing study from abroad are estimated to be 832 persons and 114 persons respectively making a total supply of 946 persons. Thus the total estimated stock by the end of the fiscal year 1989/90 is estimated to be 3,318 persons. General forestry seems to be the only subject in high level that is produced from the only educational institution in the country. General forestry is also the subject which seems to be the highest among the total supplies during the Seventh Plan. The supply projection of Forest manpower is given in Table No. 10.

In Scientist and Technical manpower, the total stock by the end of the fiscal year 1984/85 is estimated to be 2,696 persons. The numbers of enrollment in the public sector among the total productions from educational institutions of the country during the Seventh Plan are estimated to be 1,267 persons thereby making a total stock of 3,963 persons by the end of the fiscal year 1989/90. According to the projection, the highest number of enrollment in the public sector among the production from educational institutions comes to the order of Basic, Medium and High level technicians. The supply projection of Scientist and Technical manpower is shown in Table No. 11.

As mentioned above, the total stock of technical manpower in all the five sectors by the end of the fiscal year 1984/85 is estimated to be 30,674 persons. During the Seventh Plan period the total internal supplies from the educational institutions and the returnees from abroad after completing their study is estimated to be 12,104 persons and 1,368 persons respectively making a total supply of 13,472 persons. Among the internal supplies, while the highest number consist in the basic level having 5,732 persons, the supply in medium level is estimated to be 5,085 persons. But there will be internal supply of 1,287 persons only in the high level. Similarly, the returnees from abroad after completing study will be only in the high level. In this way, the total stock by the end of the fiscal year 1984/85 is estimated to be 30,674 persons and this figure along with the additional supply of 13,472 persons during the Seventh Plan makes the total estimated stock of 44,146 persons by the end of the fiscal year 1989/90. The supply projection of total manpower is shown in Table No. 12.

TABLE No.7

**Supply Projection of Engineering Manpower
during the Seventh Plan period (1985-1990)**

Classification of Manpower	Stock by the end of the fiscal year 1984/85	Internal supplies	Returnees from abroad	Supply Projection for total manpower	Total estimated stock by the end of the fiscal year 1989/90
1	2	3	4	(3+4) 5	(2+5) 6
1. High Level	2,155	174	536	710	2,865
1.1. Civil Engineer	1,233	155	358	513	1,746
1.2. Mechanical	199	6	40	46	245
1.3. Electrical	312	8	54	62	374
1.4. Others	411	5	84	89	500
2. Middle Level	4,577	2,229	-	2,229	6,806
2.1. Civil Overseer	2,483	1,400	-	1,400	3,883
2.2. Mechanical	740	349	-	349	1,089
2.3. Electrical	390	133	-	133	523
2.4. Others	964	347	-	347	1,311
3. Basic Level	5,935	1,862	-	1,862	7,797
3.1. Civil Tradesman	1,489	593	-	593	2,082
3.2. Mechanical	2,220	593	-	593	2,813
3.3. Electrical	780	321	-	321	1,101
3.4. Others	1,446	355	-	355	1,801
Grand Total (1+2+3)	12,667	4,265	536	4,801	17,468

Table No 8

**Supply Projection of Health Manpower during the
Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Internal supplies	Returns from abroad	Supply projection for total manpower	Total estimated stock by the end of the fiscal year 1989/90
1	2	3	4	(3+4) 5	(2+5) 6
1. High level	965	218	168	386	1351
1.1. Doctor	716	65	82	147	863
1.2. Nurse(Gazatted)	116	115	15	130	246
1.3. Sr. Radiographer	6	5	5	10	16
1.4. Pharmacist	47	7	12	19	66
1.5. Medical Technology	25	10	10	20	45
1.6. Chief Kaviraj (Ayurved)	18	12	4	16	34
1.7. Others	37	4	40	44	81
1. Medium level	1996	959	-	959	2955
2.1. Nurse	612	566	-	566	1178
2.2. Health Inspector	55	22	-	22	77
2.3. Health Asst./SAHW	939	196	-	196	1135
2.4. Radiographer	63	15	-	15	78
2.5. Pharmacist	71	40	-	40	111
2.6. Lab Technician	111	0	-	40	151
2.7. Kaviraj (Ayurved)	128	40	-	40	168
2.8. Others	17	40	-	40	57
2. Basic Level	2627	1105	-	1105	3732
3.1. ANM	1420	220	-	220	1640
3.2. CMA/AHW	1021	750	-	750	1771
3.3. Lab Assistant	86	60	-	60	146
3.4. Vaidya (Ayurved)	46	35	-	35	81
3.5 Others	54	40	-	40	94
Grand Total (1+2+3)	5588	2282	168	2450	8038

Table No 9

**Supply projection of Agricultural manpower during the
Seventh plan pe riod (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the Sixth Plan	Demand projection for additional manpower	Demand projection for total manpower	Total estimated posts required by the end of the FY 1989/90
1	2	3	4	(3+4) 5	(2+5) 6
2. High Level	1537	543	550	1093	2630
1.1. Agricultural Science	773	488	375	863	1636
1.2. Animal Science	324	26	125	151	475
1.3. others	440	29	50	79	519
2. Medium Level	2353	900	-	900	1251
2.1. JT (Agricultural Science)	1251	651	-	651	1902
2.2. JT (Animal Science)	529	186	-	186	715
2.3. Others	573	63	-	63	636
3. Basic Level	3461	2015	-	2015	4576
3.1. JTA (Agriculture Science)	2223	1425	-	1425	3648
3.2. JTA (Animal Science)	611	475	-	475	1086
3.3. Others	627	115	-	115	742
Grand Total (1+2+3)	7351	3458	550	4008	11359

Table No. 10

**Supply Projection of Forest Manpower during
The Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the	Demand projection for	Demand Projection for	Total estimated posts required by the end of the end of the
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		sixth Plan	additional manpower	total manpower	FY1989/90
1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	204	117	114	231	435
1.1. General Forestry	138	90	57	147	285
1.2. Forest Research	15	8	8	16	31
1.3. Soil and water conservation	15	8	14	22	37
1.4. Wild Life	13	5	15	20	33
1.5. Others	23	6	20	26	49
2. Medium Level	442	635	-	635	1077
2.1. Forest Ranger	386	500	-	500	886
2.2. Lab Technician	26	60	-	60	86
2.3 Others	30	75	-	75	105
3. Basic Level	1726	80	-	80	1806
3.1 Ass. Forest Ranger	1221	30	-	30	1251
3.2. Ass. Lab. Technician	284	20	-	20	304
3.3. Saw Miller	14	8	-	8	22
3.4. Loggers	57	8	-	8	65
3.5. Others	150	14	-	14	164
Grand Total (1+2+3)	2172	812	114	946	3318

Table No 11

**Supply Projection of Scientist and Technical
Manpower during the Seventh Plan period (1985-90)**

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the sixth Plan	Demand projection for additional	Demand Projection for total manpower	Total estimated posts required by the end of the end of the FY1989/90
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			manpower		
1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	465	235	-	235	700
2. Medium Level	655	362	-	362	1017
3. Basic Level	1576	670	-	670	2264

Manpower Classification	Stock by the end of the FY 1984/85	Deficit during the sixth Plan	Demand projection for additional manpower	Demand Projection for total manpower	Total estimated posts required by the end of the FY1989/90
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Grand Total (1+2+3)	2696	1267	-	1267	3963
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Table No 12

**Supply Projection of Total manpower the Seventh
Plan Period (1985-90)**

1	2	3	4	(3+4) 5	(2+ 5) 6
1. High Level	5326	1287	1368	2655	7981
1.1 Engineering	2155	147	536	710	2865
1.2 Health	965	218	168	386	1351
1.3 Agriculture	1537	543	550	1093	2630
1.4 Forestry	204	117	114	231	435
1.5 Scientists and Technicians	465	235		235	700
2. Medium Level	10023	5085		5085	15108
2.1. Engineering	4577	2229		2229	6806
2.2. Health	1996	959		595	2955
2.3. Agriculture	2353	900		900	3253
2.4. Forestry	442	635		635	1077
2.5. Scientists and Technicians	655	362		362	1017
3. Basic Level	15325	5732		5732	21057
3.1. Engineering	5935	1862		1862	7797
3.2. Health	2627	1105		1105	3732
3.3. Agriculture	3461	2015		2105	5476
3.4. Forestry	1726	80		80	1806
3.5. Scientists and Technicians	1576	670		670	2246
Grand Total (1+2+3)	30674	12104	1368	13472	44146

8. Demand and Supply Position

According to the information stated above the demand and supply of Engineering Manpower during the Seventh Plan period is estimated to be 7,880 persons and 4,801 persons respectively, the shortage being 3,079 persons thereby. In this sector, shortages are expected in almost all the subjects and in all the three levels. In view of implementation of various construction programmes to be launched in the next plan, it is expected that the demand for Engineering technicians will be gone up further. The total shortages of manpower in high, medium and basic level in this sector during the Seventh Plan period are expected to be 581 persons, 1,003 persons and 1,445 persons respectively making a total deficit of 3,079 persons. In medium level, the prior estimate of deficit in this sector during the sixth plan period was only 289 persons but this figure for the Seventh Plan period went up making a total deficit of 1,300 persons. The reason behind it is a big gap in actual demand and supply during the sixth plan itself in comparison to prior estimates. In the sixth plan period, while the prior estimation in this sector in high, middle and basic level was deficit of 485 persons, 280 persons, and 1,767 persons respectively making a total deficit of 2,827 persons, the revised estimate of shortage by the end of that period in that field are 340 persons, 883 persons and 1,604 persons respectively making a total deficit of 2,827 persons. The demand and supply position of manpower in this sector is presented in Table No. 13.

In Health, the demand and supply during the Seventh Plan period is estimated to be 3,520 persons and 2,450 persons respectively making a deficit of 1,070 persons. In this sector, Doctors are the main area of shortage in high level and in medium and basic level shortage is estimated in almost all areas. During the sixth plan, there was an estimation of 71 and 442 persons as deficit in high and basic level respectively but with a surplus of 1,380 persons in the medium level making the total surplus of 867 persons thereby. But in fact a deficit of 139 persons, 598 persons & 1,042 persons as expected in high, medium and basic level respectively making a total deficit of 1,766 during that period, Similarly during the Seventh Plan, 164 persons and 538 persons are estimated as shortage in the high and medium level respectively but in basic level there is the estimation of 368 persons as surplus. The main reason behind the estimation of the shortage of 538 persons in middle level during the Seventh Plan in spite of estimated surplus of 1380 persons during the sixth plan is due to the increase in demand in middle level in the sixth plan with a sufficient supply thereby making a shortfall of 585 persons during that period and non-supply of manpower in the Seventh Plan also in accordance with the need. The demand and supply position of Health manpower is presented in Table No. 14.

In Agricultural manpower, the total demand and supply during the Seventh Plan period is estimated to be 7,140 persons and 4,008 persons respectively making a total shortage of 3,132 persons. Out of the total shortages the highest shortage is 1,447 persons in middle level followed by 1,280 persons in basic level and 405 persons in high level. Agricultural Science is subject where the highest shortage is estimated to be found. The technical manpower demand for Agricultural sector is expected to be increased in an alarming rate as the aim of the plan is to make agriculture, as a leading sector for the economic development of the country. But as supply will not be, made available in accordance with the need due to limited areas and resources, the shortage of manpower in this sector is expected to be huge, The demand and supply position of Agricultural manpower is presented in Table No.15.

In Forest manpower, while a big shortage was expected in high and basic level but with a huge surplus in the medium level by the end of the sixth plan, the actual revised estimate has been some few shortage in high and medium level but with some more surplus in the basic level because of large supply in that level than needed, by end of the fiscal year 1984/85. As a result there shall be no need of additional supply to be made in the basic level during the Seventh Plan period. While supply in the high level is expected to be the same as is

demand there will be surplus, in the medium level because of excess supply during the Seventh Plan. During the Seventh Plan period the total demand and supply of manpower in all these three levels are estimated to be 673 persons and 946 persons respectively with a total surplus of 211 persons. The demand and supply position of Forest manpower is presented in Table No. 16.

In Scientist and Technical manpower, there will be total supply of 1,267 persons out of 1,645 persons demanded making a total deficit of 378 persons. The demand and supply position of Scientist and Technical manpower is presented in Table No. 17.

Thus, the total demand and supply of all types of technical manpower mentioned for the Seventh Plan period is estimated to be 20,858 persons and 13,472 persons respectively thereby making a total deficit of 7,386 persons. Among them, there will be shortage in all levels of all sectors except in the medium and the basic level of forest sector where there will be few surplus. The demand and supply position of total manpower presented in Table No. 18.

TABLE No. 13

**Demand and Supply Position of Engineering Manpower
during the Seventh Plan Period (1985-1990)**

Classification of Manpower	Total demand during the Seventh Plan	Total supply during the Seventh Plan	+ Surplus , - Deficit during the Seventh Plan period
1	2	3	(2+3) 4
1. High Level	1291	710	-581
1.1 Civil Engineer	632	513	-119
1.2. Mechanical Engineer	139	46	-93
1.3. Electrical Engineer	223	62	-161
1.4. Others	297	89	-208
2. Medium Level	2323	2229	-1003
2.1 Civil Overseer	1697	1400	-297
2.2. Mechanical Overseer	480	349	-131
2.3. Electrical Overseer	385	133	-252
2.4. Others	670	347	-323
3. Basic Level	3357	1862	-1495
3.1. Civil Tradesman	1117	593	-524
3.2. Mechanical Tradesman	888	593	-295
3.3. Mechanical Tradesman	585	321	-264
3.4. Others	767	355	-412

Grand Total (1+2+3)	7880	4801	-3079
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Table No 14

**Demand and Supply Position of Health Manpower
During the Seventh Plan period (1985-90)**

Classification of Manpower	Total demand during the Seventh Plan	Total supply during the Seventh Plan	+ Surplus , - Deficit during the Seventh Plan period
1	2	3	(2+3) 4
1. High Level	550	386	-164
1.1 Doctor	237	147	-90
1.2. Nurse (Gazatted)	165	130	-35
1.3. Senior Radiograper	15	10	-5
1.4. Pharmacist	30	19	-11
1.5. Medical Technologist	23	20	-3
1.6. Chief Kabiraj (Ayurved)	23	16	-7
1.7. Others	57	44	-13
2. Medium Level	1497	959	-538
2.1 Nurse	662	566	-96
2.2. Health Inspector	59	22	-37
2.3. Health Assistant/SAHW	208	196	-12
2.4. Radiographer	99	15	-84
2.5. Pharmacist	115	40	-75
2.6. Lab Technician	141	40	-101
2.7. Kaviraj (Ayurved)	87	40	-47
2.8. Others	126	40	-86
3. Basic Level	1473	1105	-368
3.1. ANM	518	220	-298
3.2. CMA/AHW	793	750	-43
3.3. Lab Assistant	26	60	+34
3.4. Vaidya (Ayurved)	69	35	-24
3.5. Others	67	40	-27
Grand Total (1+2+3)	3520	2450	-1.070

Table No. 15

**Demand and Supply Position of Agricultural Manpower
During the Seventh Plan Period (1985-90)**

Classification of Manpower	Total demand during the Seventh Plan	Total supply during the Seventh Plan	+ Surplus, - Deficit during the Seventh Plan period
1	2	3	(2+3) 4
1. High Level	1498	1093	-405
1.1 Agriculture	952	863	-89
1.2. Animal Science	244	151	-93
1.3. Others	302	79	-223
2. Medium Level	2347	900	-1447
2.1. JT (Agriculture)	1428	651	-777
2.2. JT (Animal Science)	466	186	-280
2.3. Others	453	63	-390
3. Basic Level	3295	2015	-1280
3.1. JTA (Agricultural Science)	2094	1425	-669
3.2. JTA (Animal Science)	537	475	-62
3.3. Others	664	115	-579
Grand Total (1+2+3)	7140	4008	-3932

Table No 16

Demand and Supply Position of Scientific and Technical Manpower during the Seventh Plan Period (1985-90)

Classification of Manpower	Total demand during the Seventh Plan	Total supply during the Seventh Plan	+ Surplus, - Deficit during the Seventh Plan period
1	2	3	(2+3) 4
1. High Level	283	235	-48
2. Medium Level	399	362	-37
3. Basic Level	963	670	-293
Grand Total (1+2+3)	1645	1267	-387

Table No 18

**Demand and Supply Position of Total Manpower
During the Seventh Plan Period (1985-90)**

Classification of Manpower	Total demand during the Seventh Plan	Total supply during the Seventh Plan	+ Surplus, - Deficit during the Seventh Plan period
1	2	3	(2+3) 4
1. High Level	3881	2655	-1226
1.1 Engineering	1291	710	-581
1.2. Health	550	386	-164
1.3. Agriculture	1498	1093	-405
1.4. Forestry	259	231	-28
1.5. Scientist and Technician	283	235	-48
2. Medium Level	7867	5085	-2782
2.1. Engineering	3232	2229	-1003
2.2. Health	1497	959	-538
2.3. Agriculture	2347	900	-1447
2.4. Forestry	392	635	+243
2.5. Scientist and Technician	399	362	-37
3. Basic Level	9110	5732	-3378
3.1. Engineering	3357	1862	-1495
3.2. Health	1473	1105	-368
3.3. Agriculture	3295	2015	-1280
3.4. Forestry	22	80	+58
3.5. Scientist and Technician	963	670	-293
Grand Total (1+2+3)	20858	13472	-7386

9. Supply Arrangements to meet the Deficit

While there will be a nominal surplus in the medium and basic level manpower under Forest sector there will be shortages in all levels of all other sectors and since it is very difficult at present to meet those deficits to the full extent because of the limited means and resources available in the country more arrangements will be made to obtain more foreign scholarships for the study and training. In this connection, the high level experts required under foreign aided projects will be met by means of supply through the concerned government and International organizations. Besides, more efforts will be made in obtaining more scholarships in the effected areas and send people abroad to meet the deficit. Necessary arrangements, will also be made in making more efforts for the development, reforms facilities, appointment systems etc. for technical personnels engaged in technical profession in different Institutes of Tribhuvan University. In spite of these best efforts it is expected to take more than four years to produce high level technicians like engineers and health specialists, and three to four years to produce like agricultural specialists. Hence arrangements in hiring foreign technical experts will be made available to meet the immediate requirements.

There will be huge shortage of middle level manpower in Engineering, Health and

Agricultural sectors and to remove such shortage efforts will be made for the development of capacities of different technical institutes in a better way so as to meet the deficit manpower quantitatively as well as qualitatively during the Seventh Plan period. If supply from such method also will not still meet the demand, supplies with the practical knowledge through such technical institutes will be provided thereby and pocket programme for practical knowledge through the government sources will be operated so as to meet the deficit. This arrangement will contribute in removing the deficit of middle level manpower and hence to the developmental works.

Among the basic level manpower during the Seventh Plan period there will be huge deficit in Engineering and Agricultural sector and arrangement in meeting the deficit will be made by implementing various programmes like medium level as stated above. Arrangements will also be made to meet the deficit in this level by means of utilizing surplus manpower of the medium level. While arrangements will be made in providing better trainings to the local skills available in the villages and thereby mobilizing them; arrangements will also be made to provide useful short-term trainings to local people and ex-military man as and when necessary through Government project related office for the additional supply of manpower in the basic level. These arrangements will make a great contribution in meeting the deficit of basic level manpower and hence to developmental works.

It is clearly understandable that the exercise regarding manpower planning should be made in a managed and scientific way so as to delete the imbalances and problems that occurred between demand and supply. Similarly at present, exercises are being done only for the manpower that are needed for the development projects to be operated by the government and no exercises are being done in the private sector. Since private sector also plays a vital role in the economic development of the country the manpower exercise in that sector also is quite necessary. During the Seventh Plan period, more efforts will be made in making managed & scientific performance in collecting data and information and analytical works regarding formulation of manpower development planning in the government as well as private sector and attention will also be given to make manpower planning more reliable and practicable.

SECTION III
NATIONAL LEVEL POLICIES FOR THE SEVENTH PLAN

CHAPTER 7
POPULATION AND EMPLOYMENT POLICY

1. Population Position

a) Population Growth:

Though population census were undertaken every 10 years since 1911 a census based on international standards was completed only in 1952/55. In 1952/55 the population was only 8473,478 and it increased to 15,022,839 in 1981. Thus between 1952/55 and 1981, the national population increased by 6,649,361. The rate of population

growth from 1952/55 to 1981 is shown in Table 7.01. The census of 1981 exhibits population growth in an indirect way. During this period population growth is 30 percent as compared to that of 1971 and the annual growth rate is 2.66 percent. It is assumed here that this growth rate will remain valid for the period 1981-84. At this growth rate the population of Nepal will reach 30.00 million within the next 23 years.

b) Number of Families:

The population of 15,022,839, according the census of 1981 has been grouped into 2,585,154 families. Thus one family consists of 5.80 members in the average. Population distribution according to the development and geographical regions is given in Table 7.02 and Table 7.03 respectively.

c) Birth and Fertility Rate:

The main reason for the fast growth of population in the recent years is that the birth rate is still remaining high whereas the death rate has declined. Various studies have indicated that the crude (approximate) birth rate has remained at 41.57 per thousand. Likewise the fertility rate of woman according to census 1981 is 6.3. The fertility rate in the age bracket of 25-29 is high. That between 20-24 years is still higher. The fertility rate of the women in the rural areas is higher than that of the urban areas. According to the Central Bureau of Statistics the fertility rate at the end of the Sixth Plan is expected to be 6.1.

TABLE 7.01

Years	Total Population	Growth rate in percent	Annual growth rate within the decade
1952/54	8473478	-	-
1961	9412996	11.10	1.32
1971	11555986	22.80	2.07
1981	15022839	30.00	2.66

TABLE 7.02

**Population and Family Number
(According to Development Region)**

Development Region	Population	Family Number
Eastern Region	3708923	651795
Central Region	4909357	854545
Western Region	3128859	544283
Mid-western Region	1955611	322334
Far-western Region	1320089	212197
Total	15022839	2585154

TABLE 7.03

**Population and family number
(According to Geographical Region)**

Geographical Region	Population	Family Number
Himalaya	1302896	226294
Hilly	7163115	1240434
Terai	6556828	1108426
Total	15022839	2585154

d) Death Rate:

Compared to various Asian countries the death rate in Nepal is still high. Though during the last few years this rate has dropped remarkably. The fast growth of population has a direct bearing on the drop of death rate. In 1980 the crude (approximate) death rate was recorded at 19 per thousand. Now this rate is 16.57 per thousand. Similarly child mortality has come down to 115.2 per thousand from 150 per thousand in 1980.

e) Age Composition:

In the census 1981 population belonging to the age group 0-14 years was 41.40 percent, 15-59 years 52.90 percent and above 60 years 5.70 percent. On the one hand, the burden of bringing up of 41.40 percent of the population falls on the population in age group 15-59 years while on the other, because of the higher proportion of population in the age group 0-14 years high fertility population will increase in the future. Table 7.04 presents this picture clearly.

Table No. 7.04

Agewise Composition of Population-1981

Age (Years)	Total Population		Male Population		Female Population	
	Number	Percent	Number	Percent	Number	Percent
0-4	2314505	15.41	1190581	15.47	1123924	15.34
5-9	2190446	14.58	1117141	14.52	1073305	14.65
10-14	1707021	21.36	919290	11.95	787731	10.75
15-19	1328401	8.84	695746	9.04	632655	8.63
20-24	1335698	8.89	636929	8.28	698679	9.54
25-29	1161670	7.73	570192	7.41	5981478	8.07
30-34	975401	6.49	468270	6.09	507131	6.92
35-39	893272	5.95	461873	6.00	431399	5.89
40-44	752788	5.01	376720	4.90	376068	5.13
45-49	618805	4.12	329439	4.28	289366	3.95
50-54	542022	3.61	290103	3.77	251919	3.44
55-59	345749	2.30	188064	2.44	157685	2.15
60-64	367495	2.45	191656	2.49	175839	2.40
65-69	188583	1.26	101189	1.31	87394	1.19
70-74	156786	1.04	83143	1.08	73643	1.01
75-79	66393	0.44	35096	0.46	31297	0.43
80-84	50231	0.33	25707	0.33	24524	0.33
85+	27573	0.18	14197	0.18	13376	0.18
Total	15022839	100.00	7695336	100.00	7327503	100.00

f) Regional Distribution of Population

The population census 1981 shows that 1,302,896 persons live in the Himali Region, 7,163,115 in the Hilly Region and 6,556,828 in the Terai Region, In other words 8.70 percent of the total population live in the Himali Region, 47.70 percent in the Hilly Region and 43.60 per cent in the Terai Region. Between 1971 and 1981 there has been a change (in percent) in the distribution of population. The annual growth rate at 1.50 percent in the Himali Region and of 1.60 percent in the Hilly Region; and with 4.20 percent growth rate in the Terai Region population has grown excessively there.

The population density of the country was 79 persons per sq. km in 1971 which increased to 102 persons per sq. km in 1981. In 1981 population density in Himali Region is 25. 10 persons per sq. km in Hilly Region 116. 80 persons per sq. km and 192 persons per sq. km. in the Terai Region.

Table 7.05

Population Distribution According to Geographical Region and Population Density (1981)

	Population	Population Density per sq. km.
Nepal	15022839	102.20
Himali Region	1302896	25.10
Eastern	638439	32.40
Central	413143	65.80
Western	19951	3.40
Mid-western	242486	11.40
Far-western	-	
Hilly Region	7163115	116.08
Eastern	1250042	116.90
Central	2108433	178.60
Western	2150939	117.50
Mid-western	1042365	76.00
Far-western	604336	89.40
Terai	6556828	192.70
Eastern	2113442	290.70
Central	2387781	256.00
Western	957969	182.00
Mid-western	670760	91.70
Far-western	426876	88.10

Table 7.05 presents the population distribution according to geographical regions along with population density.

g) Rehabilitation:

Distribution, composition and growth of population has a direct bearing on migration. If the process of migration from the Hilly Region to Terai Region and from rural area to urban areas has speeded up, bigger migration has been taking place. According to 1981 census, 929,585 persons migrated between 1971-1981 on the basis of geographical regions, Table 7.06 shows the migration taking from Himali Region and Hilly Region to Terai Region. On analyzing the statistics of migration based on census 1981, 14,784,246 persons, or 98 .41 per cent of the total population of 15,022,839, have been found to have been born in Nepal while 234,039 persons, or 1. 66 per cent in foreign land and 4,554 or 0.03 percent has no known birth places. Adequate employment opportunities have to be created by developing modern facilities and amenities in the Terai Region for the increasing population there. There is also necessity of launching various programmes for creating employment opportunities in the Himali and Hilly regions and for discouraging migration from these areas. Similarly, there is a necessity 19

Frame regulations for citizenship and employment in keeping with the inflow for rehabilitation.

Table No. 7.06

Internal Migration between 1979-81

Region	Internal Migration	External Migration	Net Migration
Himili Region	35,619	297,086	-261,467
Hilly Region	169,923	594,634	-424,711
Terai Region	724,043	37,865	-686,178
All Nepal Total	929,585	929,585	0

Note: - Net external migration from the concerned region

- Net internal migration to the concerned region

Source: Central Bureau of Statistics

Population Census 1981

Population Projection^s

Since people are the resource for development and at the same time receiver of development fruits, projection of population is highly desirable to judge the impact of its growth in national development activities. In order to bring down the annual growth rate of population to 1.2 percent and the total fertility rate per female, to 2.5 in accordance with the long term population strategy, it has been necessary to bring down the growth rate of population to 1.99 and total fertility rate per female to 4 during the Seventh Plan. Keeping in view the experience gained in population control activities and the trends of population growth during the past few years and also in terms of the calculation of the total fertility and mortality rate the annual population growth rate is expected to reach 2.61 during the Seventh Plan. As such, two types of Population Projection have been made for the Seventh Plan. Whereas the first projection is based on the target of reducing the annual population growth rate to 1.99 and the total fertility rate to 4 percent, the second projection is based on the above tendency of the expected annual population growth rate of 2.61 and the total fertility rate of 5.8 during the plan period. The annual population estimate during the Seventh Plan period on the basis of the first and the second projection are presented in Table 7.07 (a) and 7.07(b).

* The economic and the physical targets of the Seventh Plan, has been made on the basis of 2.66 annual population growth rate.

Table 7.07 (a)

Age Group	1985 (2042)			1986 (2043)			1987 (2044)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	1426808	1317055	2743863	1407259	1298113	2705372	1386284	1277953	2664237
5-9	1179707	1084593	2264300	1216900	1115895	2332795	1255125	1148000	2403125
10-14	1013896	927825	1941721	1042612	553947	1996559	1072083	980732	2058815
15-19	852254	779006	1631260	880305	803986	1684291	909153	829639	1738792
20-24	713977	693955	1407932	737039	706621	1443660	760751	719517	1480268
25-29	616627	635193	1251820	631963	642666	1274629	647669	650191	1297860
30-34	544176	573853	1118029	554964	581617	1136581	565967	589467	1155434
35-39	474836	485605	960441	484890	498273	983163	495157	511249	1006406
40-44	411275	400542	811817	419950	412778	832728	428808	425337	854145
45-49	351297	327465	678762	358871	337643	696514	366608	348091	714699
50-54	291151	260727	551878	298163	269593	567756	305340	278705	584045
55-59	231271	202387	433658	237584	209427	447011	244061	216663	460724
60-64	174201	153738	327939	179377	158577	337954	184693	163546	348239
65-69	121466	109223	230689	125432	112872	238304	129511	116620	246131
70-74	74133	66820	140953	77161	69936	147097	80283	73146	153429
75-79	37150	33058	70208	39075	35133	74208	41064	37276	78340
80+	31102	29067	60169	30413	28393	58806	29683	27782	57365
Total	8545327	8080112	16625439	8721958	8235470	16957428	8902240	8393814	17296054

**Population Projection (2042-047)-1
(Accordance to the target)**

Age Group	1985 (2042)			1986 (2043)			1987 (2044)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	1426808	1317055	2743863	1407259	1298113	2705372	1386284	1277953	2664237
9-May	1179707	1084593	2264300	1216900	1115895	2332795	1255125	1148000	2403125
14-Oct	1013896	927825	1941721	1042612	553947	1996559	1072083	980732	2058815
15-19	852254	779006	1631260	880305	803986	1684291	909153	829639	1738792
20-24	713977	693955	1407932	737039	706621	1443660	760751	719517	1480268
25-29	616627	635193	1251820	631963	642666	1274629	647669	650191	1297860
30-34	544176	573853	1118029	554964	581617	1136581	565967	589467	1155434
35-39	474836	485605	960441	484890	498273	983163	495157	511249	1006406
40-44	411275	400542	811817	419950	412778	832728	428808	425337	854145
45-49	351297	327465	678762	358871	337643	696514	366608	348091	714699
50-54	291151	260727	551787	298163	269593	567756	305340	278705	584045
55-59	231271	202387	433658	237584	209427	447011	244061	216663	460724
60-64	174201	153738	327939	179377	158577	337954	184693	163546	348239
65-69	121466	109223	230689	125432	112872	238304	129511	116620	246131
70-74	74133	66820	140953	77161	69936	147097	80283	73146	153429
75-79	37150	33058	70208	39075	35133	74208	41064	37276	78340
80+	31102	29067	60169	30413	28393	58806	29683	27782	57365
Total	8545327	8080112	16625439	8721958	8235470	16957428	8902240	8393814	17296054

1988 (2045)			1989 (2046)			1990 (2047)		
Male	Female	Total	Male	Female	Total	Male	Female	Total
1363846	1256545	2620391	1339888	1233835	2573723	1314359	1209788	2524147
1294411	1180926	2475337	1334785	1214695	2549480	1376275	1249325	2625600
1102325	1008192	2110517	1133360	1036347	2169707	1165208	1065212	2230420
938817	855982	1794799	969318	883030	1852348	1000680	910802	1911482
785128	732747	1517775	810187	746017	1556204	835947	759630	1595577
663754	657767	1321521	680228	665395	1345623	697099	673073	1370172
577187	597404	1174591	588629	605429	1194058	600297	613541	1213838
505640	524539	1030179	516354	538152	1054497	527277	552094	8079371
437852	438227	876079	447087	451454	898541	456516	465029	921542
374513	358815	733328	382587	369823	752410	390835	381122	771957
312685	288067	600753	320205	297686	617891	327902	307568	635470
250703	224100	474803	257517	231742	489259	264503	239596	504099
190152	168646	358798	195758	137883	369641	201514	179259	380773
133705	120472	254177	138017	124427	262444	142449	128492	270941
83501	67454	159955	86817	79863	166680	90235	83374	173609
43119	39487	82606	45241	41771	87012	47432	44127	91559
28909	26934	55843	28090	26147	54237	27225	25319	52544
9086248	8555204	17641452	9274059	8719696	17993755	9465753	8887351	18353104

Age wise Classification of Projected Population.

The age wise classification of the estimated population presents a special picture. In order to analyze population from the economic point of view, the classification of population has been made in three age groups ie. 0-4, 15-59 and 60 and above. The age group population, according to the above population projection No.1 and 2 are given in Table No. 7.08 (a) and 7.08 (b).

Table 7.08 (a)

Population Projection (2042-47)-1 (According to the target) (Total Population)

Age Group	1985 (2042)	1986 (2043)	1987 (2044)	1988 (2045)	1989 (2046)	1990 (2047)
0-14	6949884	7034726	7120177	7206245	7292910	7380167
15-59	8845597	9066333	9292373	9523828	9760831	10003511
60+	829958	856369	883504	911379	940014	969426
Total	16625439	16957428	17296054	17641452	17993755	18353104

Table 7.08 (b)

Population Projection (2042-47)-1 (Total Population)

Age Group	1985 (2042)	1986 (2043)	1987 (2044)	1988 (2045)	1989 (2046)	1990 (2047)
0-14	6949884	7137854	7330906	7529169	7732795	7941926
15-59	8845597	9065771	9291422	9522687	9759705	10002619
60+	829958	856152	883145	910966	939632	969173
Total	16625439	17059777	17505473	17962822	18432132	18913781

Effect of Population Growth on Various Sectors

Increase in population tends to have adverse effect on various development sectors. Achievements in the field of economic development, on per capita basis appear to be extremely low. On the one hand, average agriculture production could not increase as expected in spite of the various measures for increasing per capita food grain production to meet the needs of the growing population, on the other hand extension of cultivable land is limited because of the mountainous nature of the country. Adverse environmental situation has been created in the Hilly Region and Terai Region by extensive felling of trees for housing, extension of cultivable land and for other uses. The qualitative and quantitative development of education has been hampered because of the increasing number of students, caused mainly by the growth in population. In spite of various measures taken in the field of health services to upgrade the general health standard of the people, no significant improvement has been recorded in the health indicators namely the morbidity, mortality and the average expectancy of life.

3. Population Policy in the Seventh Plan

It is universally known that the ever-increasing population pressure cannot be solved by short term and one-sided programmes. Therefore, long-term objective and multi-faceted national population policy was adopted in the mid-term of the Sixth Plan keeping in view the growing population. A fifteen-year population target covering a period between 1985-2000 was fixed according to which annual population growth rate is

to be reduced to 1.20 percent and fertility rate per woman to 2.5. Assuming this target is fulfilled the projected population will reach 26.00 million in the year 2000. This national population policy when viewed against the background of technical difficulties and of public opinions towards population control,

appears to be ambitious, however, it has become essential to increase the standard of living of the people by maintaining a balance between development and population growth. To fulfill the target fixed under this national policy, multi-faceted strategies covering family planning services to contain the population growth rate; integrated population programmes based on ecology, forest, agriculture and rural development activities; women development programmes, mobilization of indigenous resources including the involvement of non-government organizations and migration have been adopted. The objectives and policies related to population in the Seventh Plan based on the above strategies are presented in the following paragraphs.

Objective

To maintain a balance between population growth and economic development by minimizing the adverse effect of the pressure of the uncontrolled growth of population on its shape and distribution.

Policies

The following policies will be adopted in fulfilling the above objective:

1. by extending the family planning services the current unfulfilled demands will be fulfilled.
2. to unify all activities related to population in the development projects keeping in mind the inter-relation between economic development and population.
3. to give priority to all programmes related to women because the status of women in the society, female education and employment opportunity for women all affect favorably in controlling population growth.
4. to increase participation of panchayat, social organizations and non-government organizations in all programmes related to population.
5. to control the ever-increasing rehabilitation.

In carrying out the above policies the following operating policies for different sectors will be adopted.

a. Family Planning

1. to accord top priority to fulfilling the current demands for family planning services in doing so areas having high fertility and high population density will be given special attention.
2. to awaken the people in family planning and to motivate them in the use of different methods of contraception.
3. to consolidate the managements and organizations for family planning services.
4. to continue the use of permanent family planning devices and to increase the users of temporary devices and maintain continuity in their use. Special attention will be given to provide the family planning services to the couples in the age-group of high fertility rate.
5. to train adequate number of manpower for propagating family planning concepts.
6. to make follow-up checks of the users of family planning devices regularly.
7. to make arrangement for the organized unit to provide family planning services.

b. Unified Population Activities in the Development Projects

1. Family planning services will be unified with the health services,
2. To make arrangements in bringing the realities of population growth into the fore while preparing development projects.
3. To impart ways of propagating the knowledge on family planning and population education in the development projects.
4. The output of all the development projects should be computed on the basis of per capita.
5. To provide training programmes to the employees who are associated with the planning and execution of development projects for the execution of programmes meant for propagation of different aspect of population.

c. Female Education and Employment

1. To increase the number of admissions of women in the formal and informal education and to organize motivating programmes through appropriate institutions.
2. To increase the number of admissions in skill development training courses and in trade schools.
3. To provide additional opportunities to the women for higher education.
4. Efforts will be made to increase the employment opportunities to women in the specified fields.

d. Activating Local Panchayats, Social Organizations and Non-government Organizations:

1. To make arrangements in availing the support of these organizations for promotion and publicity of the

- activities and problems related with population and the programmes related with family planning.
2. To promote and publicize vital registration system through these institutions and organizations.
 3. To activate the central population assistance committee which has representations from the non-government organization as well.
 4. The government institutions will associate non-government associations in training courses and seminars related with population.
- e. Control of Rehabilitation**
1. Persons crossing international boundary will be encouraged to register their personal information including citizenship at the entry points.
 2. To make arrangements to make it obligatory to have work permits from the local panchayats (village or town) for taking up work.
 3. Training will be organized widely within Nepal for developing skills. Training programmes organized by the trade schools, ministries and departments of HMG will be increased and their implementation speeded up.
 4. On-the-spot training programmes will be conducted in big projects.

f. Extension and Consolidation of Vital Registration System

1. Registration of birth and death will be extended gradually in all the districts.
2. Arrangements will be made to utilize the collected statistics for analysis and project planning.
3. Registration of birth and death will be made more effective through Panchayats.

g. Population Education and Training.

1. Courses on population will be included in the formal and informal education and also in higher education.
2. Courses on population education will be included in the higher level courses for training of teachers.
3. Short and medium term training courses will be organized for the employees associated with the population programmes and necessary institutional arrangements will thereby be made.

4. Employment Policy

a. **Employment Promotion:** Manpower is one of the major resources of the country. Population of Nepal is increasing at the annual rate of 2.66 percent. It is natural that economically active population also grows along with the overall population growth. Increase of unemployed and semi-employed population adversely affects the economic activities of the country. It is therefore essential to involve the increase of active population in the productive employment.

Various measures were launched in increasing employment opportunities in the previous plans. If agricultural tools were made available so were the irrigation facilities extended in order to increase the employment opportunities for the small farmers. Employment opportunities were made available to the unemployed and semi-employed rural population by launching rehabilitation programmes. Creation of employment opportunities in the non-agriculture sectors such as industry, construction activities and services, were attempted in order to divert the additional burden on agriculture by the added labor force. In spite of all these efforts, the problem of unemployment and semi-employment has not been much affected.

Between 1971 and 1981 economically active population has increased 2.00 million and at the rate of 200,000 per annum. Because employment opportunities did not increase adequately in the non-agriculture sectors, the increasing economically active population had to depend upon agriculture for employment. The problem of semi-employed is very critical and at the same time educated unemployed is also increasing. If the need is there for the utilization of unemployed and semi-unemployed labour force as a resource for development, so also is the need to create production employment opportunities in order to raise the standard of living of the people. Therefore, creation of production employment opportunities is one of the basic objectives of the Seventh Plan.

b. **Shape of Labour Force:** Though the international convention is to take the population over 15 year as the labour force, in Nepal a big segment of the population of age-group 10-14 years, is also included in the economically active labour. Table 7.09 presents the shape and participation rates on the basis of census of 1971 and 1981.

Table No. 7.09

	1971	1981
1. Population 10 years and above		
-Male	4140624	5387614
-Female	4037817	5130274
-Total	8178441	10517888
2. Population Economically Active		
-Male	3434288	4479944
-Female	1418236	2370942
-Total	4852524	6850886
3. Labor Force Participation Rate	percent	Percent
-Male	82.90	83.10
-Female	35.10	46.20
-Total (Male/Female)	59.30	65.10

From the census of 1971 and 1981 population of 10 years and above increased by 2.329 million of which 2.00 million is economically active. Participation of labour force increased to 65.10 percent in 1981 from 59.30 percent in 1971. Participation rate of the male-population increased slightly whereas that of female-population increased remarkably. Improvement in the education standard and social status of women has been helpful in bringing about increased participation of the female population.

Table No. 7.10

Shape of the Labor Force 1985-90

Population details	1981 (2038)	1985 (2042)	1986 (2043)	1990 (2047)	Estimated addition to the years 1985-90
1. Total Population	15022839	16625439	17059000	18913718	2288279
2. Population-10 years & above	10517888	11617276	11918193	13201934	1584658
3. Economically active population	6850886	7562566	7760155	8603549	1040389
4. Percentage of Population -10 years and above to the total population	70.0	69.88	69.86	69.86	
5. Percentage of the economically active population to the total population	45.6	45.49	45.49	45.49	

The 7.10 presents the projected statistics of the expected changes in the labour force during the Seventh Plan. The total population of Nepal is estimated to be 16,625,439 in 1985 and 18,913,718 in 1990. During the Seventh Plan period the total population is expected to increase by 2.888 million. Accordingly, population of 10 years and above is expected to increase by 1.585 million.

On the basis of the expected increase in the participation of the population age group of 10 years and above, the economically active population will be 7.814 million in 1990 the number of economically active population will increase by 1.041 million, and hence, it is necessary to create employment opportunities for this additional increment in the labour market. 91.30 percent of the economically active population according to 1981 census is engaged in agriculture. This demonstrates the fact that it has not been possible to shift the portion of population dependent on agriculture to non-agriculture sectors. Without changes in the vocational (professional) make-up of the labor force, people depend more on agriculture for employment. Only 3.30 percent of the economically active population is engaged on industry, and 3.80 percent on service industry. However, the services sector is growing at a relatively fast rate.

In the Sixth Plan, target for employment opportunities was set at creating 1,772,829 man years in government, panchayat and private sectors. Of this 1,094,826 man years of employment were to be created in government sector, 414,062 man years in agriculture and forest sector, 60,131 man years in industry and electricity, 372,130 man years in transport and communication and 248,503 man years in social services.

It is not possible to assess in full to what extent the Sixth Plan target was fulfilled. Employment opportunities could be created because the government and private sectors investment lagged behind the planned targets. Lack of improvements in agriculture and industry did not bring about any change worth mentioning in the semi-employment opportunities for the maximum utilization of population remains a Herculean task.

c. Population Related to Increasing Employment Opportunities

1. For increasing employment opportunities, productivity oriented programmes in agriculture sector will be executed. Implementation of multi-crop system with irrigation facilities introduction of latest techniques for increasing agriculture production will be publicized and promoted.
2. Self-employment activities will be expanded for increasing the employment in the rural areas. Promotion and publicity of cottage and village scale industries and of production activities related to the traditional skills will be encouraged.
3. Labour oriented techniques will be encouraged for industrial production and construction of infrastructures.

Creation of employment opportunities will be an important base for the establishment and expansion of industries. Nepalese labour will effectively avail the employment opportunities created by construction works.

4. Regional development policies will be directed to reduce number of unemployed and semi-employed labour after studying their regional characteristics.
 5. Execution of regional programmes utilizing local materials and skills will be promoted for the creation of employment opportunities.
 6. Priority will be given to associate educated unemployed in industry, trade and in social services. Various facilities will be given to the educated unemployed to enable them to play a meaningful productive role.
 7. Priority will be given to encourage the participation of women by implementing programmes which will create new employment opportunities for the unemployed rural and urban women.
 8. Training programmes in developing technical and vocational skills conducted by existing institutions to equip the manpower with different levels of technical skills will be expanded as employment opportunities created by development projects mostly demand technical and vocational skills. Short-term, on-the-spot training camps will be organized in project construction sites. Women also will be associated in the skill development training programmes.
1. Keeping in view the need for creating employment opportunities in the non-agriculture sector, agro-based small and medium scale industries will be established at the rehabilitated areas under rehabilitation programmes.
 2. All industrial organizations will be required to run training programmes for developing skills of Nepalese labour. Apprenticeship training will be developed as a medium of industrial training.
 3. Institutional arrangements will be made to coordinate the activities of institutions which carry out vocation and skill development programmes.
 4. Competent government agencies will be required to carry out surveys on regular basis to monitor the situation of employment labour force. Periodic records of the works from foreign countries engaged in industries, construction works and other employment will be maintained.

CHAPTER 8

WATER RESOURCE AND FUEL POLICY

1. Water Resource Development

Water resource in Nepal is an inexhaustible resource whose harnessing will strengthen the economy of the country. In fact, the prospects for a bright future of Nepal largely depends upon the development of water resources. Harnessing this resource will support the all-round development efforts of the country, as especially in the fields of electricity, general irrigation drinking water, fishery, tourism industry, transport based on electricity, export development capability, and so on. Greater efforts are still required for realising the multi-purpose uses and development of water resource for long term economic development.

a. Electricity

- i) **Generation of power:** The achievement gained in the field of power development is very negligible. Various studies conducted so far reveal that generation of 25,000 Megawatt is economically and technically feasible even though the potential exploitable estimate is 83,000 Megawatt. As of the end of the Sixth Plan the total installed capacity of power generation in the country is only 129.60 Megawatt, which is 0.16 per cent of the total potential power and 0.52 per cent of the commercially exploitable power capacity. At the end of the Sixth Plan per capita power consumption in Nepal is estimated to be 22 units whereas in the neighbouring least developing countries, it is significantly greater. Inadequate studies and shortage of financial, technical and managerial inputs have been responsible for this state of affairs so far. From table 8.01 it is also clear that expected success has not attained in the past.

For the want of knowledge, lack of technology and dearth of technical skill progress attained in this sector in the six periodic

plans is 4.85, 13.84, 33.27, 70.12, 31.80 and 60.50 per cent of the targets of those plans respectively. This certainly cannot be considered encouraging. Table 8.02 presents the installed capacity of power generation as of the beginning of the FY 1984/85.

TABLE 8.01

**Consumption of Electricity
in South Asian Countries***

Countries	Average consumption per capita Kilowatt hour	Load Factor per cent
Nepal	22	48.00
India	170	72.00
Indonesia	38	67.00
Sri Lanka	94	54.00
Bangladesh	29	55.50
Burma	34	63.00
Pakistan	192	61.00

*Source: Electricity Pricing Theory and Case by M. Munashinghe and J. J. Warford, World Bank Publication

TABLE 8.02

**Installed Capacity
of Power in Nepal**

Power generating	Year of completion of project	Installed capacity Megawatt
1. Unified System		
a. Hydro-power		
Pharping	1911	0.50
Sundarikal	1934	0.60
Panauti	1963	2.40
Butwal	1969	1.30
Pokhara	1969	1.00
Trishuli	1970	21.00
Sunkoshi	1973	10.00
Gandak	1979	15.00
Kulekhani First	1982	60.00
Pokhara	1984	1.50
Total Hydro-power		127.40
b. Diesel*		
Dhorsing	1978	2.20
Patan	1966	1.50
Mahendranagar	1956	1.70
Bharatpur	1961	0.50
Hetauda first	1966	4.50
Hetuada second	1981	10.00
Pokhara	1972	1.00
Others		1.20
Total Diesel Power		22.60
Total unified system		150.00
2. Not connected to the Unified System		
a. Hydro-power		
Micro hydro power	total	2.20
b. Diesel		
Biratnagar	1977	2.90
Janakpur	1961	0.80
Other		1.50

Total Diesel Power	5.20
All Nepal Total	
Hydro-power	129.60
Diesel Power	27.80
Grand total	157.50

*Note: While computing the diesel power, 60% Load Factor is used.

- ii) **Distribution of Power:** Installation of transmission lines was only 18.10 percent of the Sixth Plan target. Distribution of power, already generated has not been possible to different parts of the country for want of consolidation and expansion of transmission lines, which is illustrated by the fact that only 51 per cent and 48 percent of the total annual production of Kulekhani power was consumed in 1982/83 and 1983/84 respectively at a time when economic development programmes like lift irrigation, small and large scale industries are facing serious problems for want of electricity in other parts of the country. This situation can be attributed to the imbalanced development of power generation transmission and distribution. Table 8.03 presents the picture of power generation, its import and export and consumption in Nepal for the last few years.

The current consumption rate does not appear to be very favourable either. At times of shortage of power generation capacity regular supply of power grew at 12 per cent per annum. In the Sixth Plan it was estimated to grow at 16 per cent. The actual growth rate of power consumption in the past few years is presented in the Table 8.04.

Inability to utilise the installed capacity of power generation and dropping of annual consumption rate have become a subject of grave concern. This calls for improvement of transmission and distribution capacity in proportion with the power generation capacity and for tariff charges in line with the capacity of the people and consumer to pay.

TABLE 8.03
Power System in Nepal
Generation of Electric Power
and its Sales
In Megawatt Hour per Annum

	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Sales of Electric Power									
Domestic	61787	65768	71348	77221	74823	78570	90666	118891	130241
Industrial	32138	39036	42751	47827	52809	50202	61280	73148	78342
Commercial	9173	10405	13068	18020	25244	26899	24633	30150	30195
Others	4173	4382	4488	5895	9093	8226	8191	8319	1780
Total sales	107261	119591	131655	148963	161969	163897	184770	230508	246558
Leakage	42965	45789	54724	62988	66609	67273	85255	117449	118686
Total consumption	150226	165380	166379	211951	228578	231170	270025	347957	365244
Supply of Electric Power									
Hydro - power	128814	139019	153454	170319	176678	175943	208296	286019	305716
Thermal power	1980	3336	6169	7166	18124	14555	10153	4633	2670
Import from India	25372	29141	32726	40626	38972	45070	56759	63291	67170
Export to India	-5940	-6116	-5970	-6160	-5198	-3765	-5183	-5986	-10312
Net Consumption of Electric Power including Imports	150226	165380	186379	211951	228578	231443	270025	347957	365244

TABLE 8.04

Years	Total consumption hour/annum Megawatt	Growth rate percent	Remarks
1975/76	150226		
1976/77	165380	10.90	
1977/78	186379	12.70	
1978/79	211951	13.70	
1979/80	228578	7.84	
1980/81	231170	1.13	
1981/82	270025	16.81	Kulehkani
1982/83	347957	28.86	Project began
x983/84	365244	4.97	

- iii) **Power leakage:** Table 8.03 clearly presents the real situation of industrial and commercial consumption against domestic consumption and leakage of power in Nepal. Higher consumption of power has to be encouraged by fixing appropriate power charges for industrial and commercial users as well as for the domestic users.

The situation of power leakage is also grave and is presented in the Table 8.05. Revenue from power is dwindling. Hence, necessary steps have to be taken in making all the measures, so far taken, effective in the control and elimination of power leakage.

TABLE 8.05

Years	Leakage Megawatt hour per annum	Leakage percent of total internal consumption
1975/76	42965	28.60
1976/77	35789	27.69
1977/78	54724	29.36
1978/79	62988	29.72
1979/80	66609	29.14
1980/81	67273	29.20
1981/82	85255	31.57
1982/83	117449	33.75
1983/84	118686	32.49

For the economic development in the remote hilly areas where it is difficult to install transmission lines, launching of micro hydro power projects is essential. The experience of the past has proved this venture to be costly because of inadequate studies, use of costly equipment and commodities, high transportation cost, shortage of technical manpower and contractors. The following examples provide a picture of the cost incurred in some micro hydel projects.

Project	Capacity in kilowatt	Total investment in million rupees	Investment per kilowatt in thousand rupees
Micro hydro in			
Namche	720	443.00	61.50
Taplejung	125	129.70	103.80
Okhaldhunga	125	144.40	117.90
Serpudah	200	289.30	144.70
Manang	80	92.40	115.50
Darchula	100	34.00	35.40

While it is desirable to integrate irrigation and drinking water activities with the implementation of such micro hydro projects, it is equally desirable to encourage the use of local labour, skills and resources in construction of the projects. Power generated from these projects can then be used for cottage industries, lift irrigation and other productive activities.

2. Irrigation and Meteorology

- a. Irrigation greatly contributes to agriculture development. A total of 2.65 million hectares of land receive irrigation facilities—1.40 million hectares by big rivers, 700,000 hectares by small rivers and underground water in the terai region and 550,000 hectares in the hilly region. The achievements of the Sixth Plan are presented in Table 8.06. By the end of the Sixth Plan 338,672 hectares will receive irrigation facilities through the government efforts. This is only 13.03

TABLE 8.06

Areas Receiving Irrigation Facilities

Ministry	Situation upto Fifth Plan (hectare)	Target of Sixth plan (hectare)	Progress of first four years of (hectare)	Estimate of fifth year (hectare)	Estimated progress of Sixth plan (hectare)
1. Ministry of Water Resource	198,481	233,482	52,503 (22.50%)	41,630	94,133 (40.30%)
2. Ministry of Agriculture			17,137	24,457	41,594
3. Ministry of Panchayat and Local Development			3,572	892	4,464
Total	198,481	279,882	73,212	66,979	140,191

Note: Total irrigated area at the end of the Sixth Plan is 338,672 hectares

per cent of the total irrigable land. This sort of low irrigation facilities after 6 periodic plans can not be considered encouraging. Moreover out of this total, only 42.00 per cent or 5.47 per cent of the total irrigable land will receive irrigation facility effectively. Greater efforts are, therefore, called for increasing the effectiveness of already created irrigation facilities in the irrigation sector the progress achieved vis-a-vis the specified target in the first to the sixth plan was only 15.40, 46.53, 5.45, 65.30 and 40.32 per cent respectively. In this situation, it is essential to have efficient and time-bound execution of irrigation projects, planning of projects to increase the integrated acreage, efficient operation of the completed projects and their maintenance including the regulation of related legal problems.

- b. Scarcity of foodgrains in the Hilly Region is a major problem for the country. This is the main cause for necessary rehabilitation of these areas. Feasible surface, lift and pond irrigation projects have to be implemented for making the hilly region self-reliant.
- c. Surface and underground water development projects must be implemented on a priority basis to utilise the water resources of the country. But the progress so far has not been satisfactory. Sikta, Babai and Bagmati projects are the examples of slow implementation.

The call of the day is to utilise the indigenous economic resources in harnessing the water resources by depending less on external resources. If benefits derived from irrigation projects can be permanently maintained, their utility value will increase and thus enhance the agricultural production of the country. Because of the different constraints, irrigation projects of the previous plans could not be properly maintained. Therefore, in the Seventh Plan, special attention will be given to supervision and maintenance of the completed irrigation projects in order to make available properly managed and reliable supply of irrigation water to the farmer without adversely effecting the agriculture programmes of the Seventh Plan. Necessary steps will also be taken to encourage participation of the farmers in such projects.

- d. As development of command areas was not up to the mark, the need now is to develop such projects which will have a definitive command area. Duplication will be completely avoided while designing and executing irrigation projects in the plan for providing irrigation facilities.
- e. Since irrigation water, supplied to the farmers, will increase their agricultural production, proper maintenance of projects constructed at a big investment can possibly be carried out only if the farmer pays irrigation water tax. Such taxes will help service the foreign loans and, at the same time, any surplus can be invested in the new projects.
- f. Weather forecast can help the farmers to determine the time, place and type of crops for plantation in advance. Though some studies have been conducted on this field there has been no substantial progress. Meteorological data of Nepal is available only for 25 years, for effective forecasting 100 years data are required and so attempts will be made to compute such data in the Seventh Plan. Also collection of data from the neighbouring countries has been initiated for supporting weather forecasting in Nepal.
- g. Land erosion has posed itself as a national problem. Timely control of floods and prevention of erosions is extremely essential and these activities have to be carried within the limited economic and technical capability of the country and with the participation of the people.

Drinking Water

- a. Easy availability of pure drinking water is the basic necessity for the good health of the people. Nepal has been designing and imple-

menting health programmes in line with the United Nations programme of providing good health to all the people of the world by 2000.

b. Table 8.07 presents the situation of drinking water facilities on the basis of population at the end of the Sixth Plan.

c. Efforts are in full swing to supply drinking water through pipes. Still lack of studies, lack of commodities, transport problems, lack of technical manpower, unexperienced contractos, etc. are some of the major obstacle to successful implementation. Hence, it is necessary to consider supply of water by wells, stone taps, etc. with the participation of people as an additional alternative in addition to the supply of water through pipes. Drinking water projects have to be made more economical in order to supply drinking water to a larger segment of the population as it is a basic necessity.

d. Drinking water is not accessible to all the population in the urban areas. The purity of water supplied to these areas is also not properly maintained. It is highly desirable that distribution system should be improved in order to supply pure drinking water and in plenty too.

e. So far, attention has centered around supply of drinking water through pipe only while the purity aspects have not received due consideration. To keep the people healthy and free from diseases, pure drinking water is very essential. Necessary steps, therefore, have to be taken to supply pure water.

f. Leakage of water supply made available at a big investment is becoming a major problem. No study has been undertaken to make a correct assessment of the situation. However, there are several indications to suggest that leakage of drinking water is a serious problem. So necessary studies have to be conducted to assess the quantity of this leakage and revise ways and means to stop it.

g. To hand over the drinking water project to the local institutions such as Panchayat for the supply of water and maintain the water projects in proper order in the rural and urban area. If local Panchayats can be associated during the construction stages its effectiveness will also increase and this also needs serious consideration.

4. Alternate Fuel Development

a. At present per capita fuel consumption is 224 kg. 94 percent, of which is met by traditional fuel and 6 percent by commercial fuel. Fuel supply is met mostly by timber, firewood and imported petroleum

TABLE 8.07
Population Receiving Drinking Water

Ministry	Situation upto Fifth Plan	Target of Sixth Plan	Progress of 1st 4 years	Estimated progress of 5th year	Estimated progress of Sixth Plan	Situation at the end of Sixth Plan
Rural	861,000	3,872,000	1,101,000 (28.40%)	524,000	1,625,000 (41.90%)	2,486,000 (15.70%)
(a) Department of Water Supplies		1,504,000	754,000 (50.00%)	437,000	1,191,000 (79.00%)	
(b) Ministry of Panchayat and Local Development		2,368,000	347,000 (14.60%)	87,000	434,000 (18.30%)	
Urban	687,000	263,000	222,000	41,000	263,000	950,000 (79.90%)
Total	1,548,000	4,135,000	1,323,000 (32.00%)	565,000	1,888,000 (45.60%)	3,436,000 (20.60%)

products. Unceasing deforestation and ever-increasing prices of commodities not only put a brake to the development works but also adversely affect the balance of payments. Fuel problem is magnifying itself and is having an adverse effect on the ecology itself. In the immediate future, programmes for the development of alternate sources of fuels, and for protection and perservation of forest have become a necessity. In the Sixth Plan, it was foreseen that research of alternate fuels and providing assistance and encouragement to the organisations which produce alternate fuels was a necessity but no programme worth mentioning has been launched.

- b. For the protection of the forest and the propagation of the community forests and related programmes, afforestation programmes were carried and improved **chulo** (indigenous heater) were supplied widely. The contribution of RECAST in the development and distribution of improved **chulo** is worth mentioning. Agricultural Development Bank made agricultural credit on concessional interest under Asian Development Bank credit assistance, to the farmers, for installation of improved chulo and bio-gas plants. 1620 family and community bio-gas plants were installed under the Small Farmers Development Project through the UNICEF assistance. With the installation of 250 multipurpose water-mills and cross-flow turbines, support for agro-processing by increased power as compared to traditional water-mill was supplied. Though industries belonging to the private sector such as Balaju Yantrashala (Pvt.) Ltd. established water heaters and solar driers but increased initial cost and lack of publicity limited their use. Similarly surveys were conducted in Mustang, Manang, Lamjung and Syangja on air-power development but no implementation has taken place. If the government can assist the private sector organistions specifically involved in the research, development and uses of bio-gas plant, gobar gas plant, improved **chulo**, improved water-mill, solar energy and air power economically and technically, use of those equipments and methods will increase with less pressures on the traditional source of fuel. Programmes launched by the private sector have not been very effective, but even then, these have their own importance. Special efforts are, therefore, required for development of alternate fuels in the Seventh Plan.

Objectives

For strengthening the national economy by harnessing the water resources effectively for basic services such as, electricity, irrigation,

drinking water, etc. and for development of alternate fuels, the following objectives are set:

1. The main objective will be to execute projects for multipurpose use of the inexhaustible water resources for activities like electricity, irrigation, drinking water, flood control, etc.
2. The secondary objective will be to replace the traditional consumption of fuels by making use of possible sources of alternate fuels.

Policy

The following policy will be adopted in fulfilling the above objectives:

1. To study the potential of all the water resources for various uses and to prepare the outlines of the feasible projects for the existing river basins. In addition, an order of priority of all the feasible projects according to the regional requirements will also be made.
2. To make efforts to establish interdependence among different fields by increasing mutual cooperation for water resource development.
3. To use effectively all services available from the balanced development of various programmes related to water resource and fuel.
4. To make the pace of economic development more effective by coordinating the use of water resource and fuel development with other programmes.
5. To carry out promotion and publicity campaigns among the users to derive maximum benefits from the projects completed.
6. Appropriate projects related to water power will be implemented in a balanced and time-bound manner keeping in mind the economy and other requisites for meeting the mid-term and long-term requirements of the country. Attempts will be made to take-up big electric projects because such projects can supply power relatively cheap and even export power and are economically beneficial to the country. Bilateral or multi-lateral assistance will be mobilised, if required, for the efficient implementation of such projects.
7. Supply of electricity to operate lift irrigation and development of cottage and small scale industries under rural electrification will be given priority.
8. Micro-hydro projects will be launched in the areas where installation of transmission lines is difficult for distribution of electricity.

city. Productive activities such as small scale industries and lift irrigation which are feasible from technical and economic considerations will be given top priority. Local skills and resources will be used in making such a project more economical.

9. By developing power generation, transmission, distribution, and construction of dams, channels, branch channel, and field channel in a balanced way available resources will be used to a maximum. Effort to maximise benefits from the completed projects will be made.
10. Attempts will be made to implement multi-purpose projects by integrating electricity, irrigation, flood control, etc. while executing water resource development projects.
11. Necessary assistance will be given on a priority basis for controlling erosion of areas where the gravity of the situation demands such assistance. Participation of the local people will be made compulsory in areas thus assisted. Forest protection and afforestation will accompany such activities in the effected areas.
12. For development of fuel generating sources, studies, research and publicity will be organised for use of alternate fuels from bio-gas, solar energy, air-power, etc. to increase the use of supply of fuel from these sources. Special attention will be given to reduce the cost of bio-gas plants and to expand its uses in the rural areas.
13. Private sector also will be encouraged to take up micro-hydro projects and development of alternate fuels.
14. Special attention will be given to a greater utilization of local labour, skills, and resources for water resource and fuel development programmes.
15. Constant effort will be made to seek mutual assistance among the countries of the region for expediting the execution of relatively big multi-purpose projects like Karnali (Chisapani).
16. Power and irrigation water charges will be made more scientific and will be made available at concessional rates to the productive users.

Working Policy

1. Planning and implementing new irrigation projects, especial attention will be given to develop the command areas so that the benefits from the new prospects as maximised.
2. Effective measures will be adopted through fixation of water

charges and through legal measures to minimize leakage of water resource.

3. Encouragement will be given to the participation of the local consumers and local Panchayats in the supervision and maintenance of the irrigation and drinking water projects.
4. Ways and means will be chalked out for maintaining the purity of drinking water. Improvements will be effected in the distribution of water supply in the urban area.
5. Serious attempts will be made to complete the projects within the estimated cost and within the anticipated time frame.

CHAPTER 9

ECOLOGY AND LAND-USE POLICY

1. Ecology

Since a few decades there has been a big change in the ecology of the country. High population growth rate, dependence of over 90 % of population on agriculture, non-availability of other employment opportunities, and fast and unbalanced execution of development and construction activities are the main causes for this destructive change. In the absence of employment opportunities in the non-agriculture sectors and in view of the increasing demand for foodgrains for population likely to double within the next 26 years, extension of land for agriculture cultivation is very likely /to increase substantially without any attention to the productivity of land, cultivation of the marginal lands, excessive felling of trees, excessive use of forest products and over-grazing, there can be considered the agrarian characteristics of the country.

Excessive deforestation in the mountain is increasing the loss of life and property by floods and landslides. Fertile soil is being washed out by small and big rivers. Production is dropping inspite of greater efforts of the farmers. It is estimated that every year a layer of 1.70 mm. of fertile soil is washed away. 13 per cent of Chure and mid-hilly range is suffering from landslides. Denudation, floods and landslides have been on the increase since a few years and desertification process in the mountain area is gaining speed. Desertification of about 10,000 hectares in Dolpa and Mustang districts has started and is spreading in other areas as indicated by deteriorating of ecology. It has been estimated that 47 % of the denudation and landslide are of natural causes whereas the rest is man-made.

People from the hills are migrating to terai because of denudation, floods, and landslides there and forest in the terai area has been depleted very fast since the last two decades. Out of the total land area of 147,181sq.kilometre of the country, 18% is agricultural land and only 37.60% in forest land.

The pressure is clearly increasing on the forest because 81% of the fuel required by the people is met by the firewood. This will continue for sometime till alternate fuels are developed, The ecologists estimate that 43 % of the total land should always be covered by forest.

94% of the population still depends on agriculture. In meeting the daily necessities of man and animals 50.00 million tons of green grasses required. If the present rate of consumption of forest products and productivity is allowed to continue, forests in Terai and interior Terai will be exhausted in the next 20 years and in the hilly region in the next 10 years. Forest protection and development has become a big challenge.

Irrigation facilities, electrification, roads construction and industrialisation are essential for economic and social development of the country but these activities are increasing the pressure, directly or indirectly, to the national resource base and air, water and sound pollution is continuously increasing. Though use of chemical fertilizers and insecticides for increasing foodgrain production is a must but their unscientific application not only adversely affects the agriculture productivity but also endangers the ecological balance.

Old and condemned vehicles have increased air pollution in the urban areas. Strong indication are being visible now that the ecology of the Kathmandu Valley is greatly affected by industrialisation process. Physicians are of the opinion that use of firewood without improved chulo produce smoke which not only pollute air but also make women of the rural areas more vulnerable for attack by various diseases.

Drinking water is being supplied to urban areas but people in the hilly region have to walk several miles for a pitcher of water because of depletion of forest there. Physicians opine that water pollution is the cause of about 50% of the prevalent diseases.

Nepal has not experienced sound pollution as yet. Vehicles blowing horns unnecessarily and the evil practice of using pressure horns by buses and truck on top of natural horns is increasing.

Without adequately providing drinking water, drainage and sewerage and electrical supply, uncontrolled and ill-managed urbanization has increased a lot of dirt which have polluted water, air and sound and so variety of diseases is increasing.

Development projects carried out without proper studies have affected the ecology of the place adversely.

Hilly roads and highways which are constructed without proper studies are increasing the ecological problems.

If there is a need of natural resources for the execution of various development projects for the economic and social well-being of the people, preservation of natural resources and ecology is equally essential to give them comforts of life, nutrient food, pure air and water. Scientific land users equally important because ecology and land are well interdependent.

Objective

Once the ecology is badly effected it is extremely difficult to bring it back to its original state even if huge amounts are invested. Although this problem cannot be tackled in full, however, plans for curtailing it can be considered from an 'early stage. The objective, therefore, is to maintain good health, security and well being of the people by protection, preservation, consolidation and total management of the ecology.

Policy

The following policy will be adopted in the Seventh Plan to fulfill the aforesaid objective:

1. In implementing physical development activities construction industrial projects, consideration will be given to execute such projects after proper studies and evaluations especially against the background of ecological problems. Attention will also be given to maintain quality of natural resources with least damage to the ecology and with consideration to appropriate alternatives. Effluents from industries will have to be treated before they can spoil the air and water.
2. In order to improve the imbalance between ecology and land use and to minimise the deterioration of ecology from the implementation of development projects, national ecology protection policy and acts and regulation (thereby related) will be formulated.
3. Because of the increasing tendency to cultivate marginal lands, ecological problems such as denudation, flood, landslides, etc. are created. As a means to solve this problem necessary arrangements will be made to shift people engaged in agriculture to agro and forest based industries. Encouragement will be given to convert the marginal land to forest and grazing fields for the best use of the land.
4. To collect statistics, conduct studies and research related to ecology in fixing the national minimum level of pollution.
5. Courses on ecology will be included in the formal and informal courses and by giving due importance to ecology education through exhibitions and publicity and promotions.
6. Special attention will be given to encourage the non-government organisations to participate in the ecology oriented protection and propagation activities. Accordingly Panchayats, class organisations and social organisation will be encouraged to be more active.
7. Taming of rivers with the participation of the people to control erosion and to encourage afforestation and forestry programs will be given special attention. In addition efforts will be made to consolidate the process of balancing weather and water resources by controlling the land erosion in the watershed area.
8. To develop tourism without any harm to the natural resources and the cultural heritage.
9. Rehabilitation, urbanisation and development programmes will be implemented by scientifically classifying the land composition and land use.
10. Activities related to ecology involve forest, agriculture, electricity, irrigation, industry, commerce, road construction, population and public health. Necessary steps will be taken to coordinate the activities of different organisations in order to make them effective, keeping in view the fact that solution of ecological problems demand multifaceted and multi-organisation approaches.

Land-use

Various studies have produced important statistics about the land use. It has been possible to determine the statistics of the area of cultivable and of the country at random. Demarcation of plots in many districts have been completed. According to Land Resources Mapping Project(LR.M.P.)report, statistics of land in 59 districts is in the final form. The area of the cultivable land of the remaining 16 districts can be estimated from the statistics available so far though estimation of production on the basis of estimated cultivable land area is not really desirable.

Fixing the cultivable land area based on the increase of land revealed from the annual crops is advisable. On this basis, the cultivable land area of the country is 2,653,300 hectares. According to the National Agriculture Census of 1981 (sample survey) the land used by farmers totals 2,463,700 hectares. Though these two figures differ the cultivable land area of 2,653,300 hectares is computed by identifying the summer crop area and winter crop area and hence this figure has been recognised as the valid one for the purpose of the Seventh Plan. This statistics differs from the one which was estimated for the Sixth Plan.

Various studies have shown that areas under forest has decreased considerably. As presented in the Sixth Plan, forest area was 4,823,000 hectares in 1974 and it dropped to 4,100,000 hectares in 1979. Because of realignment of the international boundary the total area of the country has increased from 141,059 sq. kilometer to 147,181 sq. kilometer. LR. M. P. statistics clearly indicate that the present area of forest can be taken as reliable. According to the preliminary estimate by that project, forest covers 5,533,488 hectares of the total area. Though this statistics is bigger than the statistics published in the past, the methodology applied by the project being more scientific and the estimate being the latest available, this figure has been accepted for the purpose of Seventh Plan. According to the estimate referred to above. The total area of the country is 14,718,100 hectares (147,181 sq. kilometer) of which agriculture covers 2,653,300 hectares (18 percent) and forest 5,533,490 hectares (37.60 percent). Land composition of the total land area of the country on the basis of different types of land-use is shown in the Table 9.01.

TABLE 9.01
Situation of Land-use in Nepal

	Type of Land-use	Area in sq. kilometer	Percent of Total area.
1.	Agriculture area	26,533	18.00
2.	Forest area	55,334	37.60
3.	Himali area	22,463	15.30
4.	Grazing area	19,785	13.40
5.	Water area	4,000	2.70
6.	Habitation area and roads	1,033	0.70
7.	Others (barren land, land slide, etc.)	18,033	12.30
		147,181	100.00

The objective and policy on ecology and land use policy are enumerated as follows

Objective

To use the land asset of the country more scientifically to maintain the natural beauty and ecological balance,

Land-use policy

1. To stop the cultivation of non-productive and marginal land.
2. Suitable land for cultivation will be identified and afforestation in the marginal land will be implemented.
3. Policy will be adopted to develop suburban areas by providing necessary amenities in lands except productive lands which will be utilised for agriculture.

4. To execute programmes which will increase agricultural production from the cultivable land around the densely populated urban areas and firewood and grass production from the forest areas in order to meet the requirement of the population.
5. For increasing green vegetation in the naked hills, afforestation will be carried out or encourage commercial crops which do not disturb the soil condition.
6. To adopt scientific techniques to protect soil for cultivation on the slopes with more than 30 percent gradient.
7. In steep slopy land, interior terai and base of the hills of the interior terai, afforestation will be effected, which will preserve underground water.
8. Programmes related to taming of rivers will be launched with the participation of people for protecting the cultivable land and villages.

EXPORT POLICY

1. Introduction

The population growth is increasing the demand for consumable goods and the increase in capital investment for development is increasing the requirement of capital and construction goods. Unfavourable balance of payments have negative effects on the economy of the country and slower pace of industrialisation and weather-oriented agriculture production have caused dependence on imports. Limited quantity of exportable goods, uncertainty, low level quality, lack of know-how on international marketing, land-lockedness and non-competitive capability due to transport cost are the prominent factors affecting Nepal's export. On top of these, inspite of the steps taken for developing the competitiveness of the exportable goods, there are grievances of the exporters' inability to receive the benefits in a simple and smooth manner due to complications in the administration of export encouragement schemes. The challenge now is to increase exports and earn and save foreign exchange by minimizing the negative balance of payment. It is essential to launch various programmes with pragmatic policies and sound procedures in order to stimulate economic development by giving export trade a high priority.

2. Assessment of Sixth Plan

In the Sixth Plan exports could not increase as expected. As the weather was bad in the final year of the Fifth Plan, exports increased in an extraordinary manner in 1980/81 followed by a sharp drop in the next 2 years. From 1983/84 even though there was no quantitative increase of exports, the income in monetary terms has increased. Exports did not increase quantitatively mainly due to the following reasons.

- failure of exports to increase in the same proportion as the national production.
- agricultural goods dominated export composition and production of agriculture depended on weather.

- no indication of improvement in the production of industrial goods, their costs and quality level.

If exports are not increased during the Seventh Plan, the balance of payments will not only continue to be negative but will also bring grave consequences to the national economy. In the Seventh Plan the aim is to increase exports earnings by a minimum of 2.50% at constant prices. If this aim is fulfilled earning from exports will be Rs.11.64 billion at constant price during the plan period.

In the Sixth Plan there was a characteristic fluctuation of production and exports of exportable goods. According to Table 10.01 production of all goods except raw jute increased in FY 1984/85 as compared to that of 1980/81 but production of all goods in the first three years did not increase uniformly. Production of rice, maize and leather decreased in 1982/83 and increased from 1983/84. Production of raw jute decreased continuously in the past years and is estimated to have increased only in FY 1984/85. Production of carpet increased from 82,000 sq. meter to 3000,000 sq. meter (366%), ready-made garments from Rs. 25.40 million to Rs. 32.50 million (28.00%) wooden parquette from 219,449 sq. foot to 300,000 sq. foot (36.00%), jute goods from 15,905 metric ton to 20,000 metric ton (25.00%) and leather from 12.90 million sq. foot to 18.90 million sq. foot (47.00%).

During the Sixth Plan period, total exports from 1980/81 to 1984/85 reached Rs. 7.902 billion of which overseas exports amounted to Rs. 2.751 billion. In the area of annual exports, exports to India is estimated to have increased from Rs. 992.00 million in FY 1980/81 to Rs. 1.128 billion in FY 1984/85. Exports to India has doubled in this period as compared to that at the end of the Fifth Plan. Overseas exports, instead of expected growth, dropped in the first four years but some increase in exports, in the fifth year is estimated. In the first year (1980/81) overseas export earnings recorded Rs. 616.00 million, in the second year Rs. 497.00 million, in the third year Rs. 289.00 million, in the fourth year Rs. 529.00 million; and in the fifth year the estimated export earnings will amount to Rs. 820.00 million. The trend of export trade shows an increase in earnings of Indian Currency but not in the earnings of foreign exchange.

A high power Exportable Goods Development and Export Promotion Council was established with the aim of launching a well-conceived programme for enhancing export trade in realization of the fact that the situation did not remain satisfactory upto the third year of the Sixth Plan. This Council has chalked out a well-conceived plan and has, in addition implemented a separate plan of action for FY 1983/84 and FY 1984/85.

A 9-point programme was also launched under which cash subsidy was given for overseas exports. The results of 1983/84 and 1984/85 show that the new trade policy implemented during the mid-term of the Sixth Plan providing physical and other facilities boosted exports. In the meantime, fixing foreign exchange rates under a basket of currency system and the appreciation of US Dollar in the international market has encouraged the Nepali exporters. Net earnings from foreign trade cannot be considered to be increasing significantly because importing goods from overseas need adequate US Dollars savings, buying power of Nepalese Currency against US Dollars is decreasing and price of US Dollar against other currencies of the world is increasing. The important fact is that there should be a balance between foreign exchange requirement for import and export earnings, which in reality has not taken place. Increase of imports is directly related to the increase in development activities and so increasing development activities has to depend largely on imports at this stage. Against this background export trade is an important and strong medium for economic development.

The following will be the objectives of export policy of the Seventh Plan:

Objectives

1. To improve balance of payments by increasing exports,
2. To expand and diversify the export market by enhancing the competitiveness of the exportable goods with adoption of high technology and skill development.
3. To increase national production and employment opportunities by developing export trade.

Policy

1. Increase the quantity and quality of exportable goods by raising the contribution of agriculture and non-agriculture sectors.
2. Coordinate the activities of all organisations related to export promotion and to consolidate their activities for higher efficiency.
3. Periodic reviews and amendments of the prevailing acts, by-laws and regulations (excise duty, income tax, customs duty, licence, foreign exchange earnings) for expanding the exports trade. In addition to steps to make timely change of foreign exchange rate effective will also be undertaken.
4. Necessary arrangements will be made to make the exportable goods more competitive by reducing transport costs.
5. Exporters will be rewarded for encouraging promotion of export trade.

6. Internal movement of goods will be free of any local taxes or octroi. Only charges fixed by His Majesty's Government will be levied.

Working Policy

1. Unified commodity development programmes will be planned for increasing exportable goods from agriculture, forest, industry, mining and from other sectors. Production and quality development programme will be implemented for wool, raw jute, cardamon, rosin and turpentine, hand-made paper, cane and bamboo, parquette, woolen carpets, leather, stone, semi-precious stones, magnesite, lead, zinc, etc. from production stage to shipment stage. Appropriate measures for enhancing competitiveness, quality level and value added in commodity development will be adopted.
2. To coordinate the activities of different organisations engaged in export, promotion especially within a view to further identification and selection of exportable commodities, development of selected commodities, exploration of markets conducting studies and looking for large importing houses abroad. For this Export Promotion Council including its committees like commodity development committee and export trade management committee will be activated. Nepalese missions in foreign countries will be strengthened and activated in expanding export of Nepalese goods in external markets. Organised activities will be further consolidated and made more efficient for exchange of information, and related agencies and organizations will be encouraged to participate in national and international fairs, exhibitions, seminars, etc. organised by government and non-government agencies.
3. Periodic improvements will be effected on existing laws, by-laws, foreign exchange rates and promotion policies on the basis of assessment of the trends of export trade. All procedures related to exports will be simplified, preparation of documents be systematised and the number of contact offices will be minimised.
4. Maximum utilization of facilities will be encouraged in reducing the transport cost of exportable goods. Additional attention to warehouse facilities at Tribhuvan International Airport, Biratnagar, Birgunj, Bhairawa and Nepalgunj and development of other physical facilities, efficient operation of clearing and forwarding activities, and improving the existing system of transport will be given. Model containers will be used in opening up different routes to simplify and to make effective use of the transport processes under bilateral transit agreements. Insurance system also will be simplified and made more effective.

5. Necessary steps will be taken to evaluate the comparative profit and loss position through both direct and indirect ways in rewarding and encouraging exporters.
6. Evaluate trends for smooth execution of export trade and consolidate the existing institutional systems further to provide necessary information services to the exporters.
7. Expand production activities for the approved agricultural, industrial and mineral goods in order to make the balance of payments with neighbouring countries favourable to Nepal and to avail of the facilities provided under bilateral agreements with these countries.
8. Special programmes will be launched for increasing production and export of light and high-value products on a priority basis by identifying such export-oriented products. Necessary arrangements will be made to establish **export process zones** after proper feasibility studies.

TABLE 10.01
Total Production of Exportable Goods
FY 1980/81- FY 1984/85

S.No.	Goods	Unit	1980/81	1981/82	1982/83	1983/84 Estimate	1984/85 Estimate
1.	Rice	Metric ton	1,527,872	1,587,249	1,136,224	1,701,230	1,760,800
2.	Maize	do	735,000	751,520	718,240	849,000	880,000
3.	Pulses	do	86,000	N. A.	84,000	90,000	90,000
4.	Cardamon	do	1,035	1,995	1,900	1,100	2,000
5.	Raw Ginger	do	29,037	29,277	36,000	37,800	38,000
6.	Katha/Cutch	do	1,210	1,102*	1,504	1,610	1,723
7.	Solvent extract and extraction	do	N. A.	N. A.	N. A.	24,700	38,000
8.	Carpet	Sq. metre	82,000	103,677	158,153	272,410	300,000
9.	Readymade garments including woolen	Million rupees	25.399	23.259	18.914	12.805	32.500
10.	Handicraft goods	do	152.050	14.051	13.906	19.534	22.500
11.	Parquette	Sq. foot	219,449	221,143	174,745	170,000	300,000
12.	Raw Jute	Metric ton	59,000	43,000	39,039	25,048	40,000
13.	Jute Goods	do	15,905	15,502	19,619	20,000	20,000
14.	Leather	Million sq. foot	12.904	17.069	13.878	17.044	18.957

Source: 1. Agriculture Development Programme Market Services, Agriculture Information Branch, Ministry of Agriculture.
2. Trade Promotion Centre 3. Jute Development and Trade Corporation 4. Leather Industry Coordination Unit.

TABLE 10.02
Export of Goods to India From 1980/81 to 1983/84

S.No.	Goods	Unit	in Million rupees							
			1980/81		1981/82		1982/83		1983/84	
			Quantity	Price	Quantity	Price	Quantity	Price	Quantity	Price
1.	Rice	Metric ton	40,002	117.589	36,503	136.521	2,509	11.315	3,624	17.214
2.	Maize	do	17,749	24.501	15,988	16.128	214	0.331	0.714	1.090
3.	Pulses	do	N. A.	N. A.	20,786	20.862	10,894	30.012	32,013	120.832
4.	Cardamon	do	318	6.106	763	10.835	391	5.472	404	6.856
5.	Raw ginger	do	4,759	8.859	3,950	12.071	3,162	9.775	2,987	9.452
6.	Katha/Cutch	do	N. A.	N. A.	N. A.	20.797	N. A.	34.567	1,261	57.010
7.	Solvent extract and extraction	do	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	22,700	76.309
8.	Wooden parquatte	Sq. foot	N. A.	N. A.	N. A.	N. A.	112,902	1.146	110,000	1.276
9.	Raw Jute	Metric ton	27,447	64.120	21,969	61.585	21,329	90.683	12,880	60.248
10.	Jute goods	do	1,441	10.300	13,219	80.935	22,749	179.744	18,546	185.990
11.	Leather goods	Sq. foot	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.
12.	Ginger	Metric ton	1,117	10.844	1,067	15.332	808	19.268	434	17.416

Source: 1. Statistics Division of Department of Customs
2. Nepal Rastra Bank

TABLE 10.03
Exports of Goods Overseas
(Tibet included)
Export Characteristics
From 1980/81 to 1983/84

S.No.	Goods	Unit	in Million rupees							
			1980/81		1981/82		1982/83		1983/84	
			Quantity	Price	Quantity	Price	Quantity	Price	Quantity	Price
1.	Rice	Metric ton	7,994	36.877	17,094	86.203	1	0.005	542	2.143
2.	Dal	do	5,063	40.113	7,901	58.238	509	2.988	816	6.998
3.	Cardamon	do	488	17.982	305	7.362	260	5.781	75	1.812
4.	Katha/Cutch	do	335	3.021	200	1.903	100	0.933	330	3.597
5.	Carpet	Sq. metre	85,002	70.119	100,308	85.252	151,591	138.643	259,439	256.951
6.	Ready-made garments	Price		25.399		23.259		18.914		12.806
7.	Handicrafts goods	Price		152.050		14.051		13.906		19.534
8.	Raw Jute	Metric ton	26,574	94.675	19,488	62.625	4,011	13.658		
9.	Jute Goods	do	3,713	31.553	164	1.529			206	2.293
10.	Leather goods*	Sq. foot	5,307,905	97.241	6,878,452	85.636	8,796,448	95.138	12,164,003	127.817
11.	Ginger	Metric ton	5	0.067						
12.	Solvent extract and extraction	do	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	2,000	2.560

* Hide of male-buffalo, female-buffalo and goats (goats: 3.50 sq. foot per animal; male-buffalo, female-buffalo: 20.00 sq. foot per animal)

Source: Trade Promotion Centre

CHAPTER 11

DEVELOPMENT ADMINISTRATION POLICY

1. Introduction

Since administration has an effective role to play in the all-round development of the country, development administration has to be effective, efficient and austere. If administration can be made efficient to the required level for execution of the development activities, it will then be feasible to fulfil the set objectives. Coordination among consolidated, clean and honest administrative environment, development activities and development administration is desirable and essential. Therefore, administration must be made timely and effective, and be projected as the main axle of development.

It is a well known fact that attention had been given to enhance the effectiveness of administration from the beginning of planning in Nepal. The policy of bringing timely improvement in administration has been recognised in every plan. But improvement in administration could not take at a desired level because of lack of pragmatic programmes, shortage of skilled manpower, lack of dedication in implementation, etc. Even though different measures for bringing improvements on an experimental basis were adopted by observing execution of different programmes according to the complexities associated with growing number of organisation and in different forms, it has been found, at the stage of implementation, to be non-effective and the desired objectives were not fulfilled. It is, therefore, necessary to create an atmosphere where skill and genius of all can be exposed for development works by taking up improvement in administration as an integrated approach in a definite area of activities, against the background of existing style and procedural system, as a sample which will produce a clear and gainful results having a favourable impact on other fields.

As compared to the Fifth Plan, although different government agencies have improved the respective capacity to utilize development funds in the Sixth Plan, there is still enough scope for improvement. With

regard to physical targets there is no room for satisfaction as these targets remained mostly unfulfilled. In many development projects, timely decision making process is yet to be established inspite of the fact that measures for improvement were adopted for making administrative procedures development oriented and simplification was introduced in the decision making process. Though salary of the employees was increased during the plan period willingness and morale on the part of the employees have not gone up as desired. If there is a need to increase salary in line with consumer price index, it is equally important to clearly define the authority and accountability of the civil servants, to evaluate their performance properly and to have a system of reward and punishment. This will not only upgrade their morale but will definitely have a positive effect on the execution of development activities.

Against the foregoing background the following policies are adopted on short-term, and long-term basis in order to make the development administration more effective and execution-oriented during the Seventh Plan.

2. Plan and Programmes

The implementation aspect is very important for a successful plan but if the plans and programmes are faulty from the planning stage implementation becomes equally faulty resulting in the non-fulfilment of the objective. Similarly evaluation of the projects under construction against the set objective, policy and target is an inseparable part of the process. The policy will, therefore, be to carry out the following activities.:

- a. An atmosphere of coordination among National Planning Commission Ministry of Finance and the concerned ministry for preparing plans and programmes will be established. Clear-cut working system will be prescribed in encouraging the concerned institutions to participate more actively while preparing the periodic and annual plans and programmes. This will help eliminate from the stage planning of plans and programmes.
- b. Programme oriented budget will be introduced while planning development programmes. This system will introduce the practice of showing the relation of budget with estimated expenditure of the programme while preparing the budget and sanctioning it which will check the practice of budget requests with and releases being made by the concerned authorities without adequate justifications. With the aim of implementing programme oriented budgets, outlines of the feasibility studies, investment estimates, benefit forecasts (benefit as a percentage of investment), implementation schedule, manpower requirement, commodity requirement, etc. will be carefully scrutinized in preparing development projects.

- c. Strong steps will be taken to make the proposed planning and evaluation units in the ministries which deal on development programmes effective according to the objectives of the Plan. Under this programme various activities such as organising task force, employing personnel (having required subject, skill and expertise) in the planning and evaluation units, discourage frequent transfers, assign jobs of the concerned units only, honour the decisions of the ministries which have to handle development projects directly, etc. will be carried out. Besides, professional know-how in the planning units in the ministry and department and in the National Planning Commission will be developed.

3. Administration

It is essential to bring about changes in the policy of personnel administration in order to make development administration more development oriented. In line with the changing situation, necessary changes have to be made on recruitment, transfer, promotion and punishment rules for personnels involved in development administration. The following considerations will be given in the field of personnel administration.

- a. So far, educational qualification is the only basis in recruitment of personnels. This situation will be improved by according proper weight to those attributes of appropriate candidates which are consistent with the needs of the project concerned.
- b. In the field recruitment of technical personnel, the technical ministry will be given the responsibility of hiring such personnel to minimise the time involved in procedural matters.
- c. Normally, transfer of personnel from development projects will be discouraged if the concerned projects are likely to be adversely affected by such transfers.
- d. Promotion, reward and punishment are important factors which influence the ingenuity and dedication of the personnel.

The success of project implementation largely depends on the diligence and dedication of the personnels. The basis for promotion, training, reward and punishment should be based on the jobs executed by them and on the basis of work progress than on the basis of their experience or their educational qualifications.

- e. As long as the minimum requirements of the persons in fixed income brackets are not fulfilled, capability and dedication will, in practice, remain unutilized. Improvement in the salary and allowance structure of the employees on the basis of consumer price index will be effected at regular intervals.

4. Decision Making Process

Decentralisation and delegation of authority are important place in making development administration more effective especially in view of the existing geographical situation and of the transport and communication system developed so far. Against this background the following policies will be adopted.

- a. To develop the mechanism of implementation and evaluation of development programmes by establishing regional offices of the ministries handling development projects in all the five regions. Ministries associated with the development projects have to consolidate their respective regional offices.
- b. Delegation of authority is one of the important instruments of decentralised administration. It has not been possible, so far, to develop a fully decentralised administration. Delegation of authority with out a commensurate delegation of responsibility cannot really lead towards achieving the objectives of decentralization. Hence amendment and improvement will be made in existing rules and regulation to facilitate delegation authority with full responsibility. This will stop the practice of referring to the central office even for minor decision.

5. Economic Administration

In the Seventh plan, the following policies will be adopted in the field of economic administration.

- a. The present system normally awards contract for construction works for development projects to the lowest bidder after proper invitation of tender application. However, this practice, logical as it seems in principle has in practice resulted in problems especially in terms of delays in construction and maintenance of quality level. Past experiences suggest that inexperienced contractors who have received the contract awards on the basis of lowest bid either do not execute the contract and even if they do case of execution they dropped away midway fearing loss, even execute the contracts, their work standard is generally of low quality. In this background, institutional development will be encouraged among the local or national contractors by scientific classification of the contractors and by the practice of informing them on the estimated amount of the work while inviting tenders. Economic rules and procedures related to contract award and classification of contracts will be accordingly amended or improved.
- b. Projects executed by His Majesty's Government fall into two categories. There are projects executed under departmental supervision and projects run by development committee, corporation, centre,

company, etc. Department-run projects do not provide any incentive whereas projects run under corporation, committee or company provide higher incentives. Because of this difference there is a negative effect on the willingness and morale of the employees working in department-run projects. Hence, a unified system of incentives and facilities will be developed and implemented.

- c. Problems related with land acquisition crop up very frequently in project execution. Improvement in the existing system and working procedures will be brought about by reviewing this problem.
- d. District Treasury Office has been established with the aim of improving the process of approving the budgetary. Ministry of Finance all such requests of ministries, departments and other offices. However, this has led to this process sanctioning of the regular budget being simplified whereas budgetary release process of development budget has not changed much as a large share of the development budget comes from the foreign aids and loans and releases on which sanctioned only after the aid portion is deposited at the centre. Hence only projects having definite financial commitments will be included in the annual programme by introducing effective improvement in the tradition of providing resources from the planning stage of such projects. This will help simplify the process of budgetary releases.

Management oriented accounting system will be introduced which will produce data for the purpose of plan formulation, execution and evaluation. A task force will be formed to recommend on necessary improvements on budget sanctioning process and accounting system and steps will be undertaken to implement these recommendation

6. Foreign Aided Projects

The following points will be considered as the guiding factors for projects to be implemented with external assistance.

- a. While preparing the projects or programmes for external assistance, priority should be given to the policy and objectives set by the National Planning Commission.
- b. Projects under foreign aid will be included in the annual programmes only after the project agreements are signed.
- c. Steps to identify and solve problems related with coordination and with projects execution will be undertaken to enhance the capability to utilize the available resources in full.

7. Revenue Administration

Revenue administration is very important in mobilization of internal resources for the implementation of development programmes. Therefore,

different steps related to organisation, training, improvement, study and administration will be undertaken to make the tax system scientific, simple and effective.

8. Special Effort for on-the-spot Support to Development Projects

If projects are not formulated with proper consideration to technical aspects, chances are that the essential services will not reach the project site and chances are that such projects will not be successfully implemented. It is therefore necessary to collect information on the list of personnel supply of manpower, receipt of budget amount, supply of development commodities and distribution, authority for expenditure and sanctioning, etc. at the project site in time for execution of approved projects. Hence, it is desirable to have the plan of providing the administrative services for feeding the essential logistics to the project sites ready along with the approval of the projects.

A system of joint approval of projects will be introduced after proper consultation among Ministry of Finance, looking into the financial resources and their source, National Planning Commission, looking into the various aspect of development projects., and Ministry of General Administration, looking into the aspects of manpower, while preparing for the budget discussions or drafting of project agreements. Supply of manpower will be made by introducing the pool system.

Delegation of authority to the Secretary and other Chief Officers is given by administrative and financial rules to a certain extent. The practice is that Chief Officers are delegated authority mostly by work execution rules. Unnecessary delays have been observed not only due to non-uniform delegation of authorities but also from inadequate delegation. Jobs, duties and authorities will be clearly defined by regulations from the secretary down to projects chiefs.

Supply of construction materials throughout the country because of landlockedness and geopolitical factors, is taking the form of a big challenge. Most of the projects are not completed in time mainly because construction materials are not available in time and available materials are not delivered at site in time due to several bottlenecks. Therefore, for the supply of essential goods to the projects, time-bound improvement will be introduced.

It has become necessary to follow the scientific methodology in new constructions such as airport, roads, buildings, channels, canals, dams, etc. Regulations have to be framed for awarding contract, fixing conditions, defining limitation, etc. Attempts will be made to introduce construction codes which should accompany the designs showing all technical inputs.

9. Improvement

According to the principles of decentralisation, plan formulation, execution and evaluation will be carried out by town, village and district panchayats. It is essential to encourage the staff of those institutions in upgrading their administrative capability by teaching the methods of formulation, execution and evaluation of the plans. Hence, these staffs will be trained. The centre will also be required to delegate more authorities to the district level offices according to the necessities. The concerned offices will be made more efficient during the plan period. 10

10 Miscellaneous

a. Labour and Local Skill

Mobilisation of Nepalese labour will be given top priority and maximum utilisation of skill, technology and the capacity at the local and national level will be taken as guiding factors for adopting this policy.

b. Upgrading the Capacity at Non-government Level

Non-government organisations have equally important roles to play as the government organisations in strengthening development administration. Well managed organisations in the non-government sector can contribute a lot in carrying out feasibility studies, surveys, designs, estimates and socio-economic surveys. Necessary support to these organisations for their development, promotion and expansion will be provided during the plan period. This will not only stop the outflow of capital but help to develop the capacity within the country.

c. Coordination and Support

Lack of coordination or assistance within the same organisation or between ministries has taken the form of a major problem in making development administration effective. Attention will be given to develop a practice of understanding or collecting opinions at different stages by a process maintaining coordination, consultation, and comments on plans, programmes or projects. Greater attention will be given to earn timely support for tackling the problems by a system of regular review of implementation.

SCIENCE AND TECHNOLOGY POLICY

1. Introduction

Use of science and technology is essential for rapid economic development of the country. If use of science and technology can increase production and productivity of agriculture on the one hand, it can also increase employment by utilising the local resources on the other hand. Judicious use of science and technology will also shift the dependence from agriculture to industries while at the same time, opening up opportunities for export. The need of the hour to-day is to recognise science and technology as an important resource of the country which is to be used in full in a planned manner as an inseparable part of the development process.

Various scientific instruments have to be used in the course of national economic development. Technologies which are not available in the country have to be imported from the international market. Imported technologies may directly be used in the workfloor without any adjustment and technologies related to industrialisation and water resource development can be utilised as they are imported. Vocations like agriculture and cottage industries can use equipments of medium scale and level. Use of such equipments, however, should not replace labour. Articles such as hand made paper, *radhi*, suspension bridges, construction of irrigation canals, curios, *Karua*, *Khukuri*, utensils of copper and clay, cane and bamboo basket (*Doka*), bags, etc. have been using indigenous techniques. These traditional skills must be developed and changes, if necessary, be introduced in these techniques according to the need of time. Imported technologies should be studied and evaluated on the basis of their adoptability to ascertain whether changes are called for in local adoption. Search for necessary techniques and their development largely depends on the capability of science and technology of the country. It is, therefore, obvious that developing the capability of science and technology of the country has to be given priority and definite programmes have to be worked out accordingly.

While search is going on for the new international economic order for bridging the gap between the developed and developing countries, economic aid alone is not the solution. The need for technical aid is still greater. Country like Nepal should expand the knowhow, skill and resource in the field of science and technology, should lay more emphasis on the search of international technical aid rather than economic aid for developing the capability for self-reliance.

Publicity and promotion in making the people conscious and interested on the use of science and technology for economic development of the country is most essential, It is necessary to upgrade the capacity of science and technology, to arouse people's interest on it and to associate it in the overall development of the country during the Seventh Plan Period.

The policy of science and technology was clearly spelt-out in the Sixth Plan. Attempts were made in all the previous plans to develop science and technology but it was only in the Sixth Plan that the basic prerequisites were developed. Royal Nepal Academy of Science and Technology was established in an effort to solve some of the problems related to the development of science and technology in the Sixth Plan. There has been a quantitative growth in the number of professional organisations involved in the development of science and technology. Royal Nepal Academy of Science and Technology has contributed significantly in exchange of research information among scientists and technologists by organising national science and technology fairs, and by other such activities. At the same time, these efforts have helped scientists and technologists to identify areas for research and innovations. A number of books were also published highlighting the state of science and technology.

Several studies and research works were carried out on subjects related to development in His Majesty's Government research laboratories in areas like agriculture, drugs, mineral, food and pharmaceutical. In addition, research-works in the field of science, agriculture, forest, engineering, medical science, etc. were also undertaken in different campuses of Tribhuvan University. The Applied Science and Technology Research Centre of Tribhuvan University introduced an information services on development and expansion of appropriate technology. During this plan period, high level manpower in the field of engineering, medical science, agriculture and forest has been produced conforming to the aim of self-sufficiency in technical manpower. High level research activities have also been conducted in the campuses of Tribhuvan University on basic sciences. Efforts are underway to consolidate middle level science education.

The progress, though satisfactory, is far from being adequate. The situation calls for the need to bring awareness in the people and arousing

interest in them on the utility and use of science and technology and for a continuous search for appropriate technology from foreign countries by bringing coordination between His Majesty's Government, Tribhuvan University and other organisations in developing indigenous technology. The crux of the problem is that an appropriate environment is yet to be created for the development of science and technology in the country. Lack of mobilisation of scientific and technical manpower, low national investment on science and technology, low level of standard of educational activities, lack of respect for scientists and technologists, lack of reliable statistics for drawing up plans and the lack of physical facilities for conducting research works are the major impediments in creating such an environment. The objective of science and technology policy in the Seventh Plan will be to develop programmes for solving these problems gradually.

Objective

1. To fulfil the national objective of the Seventh Plan by developing science and technology in the same pace as that of economic and social development of the country.
2. To upgrade the capability of science and technology of the country by developing scientific and technical manpower, execution of research and development activities, transfer of know-how on science and technology and by proper organisational development and management.
3. To expand the use of science and technology by bringing awareness to the people on its utility and value.

Policy

1. To consolidate the prerequisites of science and technology developed so far.
2. To establish coordination between different institutions of His Majesty's Government and Tribhuvan University related to science and technology.
3. To increase the productivity of the available manpower by giving them more opportunity for career development.
4. To prepare necessary ground-works for transfer of technology by selecting appropriate technology for different fields.
5. To consolidate existing activities and to develop information services, repair and maintenance of equipment etc. which are required for execution of research and development works related to science and technology in meeting the short-term and long-term national requirements.
6. To develop manpower in new fields by bringing in qualitative and quantitative improvement of scientists and technicians.
7. To increase the opportunities for upgrading the scientific capacity and for exchange of information and know-how.

8. To develop and use appropriate technology which use the natural resources, available labour force and indigenous skill and resource to the maximum.
9. To bring awareness to the people about the important role of science and technology.
10. To enlarge the international assistance and its participation in the field of science and technology.

In following the above policies the programme of science and technology will be directed in the following manner:

a. Determining Priority in the Field of Science and Technology

Priority in the field of science and technology for its utilisation in fulfilling the needs of the country will be determined on the basis of short-term and long-term considerations. Emphasis will be laid on the effective development of science and technology by establishing a system of plan formulation, monitoring and evaluation.

b. Research and Development in Science and Technology

Research and development in various fields will be initiated for meeting the immediate requirement of science for developing technology. Necessary amendments or changes will be introduced into the imported techniques to suit the local conditions. Likewise, science and technology information services for dissemination of development technologies and scientific results will be strengthened. Efforts will also be made to coordinate the research and development activities carried out by different institutions in the country.

c. Development of Science and Technology Manpower Training

Educational institutions will be provided with modern facilities for upgrading the standard of training in the field of science and technology and for its uses in the development works, and arrangements will be made to teach new subjects which are important for the country by bringing in necessary changes in the syllabus. To produce standard science manpower, additional laboratories, workshop, etc. and educational materials will be supplied and training will be given for development of skill. Institutions related to science and technology will expand the know-how on inter-related subjects by providing science education on technical know-how and development of skill and technology education for strengthening the base of science for promotion of both the fields. To further strengthen the educational activities, researchers will be encouraged to use their experience in education. Opportunities for career development will be given to increase productivity of the available scientists and technologists. Modern education materials and laboratories will be established in the schools in order to improve the standard of science education from the lower level.

d. Development of Different Aspects in the use of Appropriate Science and Technology

Inter-sectoral technologies will be developed for adoption of different aspects of science and technology in connection with the development of the country. Indigenously developed technologies will be further tested for promotion. Use of tested technologies will be widened. Economic, technical and other forms of assistance will be extended to institutions engaged in the development and expansion of such technologies.

5. Publicity and Promotion

People will be informed about the concepts, utility and importance of science and technology to the day to day life. Promotion and publicity will be carried out through different media (such as exhibitions, publications, talks, radio, essay competition, etc.). Professional organisations engaged in such activities will be made more active by providing more facilities. Seminar, workshop, etc. will be organised among the science and technology groups for the exchange of results of research and development and research achievement from different institutions. Publication of scientific and technological magazines will be encouraged and for making such publications regular and of standard quality necessary assistance will be provided.

URBANISATION AND HABITATION POLICY

Urbanisation in Nepal as compared to that in developed countries, though negligible, has been increasing continuously from the day the concept of planning for economic development was adopted. The concentration of population in the urban areas testifies to the rapid process of urbanisation.

The urban population and its annual growth rate has been increasing since the last few decades. In the census 1952-55 urban population was 237,000 i.e., 2.80 percent of the total population. In the census of 1961 it increased to 336,000 which went upto 462,000 or 4.00 percent of the total population in 1971. The last census (1981) shows that the population of the town panchayats has hit 957,000 which is 6.38 percent of the total population. By 1985/86, the population of 29 town panchayats is estimated to reach 1.360 million or 8.20 percent of the total population.

If the habitation of 5,000 or more people residing at one place besides the town panchayats is to be included in urban population, this will mean that 20.00 percent of the total population live in the urban areas.

The population of town panchayats in the past few years and the average annual rate of growth of urban population is shown in Table 13.01.

TABLE 13.01
Population of Town Panchayats of the Country 1951 - 1981

Census year	Town panchayat Population	Percent of total population
1951 - 55	236,869	2.80
1961	336,222	3.57
1971	461,938	4.00
1981	956,721	6.38

Source: Central Bureau of Statistics, "National Census Reports"

Table 13.02 presents the trend of change in the shape of population in the town panchayats.

TABLE 13.02

Shape of the Population of Town Panchayats of the country 1951-1981

Shape of population	Town Panchayat	
	1951	1981
a. 5,000 - 9,999	4	2
b. 10,000 - 19,999	5	6
c. 20,000 - 29,999	3	3
d. 30,000 - 39,999	-	4
e. 40,000 - 49,999	2	5
f. 50,000 - 99,999	1	2
g. 100,000 - and above	1	1
Total	16	23

TABLE 13.03
Serial Number of Town Panchayats of Nepal According to Population

Town Panchayat	Geographical region	Population shape		Annual growth rate	Serial number	
		1971	1981		1971	1981
1. Kathmandu	Hilly	150,402	235,160	6.40	1	1
2. Biratnagar	Terai	45,100	93,544	7.60	3	2
3. Lalitpure	Hilly	59,049	79,875	3.10	2	3
4. Bhaktapure	Hilly	40,112	48,472	1.90	4	4
5. Pokhara	Hilly	20,611	46,642	8.50	6	5
6. Mahendranagar	Terai	-	43,834	-	-	6
7. Birgunj	Terai	12,999	43,642	12.87	11	7
8. Dharan	Terai	20,603	42,146	7.40	7	8
9. Janakpure	Terai	14,294	34,840	9.30	10	9
10. Hetauda	Inner Terai	16,194	34,792	7.90	9	10
11. Nepalgunj	Terai	23,523	34,015	3.70	5	11
12. Siddharthanagar (Bhairawa)	Terai	17,272	31,119	6.10	8	12
13. Bharatpure	Terai	-	27,602	-	-	13
14. Dhangadhi	Terai	-	27,274	-	-	14
15. Butwal	Terai	12,815	22,583	5.80	12	15
16. Tribhuvannagar (Ghorahi)	Inner Terai	-	20,608	-	-	16
17. Rajbiraj	Terai	7,832	16,444	7.70	13	17
18. Birendranagar	Inner Terai	-	13,859	-	-	18
19. Dhankuta	Hilly	-	13,836	-	-	19
20. Lahan	Terai	-	13,775	-	-	20
21. Tansen	Hilly	6,434	13,125	7.40	16	21
22. Ilam	Hilly	7,299	9,773	3.00	15	22
23. Bhadrapure	Terai	7,499	9,761	2.70	14	23
Total		461,938	956,721			

Source: Central Bureau of Statistics, "National Census Reports"

Table 13.03 presents the population in different town panchayats and its annual growth rate.

The growth rate of town panchayats indicates that it has far exceeded the national average rate of growth . If the national population annual growth rate between 1971 and 1981 stopped at 2.66 percent the annual growth rate of the urban population shot up by 7.00 percent.

On analysis of the urban habitation of the population it is found that thirteen out of twenty three town panchayats having 46.05 percent of the total population are in the Terai Region. If inner terai is to be included, the number of town panchayats increases to 16 and their population is 53.29 percent of the total population. Similarly the population of the three town panchayats of the Kathmandu Valley is 3.80 percent and the remaining town panchayats in the Hilly Region have 8.71 percent of the total population.

The high growth rate of population in the urban areas is not only because of the natural growth of population but because of migration from villages and other areas to the town and also due to the increase in the number of town panchayats.

The number of town panchayats which are the main base of urban areas has increased substantially in the last 3 decades. Before the initiation of the First Plan there were only 7 town panchayats (Biratnagar, Janakpure, Kathmandu, Lalitpure, Bhaktapure, Birgunj, and Nepalgunj) in 1951 - 55. In the population census of 1961 the number of town panchayats reached 11. Thus Dhāran, Rajbiraj, Pokhara and Tansen were added to the first seven. Similarly in the population census of 1971 the number of town panchayats reached 16. Ilam, Bhadrature, Hetauda, Butwal and Siddharthanagar (Bhairawa) were added. The latest population census in 1981 increased the number of town panchayats to 23 by addition of seven town panchayats namely, Dhankuta, Lahan, Bharatpure, Tribhuvannagar, Birendranagar, Dhangadhi and Mahendranagar. At present there are 29 town panchayats in the country and is presented in the Table 13.04.

TABLE 13.04

**Number of Town Panchayats in the
Country According to Development
Regions 1984/85**

Development region	number	Name of town panchayat
a. Eastern	8	Lahan, Rajbiraj, Dhankuta, Dharan, Biratnagar, Damak, Ilam and Bhadrapure.
b. Central	10	Bharatpur, Birgunj, Hetauda, Kathmandu, Bhaktapur, Banepa, Lalitpur, Kalaiya, Jaleswor, and Janakpur
c. Western	5	Siddharthanagar (bhairawa), Pokhara, Butwal, Tansen and Taulihawa
d. Mid-western	3	Birendranagar, Nepalgunj and Tribhuvannagar (Ghorahi)
e. Far-western	3	Mahendranagar, Dhangadhi and Dipayal
Total	29	all town panchayats mentioned above

Keeping in view the urbanisation of the last decade, population growth did not take place only in the declared town panchayats but the process of urbanisation started by habitation along highways, inner terai and hilly headquarters also.

All these trends show that the pace of growth of urban population and population density will be still faster. With this trend, increase in the labour force also increase the pressure on the urban facilities.

According to the Family Budget Survey 1973 - 75, it has been found that most of the families in big towns like Kathmandu, Biratanagar, Lalitpure, Siddharthnagar have found it difficult to avail the minimum residence facilities. Organised sewage system is available only in Kathmandu. Special attention has to be given towards maintenance of roads in the big towns where the vehicle density is increasing rapidly. Attempts have to be made in expansion of telephone services and while doing so, improvement of operation, qualitatively, has also to be considered.

While observing the population situation of the last decade, economic condition and current activities of the hilly region, situation of employment, characteristics of migration, increasing population pressure in the urban area and its growth rate, rehabilitation problems, etc., it is clear that review of the major policies of the Sixth Plan is very essential. Urbanisation and

habitation policy has to be adopted on a national scale by looking into the characteristics and process of temporary or permanent migration from the hilly and rural areas to urban areas for employment, spatial problems in course of development, and extension of general services in the urban area according to urbanisation plans and their coordination, increasing habitation problems, etc. against the background of all-round national development. This sort of national policy for urbanisation will contribute substantially to national development and help derive maximum benefit by proper utilisation of the investment of limited resources. On the basis of these considerations, the Seventh Plan has adopted the following objective and policies:

Objective

On the basis of analysis of the current situation of the urban areas, there is a need for a national policy for its development. For a well-conceived process of urbanisation, the following objectives have been set based on a multi-sectoral approach:-

1. to develop a well-conceived and properly managed urbanisation plan of the country.
2. to create opportunity for productive employment and increased income with increased level of urbanisation.
3. to develop urbanisation as a supplement to rural development.

Policy

1. Greater attention will be given on the role of local panchayats in course of formulation of urbanisation plans, its execution and promotion according to the principles of decentralisation.
2. Urban areas will be developed as a non-farm employment centre to create more productive employment opportunities for the increasing labour force as a result of rapid growth of population.
3. Long-term and short-term investment plans will be formulated by properly identifying the available resource and development capabilities in different urban areas.
4. Attention will be given to urbanisation programmes which will support the economic development of rural areas.
5. Encouragement will be given to mobilise economic resources on local level to make the local urban development programme self-sufficient.
6. Special steps will be taken to keep urban environment pleasant and clean by solving habitation problems on cropping up in the urban areas.
7. To attract more investment from the private sector for urban development.

Working policy

The following working policy will be adopted to make the objectives and policy effective:

1. Classification of Urban Area

Existing urban centres will be classified into different categories for the formulation and execution of economic programmes according to geographical situation and shape of the urban areas, population and their functional characteristics and economic resources and development potentials.

2. Role of Local Panchyats

- a. According to the Decentralisation Act, local panchayats will play an important role in urban development. Internal resources will be utilised to the maximum extent in the formulation and execution of urban development programmes.
- b. Arrangements will be made to provide central level technical support and related training facilities, etc. to the local panchayats for different aspects of formulation and execution of urban development.

3. Institutional Arrangement

- a. Organisational improvements will be brought about on the basis of studies of central institutions like Town Planning Central Committee, Housing and Physical Planning Department, Town Development Committee, and local level institutions for making them effective for development of different urban areas in the country.
- b. Necessary organisational improvement will be effected with an aim to develop Kathmandu Valley, which is taking the shape of a metropolitan city of the country, in a planned manner.
- c. Renovate the central parts of the urban area like old Kathmandu, Bhaktapure and Lalitpure, prepare master plan for roads, drainage, drinking water, general services for big towns of the country with commercial and industrial importance and to execute in accordance with the master plan by coordinating the activities of the government and non-government institutions.

4. Investment Programme

- a. Investment patterns will be determined by formulating long-term and short-term development programmes for different urban centres. Necessary steps will be taken to encourage participation of the private sector for execution of these programmes.

- b. To maintain the standard of different types of general services and facilities available according to the economic status of the urban area against the available limited resources.

5. Employment and Skill Development

- a. Necessary steps will be taken to activate government and non-government institutions which will support the creation of productive employment opportunities in the non-agriculture sector in the urban areas.
- b. Necessary arrangements will be made in conducting skill oriented training programmes by formulating investment programmes for creating employment opportunities in the urban centres.

6. Development Centre

Consideration will be given to gradually develop the towns which are functioning as a development centre of the Development Regions in an organised manner. Special attention will be given to create an atmosphere whereby the private sector is encouraged in expanding necessary physical prerequisites and other general services for the creation of productive employment opportunities.

7. Development of Towns and Sub-towns

- a. Necessary steps will be taken on the basis of studies to be carried out with the aim of developing sub-towns or towns at crossings of Mahendra Highway— under construction for connecting different development regions and hilly sections— and north-south link roads in order to rehabilitate the migrated population from the hills to the terai in a well managed manner.
- b. Consideration will also be given to provide minimum facilities required for towns in order to develop existing urban areas or important habitation for rural development as well. Through the process of urbanisation, financial sources and different services for development will be distributed to the whole of the country.

8. Development of Housing Area

- a. With the aim of solving the housing problem specifically for low and medium income group, steps will be taken for housing development.
- b. Active participation by the private sector will be encouraged for formulation and execution of investment programmes in solving housing problems.
- c. Special arrangements will be made to extend loans to the private sector for constructing of houses under housing programmes in the urban areas. Construction companies or financial organisations in the private sector will also be made active for such programmes.

DECENTRALISATION POLICY

1. Introduction

After the introduction of the Panchayat System, village, town and district panchayats have been established and thus the whole of the population has become a part of the Panchayat institution. With the belief that this institution, with its capacity to mobilise the local resources, can substantially contribute to the development of the country, a third sector called "Panchayat Sector" was added from the Third Plan to the two sectors, namely, Public and Private Sectors of the previous periodic plans.

The place and scope of Panchayat Sector has been gradually gaining recognition in all the development plans. In the Sixth Plan, collection of plans of village, town and district panchayats was compiled as a separate volume titled as Part II of the national plan document to reflect the aspirations of the local people by giving Panchayat Sector broader importance. Similarly, with the aim of meeting the local needs as quickly as possible development subsidy was increased to Rs. 56.00 million for investment in Panchayat Sector.

Integrated village development projects have been an important programme of Panchayat Sector. Elaborate arrangements were made while formulating the Sixth Plan on the objective, policy and priority of integrated village development activities in Nepal. Various steps were described in the Sixth Plan to bring about improvements in the condition of majority of farmers by bringing changes in the rural economic and social pattern, create self-sustaining development process for the rural areas, develop leadership quality by encouraging majority of the farmers to participate in the decision making process, increase the productivity by giving employment to the large unutilised rural labour force, unify and coordinate all the activities related to village development which are interdependent and complimentary to each other, and wipe out existing poverty in rural areas through the medium of complete programming. In order to fulfil

these objectives, various policies were defined and the need for giving priority to fulfil the minimum amenities like education, health, drinking water along with the efforts of rural development to increase production and employment was described.

Though integrated rural development projects were started in the past elaborate efforts were made for the integrated rural development during the Sixth Plan only. Eight such projects in 23 districts are under implementation through the joint efforts of His Majesty's Government and different donor organisations. These projects helped in increasing production, rendering social services and in creating necessary infrastructure but failed to reflect the objective, policy and priorities of the Sixth Plan, especially when these projects were formulated. At the moment, there are wide gaps among these projects and these gaps are primarily visible in the areas and subjects covered by them, in priorities given in their organisational structure and in operational systems.

In all these projects some common problems are prominently found. First, different activities covered by these projects have not resulted in operation of programmes in an integrated manner and as complementary to each other. Formulation of projects at the local level according to local needs, expectations and feasibilities have not actually translated into practice.

Although the primary objective of rural development is to eliminate rural poverty, investments in these projects do not seem to have made much progress in this direction. Clear-cut line of demarcation of responsibilities and coordinated relations, as expected, do not exist among different levels of administration and between project management and central institutions, especially in tasks like project execution, follow-up and evaluation. Consequently, greater efforts have to be put by the project management in using the medium of personal relations to secure minimum of successes in the formulation and execution of programs every year. As can be expected in such a situation, physical achievements are much below the target.

The policy of the Sixth Plan not being reflected in different rural development projects at the stage of their formulation is a major cause to the above situation. The other cause is that different conceptions on rural development among different donors, expressed and articulated at the time of project formulation, dominated the execution stage as well.

Attempts were made earlier, and in the Sixth Plan to introduce the practice of formulation and execution of project in an integrated manner in different districts of Nepal in addition to integrated rural development projects. In 1974, attempt was made to formulate integrated district development plan at the district level in conformity with the district administra-

tion plan. In 1978, integrated rural development attempts were made in some districts through the medium of integrated panchayat development forms. The objective was to formulate an integrated plan at district level as an inseparable part of central level plan in the Panchayat Sector giving prominence to the coordinating function of the Ministry of Panchayat and Local Development. Attempts have continued to encourage the formulation and execution of plans at the local level according to the wishes and ingenuity of the local populace for local development.

2. New Background of Decentralisation

The compelling need for adopting the decentralised system in planning and execution for social and economic development in line with the expectations and aspirations of the rural populace was learnt from the experiences gained in the field of rural development. As a result, the Decentralisation Act 1982 was promulgated for implementing the decentralised planning. Thereafter, in 1983, in course of formulating the basic principles of the Seventh Plan, the policy of formulating decentralised plan at the district level was fixed. This has heralded the system of formulating periodic or annual district level development projects at the district itself. With the implementation of the Decentralisation Regulations 1984 (from December 1984) a new background has been created for local development in the country.

The attempt of decentralisation has set up an elaborate modus operandi for local development. An organisation and institutional format was set-up for devising the process of formulation, execution and evaluation of plans based on the extensive participation of the populace for local development according to their wishes, ingenuity and feasibility. The objectives thus fixed will require that the local populace initiate and be self-reliant for the all-round development by maximum utilisation of local resource according to the capacity of the local community for development of the district through the medium of local leadership and organisation. This will not only uplift the economic condition of the local communities rapidly but will also support the development of citizens' capability of following democratic practices and carry out the responsibilities on their shoulders at the local level.

Necessary organisational arrangements are made for formulation and execution of plans according to the above objectives. First, periodic or annual plans of village, town and district are formulated by decentralisation of the process of formulating plans for the maximisation of the local resources by reflecting the wishes, and needs of the local people in the national plan. Emphasis is laid on institutional development by establishing local organisations which consists of panchayats and consumer

committees in order to make the development projects long-lasting and meaningful by using the resource of the population and management capability. Normally, nine service centres will be established in a district in order to support the formulation, execution and evaluation of the plan in different areas at the village and town levels. Technicians from different disciplines will be employed in each centre. Similarly, at the district level institutions related to development will be converted to branches of district panchayat and will be assigned the job of formulation, execution and evaluation of unified plans. District panchayats and district assemblies will determine the necessary policies and priorities for formulating the plans and approve them accordingly and review their achievements.

Necessary central guidelines with regard to mobilisation of resources and their uses will be communicated in time to make feasible the formulation of plans based on local needs and ingenuity. Then periodic and annual plans will be prepared for district, town and village by including the resource from the local panchayats. Thus, the main base of development of district, town or village will be the formulation and execution of development plan at that level. In this effort His Majesty's Government will function as an observer. His Majesty's Government will assist in securing the resources from the central level and support from the national level plans.

3. Form of Rural Development Project and Policy

This arrangement will create a basic groundwork for the rural development in Nepal and will help ease problems in this field. This decentralised system will enable every district of Nepal to formulate its own periodic or annual development plans. Various resource and programmes will be mobilised in an integrated manner under one institution and they will be complementing each other.

The policy in the Seventh Plan will be to make the process of development self-reliant by widening the base of local resource mobilisation with the use of increased resources, production and employment oriented programmes against the background of existing poverty and backwardness in the villages. The policy of securing aid from friendly countries and international agencies will also continue. Selection of locations for such investment will be guided by the principles of regional balance, feasibility of productive investment and a judicious distribution of resources. This sort of investment will lay the foundation works of the process of progressive development by eliminating the adverse situation in the economic, social and environmental areas in different parts of the country.

The main objective of all these efforts of development in Nepal is to increase production, to increase employment opportunity, to upgrade

the standard of social services and achievements and to promote favourable environment. steps to institutionalise the formulation of decentralised and unified plans and to develop a process of execution and follow-up to increase the development efforts for maximum utilisation of local resources quantitatively, to widen the base of local resource for its development, to maximise the use of local technical capacity and to develop it and to develop complimentary relationship in the formulation of local and national level plans, will make the process of development at self-reliant.

From the experience of small farmers development project and integrated banking programmes it has been observed that small farmers benefit more from development efforts through the programmes executed through them in small groups because small and poor farmers are in majority and hence this approach has to be given priority. This will enable the small farmers increase their production and productivity and will thereby influence the national productivity favourably. This will be a very important approach to economic development and to judicious distribution of fruits of development.

4. Some Important Conditions for the Process of Decentralised Development

- a. It is essential to fulfil some important conditions for the success of the efforts of local development on the basis of decentralisation. First, for the effective formulation and execution of the plan at the local level, the capacity of the local institutions has to be improved. Specifically, collection and analysis of local level basic information is essential to determine the target of the village, town and district and to develop the capacity for formulation, execution and regular evaluation of necessary programmes. National Planning Commission, and its regional offices will play the necessary roles with the help of concerned institution.
 - b. Though the authority and responsibility have been decentralised to the local panchayats on the basis of the Act and the Regulations, it has become necessary to delegate authority and responsibility within the government organisations to fulfil the intention of the new system after its introduction. This will enable the centre to pay greater attention to the national level policy and programmes without being entangled in local problems.
3. The centre will give institutional support with respect to economic, policy, technical and other necessary inputs for successful formulation and execution of plans by mobilising maximum resource in the local

level. Regular follow-up of successes and failures cropping up at the the local level will be necessary.

In brief, formulation and execution of decentralisation is an important milestone for the rapid economic and social development of Nepal. For its success continued political commitment is necessary. It is also extremely essential that people's representatives and workers and employees alike must have full confidence on its values and conceptions.

PUBLIC ENTERPRISE POLICY

As long as the private sector investors do not take a leading role in the rapid development of the country as desired, the role of the government corporation becomes very important especially in term of developing the infrastructure, extending social services and increasing industrial production. Giving this fact, more prominence and greater recognition was given in the previous plans to the role of government corporations. Against the background of lack of investors, lack of entrepreneurs, lack of management skills and limited professional knowledge existing in the private sector, the government corporations contribute substantially in the economic development of the country. So long as the private sector does not come forward in meeting increasing demand for consumer goods for increasing population, in supply of development and construction materials, in developing minimum facilities to the people, government corporations have to undertake these activities. In fact, the establishment of corporations has been the primary base for development in Nepal. Corporations (59) established by the end of the Fifth Plan are adequate in quantitative and functional requirements. The quantitative increase in the number of corporations which took place upto the Fourth Plan stopped in the Fifth Plan and the Sixth Plan. The conception of making the process of development effective, in the initial stage, through the medium of government corporations gradually changed and the policy has been adopted to improve the qualitative, skill and professional capacity of the corporations already established.

Fifty three corporations which were in operation in the Sixth Plan fall under commercial, industrial, service-oriented and infrastructure-oriented categories. Among them, 43 corporation belong to first generation (100% equity participation by HMG), 2 joint ventures and the rest belong to the 2nd generation (equity partly by HMG and partly by other corporations). Bhrikuti Paper Industry, Lumbini Sugar Factory, Nepal Paper Industry, Butwal Textile Factory were the new corporations established in the Sixth Plan. Under the consolidation programme, corporations of similar

nature such as Nepal Electricity Corporation and Eastern Electricity Corporation, and Balaju Textile Factory and Disabled Welfare Centre have been amalgamated. Similarly, National Rice Mill was liquidated and Chandeswori Textile Factory and Nepal Churie Ghee Factory were sold to the private sector. Nepal Standard Committee as a development committee was converted into Nepal Standard Institute as a department. Radio Nepal has been converted into a commercial organisation. Attempts are underway to make Nepal Tele-Communication Corporation, Nepal Electricity Corporation, Nepal Oil Corporation and Nepal Food Corporation commercially viable. Steps are being taken to amalgamate Timber Corporation of Nepal, Fuel Corporation and Forest Products Development Committee into one corporation and amalgamation of other similar corporations into one organisation is under serious consideration. With all these efforts for increasing the commercial capacity of the corporations financial situation has not improved as expected, and the financial liability of HMG has been continuously increasing.

During the Sixth Plan, the flow of funds from HMG to the corporations has been increasing regularly, (Table 15.01). In 1979/80, HMG sanctioned Rs. 175.60 million only and in 1983/84 Rs. 963.90 million. This represents an annual increase at the rate of 76%. As of 1983/84, equity investment by HMG in the corporations is estimated to reach Rs. 2.20 billion. Besides, HMG has to provide in the annual budget every year more than Rs. 1.00 billion as equity, loan and subsidy to the corporations. By the end of 1983/84, additional liability has increased by Rs. 700.00 million from loans to corporation against HMG guarantee. Funds paid by the corporations to HMG has increased only by 18%. In 1981/82 only, the flow of funds from corporations was in favour of HMG while the following years, it was unfavourable. This way, government corporations are becoming a big liability to the HMG.

While analysing the activities of the government corporations it is found that their net investment has increased by 9.00%, (Table 15.02) but returns to investment has dropped by 4.60% in 1982/83 as compared to that (3.00%) in 1979/80. In 1983/84 it increased by 1.00% thereby showing some improvements. Though the returns to investments in Commercial corporations have been negative, the returns from financial institutions have been positive.

The contribution of the government corporations to the total national product in the first four years of the Sixth Plan has not increased. In 1979/80 it was 2.30% and it remained at the same level as well, thereby suggesting an estimated annual average growth rate to be 2.10%. There has been no

markedly visible increase in the sales of corporation products and so the net income has gone down.

TABLE 15.01

**Cash Flow between His Majesty's Government
and Government Corporations**

in Million rupees

Particulars	1979/80	1980/81	1981/82	1982/83
A. From the HMG to the government corporations				
a. Equity	66.30	64.80	203.80	290.30
b. Loan	97.10	63.60	271.90	514.30
c. Operating/Transport Subsidy	8.60	12.70	85.40	149.30
d. Capital subsidy	3.60	28.50	31.00	10.00
Total	175.60	199.60	592.10	963.90
B. From the government corporations to the HMG				
a. Indirect tax	322.80	421.30	400.70	483.90
b. Income tax	12.00	46.00	47.60	60.80
c. Dividend	4.30	2.80	9.00	9.40
d. Interest	9.20	11.70	16.20	12.10
e. Principal	14.30	16.00	11.40	33.70
Total	362.60	497.80	484.90	599.90
Difference (B-A)	187.00	298.20	(-)107.20	(-)364.00

Source : Ministry of Finance, Corporation Coordination Division.

TABLE 15.02

Average Financial Situation of Government Corporations

Particulars	Unit	1977/78	1977/79	1979/80	1980/81	1981/82
1. Net Capital invested	rupees billion	2.60	2.90	3.20	3.30	3.70
2. Net price	do	1.70	2.00	2.40	2.30	2.70
3. Net sales	do	2.10	2.40	2.80	3.10	3.30
4. Total profit (E. B.)	do	0.08	0.06	0.10	-0.15	0.04
5. Value added	do	0.42	0.50	0.45	0.37	0.67

Chapter 16

POLICY FOR PRIVATE SECTOR

The experience of the developed countries shows that private sector can play an extremely important role in the process of economic development of a country. Characteristics such as entrepreneurship, professional skill, decision making process and freedom of management of the private sector, enable it to influence the economy constructively and according to the changing situation. While the limited resources predicate that HMG investment will have to concentrate on developing basic infrastructure, social services, and other nationally important areas, private sector investment will have to be depended upon for many other necessary activities. For the development of internal and international trade, production oriented industrialization, and service industries, the experience of Nepal indicates that private sector can play a vital role. If the private sector can be developed as a strong medium for meeting the wide interest of the country instead of the characteristic motive of gaining big profits overnight, then only a balanced development can be brought about. Failing this, the gap in the income levels will generate an imbalance and will have destructive effects on the national economy. Against this background, if the activities of the private sector can be organized in relation to the national interests then only will the contribution from the private sector be constructive and effective in the national economy. Looking at the present situation of limited and social and economic activities of the government corporations, it has become essential to widen the mobilisation of resource and initiatives for the private sector. If the capital, skill and experience of the private sector can be gain fully mobilized economic development of promoting long-term national to the national economy has, therefore, been laid by the Seventh Plan.

Though there is a big gap in the statistics about the contribution of private sector in the Gross National Product, it is fairly certain that it has a dominating effect on the agricultural sector. In Nepal, the private sector has a larger participation in the agricultural sector. The objective of different programs executed by His Majesty's Government has been centered around dissemination of information and extension of support for various measures to be adopted in increasing production. Different activities such as agriculture publicity services, information of results of research and supply of agricultural tools are prominent in the programmes executed by the government sector for the benefit of the farmers. In the first four years of the Sixth Plan, 7,851 technical manpower were engaged in agriculture extension services while 114,856 metric tons of chemical fertilizers and 13,029 metric tons of improved seeds were distributed. Thus, if the programmes executed under the government sector provide the services, the private farmers, in fact, are quite active in increasing agricultural production.

In different parts of the country where infrastructure has been developed the role of private sector in opening up of service industries has been substantial. Specifically, transport services for the transportation of passengers and goods in provided completely by the private sector throughout the country. The private sector has the majority participation in the activities such as hotel business, export trade, international clearing and forwarding, contractor-ship, etc.. Also participation of private sector in the field of education in developing and expanding educational institutions is demonstrated by the fact they have established a large number of private schools and campuses, In non- agricultural sector like industry, trade and services the participation of the private sector is substantial and hence, their contribution to the non-agricultural sector is also significant. Government corporations are involved only in production of essential goods and social services. As the participation of private sector in different areas of the economy was experiences, special importance was given to the private sector in the Sixth Plan in industrial and commercial policies. The result is that major changes were brought into the Industrial Enterprises Act and Trade Policy.

In the Sixth plan period, NIDC alone promoted 221 industries. NIDC invested Rs. 284.30 million in these industries which is only 56.60% of the Sixth Plan target. This shows that capacity of the private sector has not been fully utilised, The main reason for which has been the hard-line approach in the loaning process of NIDC .

Under the cottage and small scale development project, executed with the assistance of the World Bank, 1,413 cottage industries have been promoted within 1982/83 to 1983/84 in 6 districts in Gandaki and Bagmati zones. Commercial banks have invested about Rs. 46,413,000 and 13,678 persons have received employment. Besides this, under the integrated banking development programmes 1,308 cottage industries were promoted and Rs. 30,303,000 have been invested by the commercial banks within 1981/82 to 1983/84 . The target for 1984/85 was Rs 50.00 million to be invested under the cottage and small scale development project and Rs 27.00 million under integrated banking development programme. From 1980/81 to 1983/84, traget of disbursing Rs, 550.00 million in loans in 1984/85.

Department of industries HMG issued 395 industrial licenses during the Sixth plan. The estimated investment in these industries will be around Rs. 2.11 billion.

Department of cottage Industries, HMG has registered 13,1300. industries in the Sixth Plan. The estimated investment will be Rs. 1.33 billion and the number of employment generated is expected to be 98,000. However it is difficult to ascertain the exact picture as there is a lack of information regarding the number which are in operation.

In the Sixth plan deposits in the commercial banks increased by Rs. 39.00 million in the first three years and they invested Rs. 980.00 million in the private sector. If the estimate of investment by the private sector was Rs 11.65 billion during the Sixth plan it is estimated to be Rs 21.96 billion in the Seventh Plan.

From the statistics (related to industry) presented above it is obvious that the private sector has contributed significantly to the national economic development. Against this background, the following policy objective have been formulated to further foster the role of private sector in the task of national development.

objective

1. To encourage, through effective mobilisation of private savings, the participation of private sector as an effective medium to the attainment of national economic development objectives.
2. To develop and introduce a system whereby different services needed for the development of private sector is provided in a unified manner.
3. To create an environment conducive to the expansion of the role of private sector in national economy.

Policy

1. To associate the private sector in government owned industrial houses and other corporations in order to mobilise its savings.
2. To gradually transfer the ownership of the industrial concerns established under the government sector to the private sector.
3. Priority will be given to allow the private sector establish industries other than those related to defence.
4. Acts, regulations and policies for encouraging and securing the private sector investments will be implemented more effectively.
5. The interest of the private sector will be promoted through the medium of full business- like internal competition.
6. Private sector will be encouraged to promote foreign investment and necessary system will be granted for such investments.
7. Institutional system will be introduced for providing all the facilities needed by the private sector through a 'one-window' system and this system will be gradually extended to cover all the development regions.
8. Internal movement of goods will be made free of restrictions to develop the country as a national market.
9. A system to encourage the maximum use of domestic products will be developed and introduced to support domestic production.
10. Facilities and incentives to be granted to an industry in the private sector will be determined on the basis of a set of criteria such as its contribution to the economy , generation of employment, value added etc.
11. Periodic reviews of the process and policies of providing loan, customs etc. will be undertaken on a periodic basis to make this measure more amenable to the growth of private sector.
12. Products which are manufactured in the country will be protected by discouraging imports of such products and by encouraging the use of such products in government offices.
13. Even though the production of essential goods in the country will be protected monopoly practices will be discouraged by promoting internal competition to safeguard the overall interest of the national consumers.

Working Policy

1. Security exchange Centre Ltd. has been handling the shares of some successful industrial houses for the development of money market. Steps to encourage the mobilisation of private savings to finance large ventures will be initiated.
2. Issue of industrial licenses and other facilities related to financial assistance and promotional processes will be simplified. Industrial promotion committee will be made more active and strong to contribute in a more meaningful manner to industrial development by coordinating institutions connected with industrial promotion ,
3. Studies will be conducted and steps initiated to increase the financial resource of Nepal Industrial Development Corporation for extending loans to industries to be established under the private sector. Necessary arrangements will be make to underwrite the shares of industries.

4. HMG guarantee will be provided if necessary, to investments mobilized through domestic or foreign resources for the establishment or expansion of industries which have a significant role to play in the achievement of national economic goals.
5. Foreign banks will be established and incentives will be provided to encourage the establishment of commercial banks in the private sector as well.
6. Activities related to the extension of financial assistance to cottage and small scale industries will be consolidated and made more effective.
7. An arrangement to induce industrial houses to set aside a certain part of their annual profit for training, research and development will be implemented as these activities have an important role in promoting industrial development.
8. An assessment of the existing institutional and private potentials to supply raw materials and primary-Processed commodities in adequate quantity and a timely basis will be undertaken to develop effective programmes to enable established industries to run in full capacity.
9. Necessary assistance and incentives will be provided to further activate and improve the function of those non-governmental organizations which are involved in developing the private sector .
10. Arrangements will be made to provided institutional services in identifying technologies appropriate and conducive to the increase in production or in the productivity of private sector establishments and in concluding profitable agreements.

Chapter 17

REGIONAL DEVELOPMENT POLICY

1. Introduction

The projects will be centred around the location where the means and resources are abundant if they are executed by giving priority to the conception of increasing national product only and there is a probability of having less attention to different means and resources in the geographical regions (Himali, Hilly and Terai) and the gap in the distribution of the fruits of development will widen which will create an imbalance and increase inequality in different regions. It is essential to have a regional conception in different regions. It is essential to have a regional conception in the national plan for utilising the resources of the regions and sub- regions in order to unify the national economy by spreading the wave of development to the towns, villages suburbs etc. adopting people oriented development process in order to reduce the gap and to make the people of remote regions participate in the development activities.

With the aim of eliminating the regional imbalance **His majesty** divided the country into five development regions and accordingly development centres were established. The formulation of a regional policy has been necessary to unify the socio-economic development in the geographical region sub-region by considering the feasibility of development for the people of such places east-west and north south while allocation the development investments and execution of projects.

The need for long-term projects for eliminating the imbalance between regions in addition to the provision of assistance for national economic development has been recognised. Institutional development also is necessary for the execution of the policy matters while preparing the policies for regional development plans associating the locational aspects in the investment for topical programmes under the national topical plans. Since the decentralisation plan is to begin from the Seventh plan there is a necessity of proper understanding about this plan and regional development policy.

Proper mobilisation of the existing means and resources has a big effect on the different regions for the national development. Since the shapes of regional development will indicate the direction of development of the country important policy aspect of the regional development will be to mobilise the means and resources on the basis of local capacity necessity feasibility and skill. The main objective of the regional development will be to mobilise the local means and resources for eliminating the regional imbalance.

2. Review of the Efforts of Regional Development.

The stem of planned development was initiated with the aim of increasing production providing employment and raising the standard of living of the people. The Third plan gave prominence to regional aspect in the national development plan by dividing the country into watershed regions of Karnali Gandaki and Kosi with aim of balanced development by utilising the available resources of the country. As a result of the efforts of development the imbalance between village and town hills and terai grew wider and became more distinctly visible in the Fourth plan. More importance was attached to the regional plan in reducing this imbalance and the principle of development alignment was adopted by selecting alignment of proposed north south roads along the traditional trade-route of Karnali Gandaki Bagmati and Koshi regions in maintaining a cordial relationship between the hills and terai. This has given a definite direction to the Fourth plan. But the proposal related to regional development being presented as annex could not receive recognition as expected. As this proposal was based on the principles of development alignment it did not become easy for the national development to attain the set target. In 1972 after His Majesty's announcement dividing the country into four development regions along with four development centres, that sort of unwanted and controversial situation was cleared a way. The division of these development regions became the basis for regional investment allocation and regionalisation of some topical programmes, but it did not help other aspects as expected.

In the Fifth plan regional development policy was presented as a separate chapter. Accordingly the objective of the regional development policy is to increase national revenue by widening the foundation and boundary of development by utilising the resources in the particular region and community through the medium of appropriate methodology. Therefore in the Fifth plan the objective of the regional plan was to bring uniformity in the income by increasing the income of the majority of the population based on social justice in maintaining economic and social unification and by the mobilisation of local resources. The objective was fixed in the Fourth plan to execute small area integrated development programme by fixing the development alignment and giving priority to the backward areas different development programmes have to be executed by maintaining necessary coordination. Greater attention has to be given in mobilisation of local resources and means by people's larger participation in order to bring economical and social uplift of the rural areas extend adequate support in the upliftment of the development of neglected areas and economically weak communities.

The basic policies set in the Sixth plan are in line with the policies fixed in the fifth plan. But in this plan period also development regions were brought into the sense for investment allocation only. The previous far-western Development Region was further divided into two separate development regions. According to the

conception of regional development integrated village development programme was also executed, But these programmes were formulated within the limited boundaries of some predetermined regions. It is possible to widen it throughout the country by gradually implementing in other regions.

The need now is to formulate the guidelines of a definite regional plan and programme by synthesizing the policy conceptions and guidelines of the regional plans developed in the previous plans. Accordingly the policy and programmes of regional plan has been defined in the Seventh plan.

Objective and policy

The objective of the regional development will be to involve the resources And means available in different parts of the country for the national economic development to continue the efforts for balanced development by galvanising the national level periodic plan with the local aspects implement the plan effectively distribute the fruits of development equitably. To fulfill this objective the following policies will be adopted.

1. The utility and justification of the regional development is to develop the national and regional resources and means as infrastructures for regional development by reducing gradually the inter-regional socioeconomic imbalances.
2. To frame up the pattern of regional investment on the basis of development of resources and means available in different regions and sub region by mobilising them properly.
3. The basis of gradual reduction of the existing regional socio-economic imbalances for determining regional investment will be adopted.
4. Inter-regional socio-economic imbalances of the five development regions only will not be looked into as regional imbalances special priority will be given to the imbalances of the geographical regions Himali Hilly and Terai-also.
5. The development programs of the existing development regions will be executed as a basis for the feasible process of development and consolidation of north-south unification in the future.
6. The regional programmes have an important and long term role for this feasible process. The main objective of the regional programmes will be to use important plans and programmes from national point of view for the purpose of development concrete use of regional resources and means for the potential regional development initiation of the process of unification and its consolidation between inter-sub region socio-economic differences under the inter-geographical regions and development regions .
7. The long term utility of the regional plan will be to develop the system of planning including the national priority on the basis of regional plans in the national plan.

3. Situation of regional Imbalance

From the analysis of the situation of the regions about population, agricultural wealth and development investment the situation of regional imbalance still exists. In fact because of the existing inequalities in population distribution agricultural wealth and development investment migration is taking place from the hills to the terai and efforts for increasing On the other hand problems like population increases, deforestation uncontrolled habitation in the Terai Region are taking a very ugly shape.

On the one hand because of inequality in the distribution of population and agricultural wealth problems like migration land erosion deforestation and uncontrolled habitation are taking the shape of a national problem on the other because of the policy of centralization in the past few plans development investment was centered around a few places where there was adequate resources and means which resulted in one sided growth of a few places and the imbalance between such places and others widened ; and due to lack of complimentary production mutual exchange of goods could not take place the total economy has been terai oriented creation of problems strong and efficient system inter regional exchange of work procedure interdependence was felt and though there has been some solutions it still remains to be a problem.

Of course due to efforts in some plans regional imbalances have been greatly reduced in social services like education health postal services drinking water etc . Development in health services is very encouraging. Also the gap in the geographical regions is almost very small in this field.

Similar situations are appearing in other social services .But in other sectors the regional imbalance still clearly exists. Not only the mobilisation of resources and means but also the regional imbalances demonstrates the necessity and importance of regional development.

4. Spatial Outline of Regional Plans

a. Basis of spatial outline:

Determination of spatial outline of the regional plans as a supplementary to the sectoral development according to the main objective of the national plan is a must. Regional plan is an inseparable part of the national plan. Development programmes to be formulated for each region will be on the basis of national programmes. In order to make the proposed development programmes more pragmatic and effective it is essential to determine the level-wise regional development.

Regional plan is a long term plan. Determination of level-wise spatial outline is essential for executing the long term programmes according to the objectives of the national plans formulated at different stages.

b. Objective for the determination of level wise spatial outline:

Determination of level wise spatial outline is more business-like when different regions are complimentary to each other and inter-action is more probable. For this consideration most probably it is desirable to have the upper level development regions cover the north south sections of the country. The degree of feasibility of the inter action among Himali, Hilly and Terai as it exists is not found in east west direction of the same geographical region. Therefore, when different levels are determined it is desirable to have north south land masses for the regional work areas with different environment and means for the regional plans.

Along with this it is necessary to define level wise spatial outlines with the regional imbalance of the east west in mind. Also keeping the existing imbalances in the geographical regions. Terai Hilly and Himali in mind spatial outlines will be determined.

c. The existing five development regions have special characteristics of their own. Even though in these five development regions development alignments are fixed for east west division of the country the purpose is to bring regional unification by connecting the north south regions. Since sentimental attachment has been developed about the utility of these five development regions successful execution of the development programmes is possible. These development alignments of the five development regions follow the historical north south trade routes. Hence these alignments can be made more business like. But it won't be feasible to develop all the regions of the country as work place only by the imagination of five development regions and development alignments.

It is necessary to create small businesslike sub regions covering north south geographical regions. In fact these sub regions will be the very workplace in the implementation of the plan. It will be more pragmatic for such sub region to cover Himali Hilly and Terai .

Formulation of the present district development plans in line with the decentralisation policy as a basic objective of the national development can be taken as the form of regional development plan. The sub regions will be determined by recognising the existing Zones. Since there are more than four districts in one Zone a district will be defined as a Third level Development Region, Physical development of towns will be done in a particular manner based on the priority required of increased urbanisation. This sort of development will be an inseparable part of the regional plan.

5. Development Centers and Service Centres

a. Importance of development centres and service centres.

Development centers and service centres are the main axis of the spatial framework of the regional plans. These centres will play a very important role in the execution of development programmes in the Zones and districts as a sub region of different development regions. These centres not only provide the necessary facilities and infrastructures to the concerned regions but also are the centres for economic and social services . These centres will circulate blood in the life of the development regions sub regions and districts and development and inter action greatly depend on the role these centres will play. The development of the regions in totality will be attained by these centres. Without the development of these centres none of the regions will be business like. Hence the regional urbanisation of the country will be a supplement of the regional plan.

b. Tier-wise development and service centres

Establishment of development and service centres according to levels of regional development is desirable. If bigger centres are required for the development regions smaller centres will be adequate for the sub regions and districts . Developing three tier regional institutions for development and service centres of the three tier regional development plan are desirable .

c. Role of development and service centres

There are five development centres in five development regions. Necessary system and infrastructures will be developed for enabling the development centres to play their assigned roles in all the development regions.

Minimum of one development centre will be established in the sub regions in each development region. For all practical purposes market centres or towns as covered by the development alignment will be developed as sub regional development centres. To bring rapid results in the concerned sub regions development oriented business will be concentrated in the development centres. Necessary arrangements will be made to have the regional development centres by road transport.

Service centres will be developed in each district as a supplement to the spatial outline for the execution of development programmes in the districts according to the policy of decentralisation. Normally nine service centers will be established one in each block in each district. These centres will be mostly service oriented. Such centres will provide the support to the development activities along with that of sub region or Zone development centers.

d. Determination of development and service centres :

The establishment of development and service centres will be determined on the basis of definite facts. The effectiveness of the roles of these centres will depend mostly on the nature of establishment. If these centres are not properly established they will neither develop themselves nor can support the development activities of the concerned regions. Various aspects have to be considered while such centres are determined. In majority of the places feasibility studies are to be conducted. Because of the larger investments in regional development centres are determined. In majority of the places feasibility studies are to be conducted .Because of the larger investment in regional development centres though some centres are properly established it inessential to make them more active even if special programmes and additional facilities are to be given to them. The following factors are to be considered in the establishment of the development and service centres.

- a. central locality
- b. convenience in movement
- c. population of the catchment area physical area
- d. resources in the catchment area
- e. difference in market prices
- f. geographical situation

e. Professional basis of the development and service centres :

The professional basis of the three tier centres will differ substantially.

professional and service oriented general and administrative institutions which will influence the regional level will be concentrated in the regional development centres.

General and development oriented institutions and effective commercial and service oriented professions will be developed in the sub regional development centres.

Normally service oriented activities like education health post office police station agricultural extension programmes cooperative market will be carried out in the service centres. Thus all the centres will be developed as a part of the total whole by developing different professions in the centres of different levels. All the service centres will come under the catchment area of the subregion development centres which will then be under the catchment area of the regional development centre.

6. Role of Regional Development Centres

It is essential to analyse the regional means and resources and develop regional economics in a planned manner for the formulation and execution of the regional plans and programmes opne the on the spot outline of the regional development is formulated according to the above objectives and policies. Only in this way the objectives of the regional development on the whole will be fulfilled .Upgrading the capacity of the regional development offices in the development centres is more necessary. Development of manpower and expansion of other facilities in the regional development offices must be effected for coordinating the programmes and plans of all the regional level institutions established in the development centres. Therefore regionl planning offices will be gradually strengthened for effective formulation and progress review follow up and evaluation of the plan and their coordinating roles during the Seventh Plan.

7. Feasibility Study of the Regional Development

Keeping in mind the fact that proper evaluation of the existing resources and means of the development regions have not been done so far it is essential to conduct elaborated surveys of agriculture forest land use livestock village industries and fuel in the initial stage of the Seventh plan in order to clearly identify the development potentials. This way by the end of the seventh plan long term plans will be ready whereby formulation and execution of the programmes can be effected. Regional investment will be made on the basis of the utility of development of the available means in different regions and sub-regions.

In the field of social services even though the inter development regional imbalances are narrowing similar inter development regional and inter geographical regional imbalances still exist in the undeveloped development regions of Himali Hilly and Western Nepal and hence development programmes should be executed by giving to them with an aim to reduce the imbalances gradually.

The objective of the development programmes of the sub region or Zone within the set limits of regional development programmes is to formulate and execute the integrated and unified development programmes and they will be formulated and executed in an integrated and unified manner on the basis of means resources and needs. Existing integrated rural developmentf programmes will be run as integrated and unified development programmes of the Zone level by reviewing the locational and spatial aspects. One integrated and unified development programme will implemented in each development region in the Seventh Plan in addition to the existing integrated rural development programme. By the end of the Eight Plan such programmes will be implemented in all the sub regions and Zones.

8. district Development Programmes

Within the authority delegated to the districts under the Decentralisation Act for formulation and execution of development programmes formulation and execution of the district development programmes will be carried out within the set development framework for the sub region. In the districts of the sub region or Zones where integrated and unified development programmes are not implemented, all the coordination of the development programmes will be carried out by the local development offices.

Chapter 18

COMPUTER POLICY

1. Introduction

Computer technology was introduced to Nepal in 1971. National Computer centre was established in 1974 to cater to the increasing demand of computer services. ICM 1410 with its limited capacity could not cope up with the increase in demand for computer services and hence, the Centre installed a more modern and larger fourth generation computer ICL 2950/10 in the first half of the sixth Plan.

Because of increasing utility of the computer, use of computer technology in the private sector has been increasing in an encouraging manner. As a result, micro-computers are in extensive use in the country.

Though the use of computers has increased remarkably within a limited time period, instances abound where a number of organizations have not taken full benefit from them. Mainly because of factors such as lack of skilled manpower, problem of repair and maintenance, inadequate knowledge of computer technology, shortage of appropriate software, this technology has not been used to the full extent. However, it is certain the use of computers will increase much more rapidly in the future. For tackling the existing problems associated with the use of computers, installed or to be installed, in the government, semi-government or private sector it is essential to adopt a policy for the development of computer technology in the country.

2. Review of the Progress of the Sixth Plan

Through there was some progress in attaining some of the specific targets laid by the Sixth Plan, there is little room for satisfaction if the progress as a whole is considered.

Various training programs have been conducted for developing manpower on different aspects of computer technology for the promotion of its use in the country. Some successes were recorded in improvements in software packages, repair and maintenance and in improvement in hardware programs. At the same time, workshop, seminar and exhibitions were organized in the last few years to make computer technology more adaptable. But even through the most modern fourth generation computer is installed in the National Computer Center there is still a lot of scope for improvement in its functioning .

In the Sixth Plan, private sector has also been active in the use and promotion of computer technology (mostly micro-computers). The private sector has been able to contribute to a certain extent in conducting training programmes for subjects related to micro-computers and to develop software package accordingly.

3. Objective of Development of Computer Technology

The main objective of developing computer technology in Nepal is to make available reliable statistics and information in a short time frame by the use of computers.

Policy

The following policies will be adapted to fulfill the objective set above:

- a. Effective use of computer facilities and capacities will be made by coordinating National Computer Centre and other organisations involved in computer technology.
- b. Computer facilities and capacities scattered in various regions all over the country will be expanded and will be used for the activities related to the overall developmental needs and priorities.
- c. A committee for computer development will be formed under the umbrella of National planning commission for the development of hardware and software systems and with a view to explore possible export.
- d. Necessary arrangements will be made to produce computer software packages and gradually export them.
- e. Necessary arrangements will be made to produce skilled manpower in the country on computer technology for attaining self-sufficiency in this area.
- f. Efforts will be made to raise the awareness of the people on the utility of computer technology by organising different training programmes, seminars and so on.
- g. To further strengthen the National computer Centre .
- h. Suitable computer network facilities will be studied and developed and expanded for national and international use on a gradual basis.
- i. Proper studies will be carried out for adopting financial policies in encouraging production of computers with the country and for appropriate transfer and import of such technology.

4. Important Programmes Areas

The following will be the prominent programme areas for the development of computer technology.

- a. Computer Training :

A unit will be established for conducting training programmes on computer technology under the existing institutional arrangement with the aim of producing trained manpower for future development and expansion of computer technology in the country.

b. Software development and research :

Imported software are very costly and at the same time not appropriate in the socio-economic context of the country. Hence useful software will be developed within the country itself,. Also necessary arrangements will be made to export software if feasible for earning foreign exchange.

c. Repair maintenance and improvement of computer:

It is extremely necessary to repair maintain and improve the imported computers in time for their optional use. For this necessary physical means equipment and facilities will be provided for the repair and maintenance unit of the National Computer Centre.

d. Formation of computer development committee.

A high-level computer development committee will be established with the participation of private sector for recommending suitable measures by reviewing the existing policies and programmes as and when necessary in order to regularise the development of computer technology. National Computer Centre will act as the Secretariat of this committee.

Chapter 19

PRICE POLICY

1. Introduction

The excessive pressure on the price situation has been noticed from the first year of the Sixth plan. If the price increase was 13.40% in 1980/81, it stopped at 10.40% in 1981/82 suggesting thereby a slight improvement in the price situation. In the third year 1982/83 the pressure on price situation increased once again resulting in the price rise by 14.20%. In the fourth year of the plan, 1983/84 because of the drop of prices of the food and beverages consumer price increased by 6.20% only. Thus the average price increase in the first four years of the plan is 11.00% per year.

Both internal and external factors were responsible for the rapid increase in price during the plan period. Among the internal factors a sharp increase in money supply because of growing government deficit increase in prices of the goods and services provided by the government corporations increase in the rates of import duty sales tax and excise duty are the prominent ones. Among the external factors international currency situation and the fast price rise in the friendly country India, which has a lion's share of the foreign trade of Nepal have adversely affected the price situation.

2. Price policy in the seventh plan

Price policy plays an important role in supporting the policies and programmes of economic development as may be directed by a periodic plan. If the increase in price is too high not only the internal and external balance get disrupted but obstacles will be created in the economic development and social grievances will also be created. If unnecessary government interference takes place in the market price disturbance in the process of production and investment in the private sector will take place and the purpose of interference in the price instead of being fulfilled will be defeated and the situation will worsen. Since the economic activities of the producers investors and consumers are guided by the market prices it is necessary to determine what sort of price policy has to be adopted for rapid and in the market price disturbance in the process of production and investment in the private sector will take place and the purpose of interference in the price instead of being fulfilled will be defeated and the situation will worsen. Since the economic activities of the producers investors and consumers are guided by the market prices it is necessary to determine what sort of price policy has to be adopted for rapid and balanced economic development. Keeping these in mind the following price policies will be adopted in the seventh plan :

- a. Monetary and fiscal policies will be devised and implemented.¹ Accordingly the aim is set to limit the average annual money circulation at 13.00 % at the predetermined prices during the Seventh plan. To fulfil the aim efforts will be centred around the medium of revenue mobilisation for the increasing resources requirements of the government sector and dependence on deficit will be gradually reduced.
- b. Since production and investment activities of the farmers and entrepreneurs are affected by the general process of the market mechanism prices will have to be allowed to function as the correcting factor in case of economic imbalances and distortions.
Government interferences will not be allowed in the market prices except in extraordinary circumstances. Even if the prices of certain goods increase due to unnatural shortages encouragement will be given to meet the supply by imports without resorting to price controls.
- c. The existing practice of controlling prices at the local level at the discretion of the local administration will be stopped from now on . In extraordinary circumstances if the local administration is required to control the prices of some goods at the local level it will be allowed to do so after necessary approval from the central level. Necessary amendments will be carried out in the concerned acts and regulations.
- d. The whole geographical region of the country will be considered as national market and the movement of all goods to be produced in the country and to be imported will have free and open internal movement in the country. The local administration will not be allowed to stop and control the movement of goods. It will be required to take prior approval from the central level when it is required to control the movement of some goods. For this related acts and regulations will be amended.
- e. Nobody other than His Majesty's Government will be allowed to levy duty or rise donations on foreign export and import trade.
- f. Inter-district movement of goods will not be required to pay any tax or donations. The town and village panchayats will be delegated authority to levy tax on the quantity of goods consumed in their area only. For this related acts and regulations will be amended.
- g. Nobody other than His Majesty's Government and institutions authorised by the act will be allowed to raise tax or donation.

* to augment economic development and to maintain the internal and external balance.

- h. No restriction or control will be applied in the export of selected agro-products and industrial goods, and exporters will be given complete freedom to export such goods in any quantity and at any time.
- i. Special attention will be given to make the market mechanism more competitive and more efficient. Monopoly will not be permitted in business, trade or industry. In special circumstances when monopoly has to be awarded, government control, to safeguard the interest of the consumers, will be applied in fixing prices and in determination of the goods and services sold by the monopoly institutions.
- j. Since the Nepalese exporters cannot sell the goods at higher prices than those prevalent in the export market, if the tax of levy is applied on the exportable goods the burden will fall on the exporters and related producers of those goods. Hence, a review will be undertaken of such tax or levy on some limited exportable goods.
- k. Review of the prevalent sales, distribution and price policy of foodgrains and chemical fertilisers sold and distributed by the government corporation will be carried out.
- l. Steps will be taken to develop an effective system of giving reasonable prices to the crops produced by the farmers. Advance fixing of minimum prices for certain agricultural goods will be instituted to accord priority to certain agro-products for increasing their production and necessary plans will be formulated and executed for opening purchasing centers at the prominent rural market (haat) at the proper season to buy those goods directly from the farmers at predetermined prices.
- m. Price policy of Government Corporation will be formulated and implemented in the following manner:
 - (i) HMG will not control the selling prices fixed by the corporation which have no monopoly in export trade or internal production. The board of directors of the corporation will have full authority and responsibility in this area.
 - (ii) Corporations which have a monopoly in import trade and internal production will be permitted to change prices only with the prior approval of HMG. But such corporations will be encouraged to fix their prices on the basis of breakeven points. Approval for changes in price will be given on the basis of an evaluation of the efforts of the corporations in reducing expenditures and on an analysis of the complete business.
 - (iii) Necessary steps will be taken to determine the price policy of the corporations, which are run under HMG Subsidy, on the basis of break-even point. For this, the concerned corporation will be required to make efforts to control its cost of production or cost of transactions.

CHAPTER 20 TEX POLICY

The following trends are distinctly visible in the financial situation of His Majesty's Government of Nepal:

1. increasing dependence on external resources,
2. increasing deficit in the HMG budget because of inadequate mobilisation of internal financial resources,
3. increasing dependence on the deficits to finance the budgetary gap.

It is clear that the existing tax policies need to be reviewed during the seventh plan period in order to tackle the above mentioned problems. In previous plans there was no indication on the framing of a tax policy. With this at the background tax policy will be framed for the first time in the seventh plan, and accordingly necessary steps will be taken to guide the efforts of raising taxes for the mobilisation of internal resources.

There is a need for still more rapid mobilisation of internal resources during the seventh plan period. Because of the rapid increase in the Regular expenditure in the last few years and the price inflation during the seventh plan the trend of increase in Regular Expenditure and the drop in revenue savings will continue. The main reason is that revenue has been increasing at a slow pace only. On top of it there will be a strong pressure on HMG to mobilise internal revenue to meet the Development Expenditure in the coming years.

Table 20.01

Growth Rate of Revenue (at Current Price)

in Billion rupees

Fiscal year	Totl Revenue (Rupees)	Change (percent)	Tx Revenue (rupees)	Change (percent)	Non-tax Revenue (rupees)	Changs percent
1978/79	1-7987	-	1.4768	-	0.3219	-
1979/80	1.8597	3.40	1.5288	3.40	0.3309	2.80
1980/81	2.4004	29.10	2.0357	33.20	0.3647	10.20
1981/82	2.6758	11.50	2.2113	8.60	0.4645	27.40
1982/83	2.8356	6.00	2.4211	9.50	0.4145	-10.80
1983/84*	3.4063	20.10	2.7370	14.40	0.6693	61.50
1979-84	-	13.60	-	13.10	-	15.80

*Nepal Rastra Bank

As shown in the Table 20.01 the growth rate of Revenue during the five-year period from 1979/80 - 1983/84 was only 13.60% per year when regular expenditure increased during the same period by 16.80 % per year . Against the background of more than 80.00% of the revenue being from tax collection there is no chance of revenue increase so long as the tax revenue does not increase. s shown in the Table 20.20 the ratio of total revenue to national product from 1980/84 . From this it appears that mobilisation of the revenue has been slow as compared to the increase in national products. These ratios are still more disappointing when compared to those in the neighbouring countries.

TABLE 20.02
National Products and Revenue
(at Current Price)

in Billion rupees

Fisca year 1	National production 2	Revenue 3	Tax Revenue 4	As percentage of 3and 2 5	As percentage of 4 and 2 6
1978/79	22.215	1.7987	1.4768	8.10	6.60
1979/80	23.351	1.8597	1.5288	8.00	6.50
1980/81	27.307	2.4004	2.0357	8.80	7.40
1981/82	30.265	2.6758	2.2113	8.80	7.30
1982/83	33.621	2.8356	2.4211	8.40	7.20
1983/84	38.184	3.4063	2.7370	8.90	7.20

Against this background of the financial situation, the Seventh Plan has formulated a tax policy mainly with the objective of bringing about positive changes in the present situation .

The main objectives of the proposed tax policy are as follows:-

1. To make available maximum resources for the development investment of the government sector.
2. To direct the investment of the private sector towards the activities related to increasing production and employment.
3. To intensify efforts attain the goals of social justice .

To fulfil the above objectives the existing tax system will be thoroughly reviewed and necessary steps will be taken to eliminate deficiencies in them. The deficiencies observed so far can be enumerated as follows.

1. Most of the economic activities which generate income are outside the sphere of tax.
2. The real tax rates are much low because of the wider exemptions,
3. The government is deprived of the potential revenue because of the existing liberal tax system,
4. Meaningful efforts have not been made to ensure adequate returns to the increasing investment on the economic and social services and service charges have not been timely improved.
5. Tax administration has not been adequately effective.

The imbalances in the growth rates of the Regular Expenditure and Development expenditure are widening. If the Regular Expenditure increased at 16.80% per year from 1979/80 -1983/84 revenue increased on at 13.60% per year in the same period. Looking at the growth rate of Regular expenditure in 1984/85 it appears that even the expenditures under this cannot even be met from the revenue in course of 2 or 3 years hence. (Table 20.03)

The trend of growth of Regular expenditure will continue mainly because of the following reasons :

1. Remarkable increase in the number of government employees
2. Increase in the amount of principal and interest payment for the internal and foreign loans in the last few years by the HMG or against the HMG guarantee.

Table 20.03

Regular Expenditure and Revenue (at Current Price)

in Billion rupees

Fiscal year 1	Regular expendi 2	Growth percent 3	Total revenue 4	Growth percent 5	4 and 2 percent 6
1978/79	1.0417	-	1,7987	-	57.80
1979/80	1.1621	11.60	1.8597	3.40	62.50
1980/81	1.3612	17.10	2.4004	29,10	56.70
1981/82	1.6344	20.10	2.6758	11.50	61.20
1982/83	1.9971	22.20	2.8356	6.00	70.40
1983/84*	2.2603	13.20	3.4063	20.10	66.40
1979-84	-	16.80	-	13.60	-

*Nepal Rastra Bank

3. Increase in the repair and maintenance expenses caused by the increase in the number of development projects (construction completed)
4. Increase in the subsidy amount to be given to government corporations.
5. Increases in expenditure according to the price increase.

Because of these reasons there will be a strong pressure on the tax administration to mobilise additional resources during the seventh plan period.

It will be necessary to generate maximum revenue savings for meeting the Development expenditure, for which a three pronged attempt have to be made as mentioned below :

1. To increase tax and non-tax revenue,
2. To control Regular Expenditure within the specified limit
3. To make the operations of the government and the government owned corporations more effective.

To move in above direction fiscal policy of His Majesty's Government have to be changed. If early solutions are not found resource mobilisation problems will become more crucial . In this context it will be necessary to explain to the people the fiscal situation of the country and scale resource mobilisation can be adopted.

In the present tax structure attempts were made to raise the revenue by additional taxes rather than by developing a system of automatic increase in tax revenue. The measures which will help develop a system of automatic

increase in revenue are complicated and difficult to implement. Instead levying additional tax is easier and is attractive when looked at it from the point of view of short term revenue increase. On top of it steps which will eliminate tax leakage and make the tax administration effective are also complicated. Hence for revenue growth only the following two steps will be considered during the seventh plan. First raising maximum of taxes at the existing tax rates by strengthening the tax administration. Second new measures will be gradually taken for raising the tax and improve the prevailing tax structure.

1. Strengthening of tax Administration

Programme like training of the tax administrators filling the vacancies simplifying the tax system improving the organisation of tax administration etc will be launched for strengthening the tax administration.

Because of the weaknesses inherent in the present system of tax administration, tax leakage is at its maximum. Strong steps will be taken to discourage those who do not pay taxes or evade taxes, and to raise taxes from the well-to-do who otherwise do not pay as much as they should.

It has been observed that tax incentives provided by the Industrial Enterprises Act and other administrative decisions are being misutilised. Steps will be taken to raise such taxes which have been causing a great loss to the revenue by such misutilisation.

2. New Measures for Revenue Mobilisation and Improvement of the Existing Tax System:

New measures will be adopted to raise the revenue in the Seventh Plan by gradually adopting the corrective measures for improving the existing tax system. For improving the taxes, evaluation of the objectives of each tax will be undertaken and objective of each tax will be properly defined wherever it is so required.

Necessary amendments in the existing tax system are essential in order to fulfil the objectives of the Seventh Plan. At present every tax is motivated by ambiguous objectives and its effects on the economy have not been evaluated. Each tax has a different objective but in practice their overlapping cannot be ruled out. As an example, the objective of raising maximum revenue and the objective of providing maximum facilities for development are contradictory to each other. On the other side, almost all the taxes do not have a definite objective and no attempts have been made to do so. Due to lack of statistics and information, many questions related to policy formulation and decision-making remain unanswered. There are no bases for deciding whether for encouraging some industries protection is required and if so, to what extent? These unanswered question lead to an avoidable loss in the tax revenue. There has to be a built-in flexibility in tax system to reflect changes in the incomes as soon as they take place. A wider base has to be developed to cover the majority of the economic activities of the country and it is essential to eliminate contradictions in the objectives of different taxes.

To fulfil these objectives existing taxes should be thoroughly reviewed as follows:

1. Income tax

In this tax, individual facilities and exemptions should be minimised, and income tax fixed on increase on capital income (house rent, dividend and profit tax, on capital gains and on agricultural income.

2. Urban house and land tax

Remove the existing exemption limits on hotel and industrial properties, revalue the urban properties and reduce the level of exemptions.

3. Land tax

Increase the rate of land tax, review the pattern of tax rates, and convert the land tax to property tax.

4. Sales tax

Review the existing rates of taxes on goods produced in the country and levy sales tax on some services (electricity, telephone, etc)

5. Excise duty

Charge excise duty on some specific products only and on other products mix this tax with the sales tax.

6. Customs duty

Review the customs duties and existing exemptions on customs duty, facilities and benefits.

1. Income Tax

Exemptions on the income is given with the objective of social justice and administrative conveniences. But the exemption limit of personal income is very high. The existing exemption limit for tax for the married couple is eight times the per capita income. Hence it is necessary to review the exemption limit given to individual tax payers according to regulations.

The high tax exemption limit on the individual income is causing revenue loss. Also these exemptions do not justify the objective of equality to all. Because the exemption is fixed on the basis of percentage of income, high income tax payers get higher exemptions. Hence, the exemption of the individual tax payers should

be amended to the income tax by amount. Tax exemptions given for the purpose of transport and child education should be thoroughly reviewed. Studies should be made to establish the justification of the utility of the tax exemption on the premium of life insurance and provident fund deductions. Fixing the income tax by amount will be more useful than by percentage.

Capital income has not been included, in practice, in the sphere of income tax. Tax exemption is given to truck transport, partial exemption on customs duty on trucks and subsidy on the sale of diesel to the trucks by Nepal oil Corporation. Income tax exemption is given to all types of industries in the initial years according to the Industrial Enterprises Act. This policy also needs review.

There is no practice as yet to tax capital gains. In fact, capital gains should be treated as individual income and be taxed. Studies should be conducted to charge income tax on the amount of capital gains in parts, and if desirable, steps should be taken to charge the tax.

Justification of the existing rates of tax on company incomes will be reviewed. Only one rate of tax instead of many will be applied on the company incomes as is being done in the case of individual income. It will be desirable to charge the income tax on profits and dividends declared by the company. To protect the tax payers from being double taxed, arrangements may be made to adjust the dividend tax with the tax liability of the shareholders. It is also necessary to appraise the house and land tax system.

The biggest fault of the present tax system is that income from agriculture has not been included in the sphere of income tax. It will be proper to charge income tax on the agricultural income at the same rate as that of the tax on other incomes. The basic lacuna for implementing the system still exists. There is no scientific system of keeping the accounts for the income from agriculture at present. Efforts have not been made on collecting statistics and information required for evaluating the income tax on agriculture income because no attention was given in the past. Therefore, HMG has to consider this on priority basis. Steps will be taken to devise a system of fixing the net annual income of all the four classes (Abal, Doyam, Seem and Chahar) of land and the net agricultural income will be adjusted against the price index of agriculture goods.

2. Urban House and Land Tax

Fixing the tax at the same rate on each house and land for the urban house and land than on the whole urban property of the tax payer. Consideration will be given to include the hotel and industrial house and land which have been exempted, so far, in the sphere of this tax system. Valuation system of the house and land should be reviewed regularly to make the tax system of urban house and land more manageable and scientific.

3. Land Tax

Conversion of land tax to property tax on urban house and land is desirable. Since it is not practical to fix the tax on agricultural property from administrative consideration, tax should be charged on the unit according to the classification of land and consideration should be given in determining the productivity of the agricultural land and according to the geographical regions while charging the tax.

The rate of tax is very low and so, since it has not been reviewed for the last two decades, its contribution to the revenue is getting smaller. Revenue should be mobilised primarily through the agriculture sector because the economy depends upon agriculture. It is necessary to increase the land tax of the agricultural and substantially in order to motivate the efficient use of limited agriculture land. Priority should be given to review the land tax by keeping in view the fact that the price of agriculture land is increasing. Once the tax of the land property is assessed this way, the rate of the land taxes can be reviewed every five years against the agriculture production index prepared every five years.

4. Sales Tax

The pattern of sales tax appears to be influenced by different objectives like increasing revenue, giving social justice, protecting indigenous industries and import trade. In fact, sales tax should be motivated only for increasing revenue. While implementing this policy, sales tax on essential goods can be exempted in consideration of administrative difficulties and of social justice. Sales tax should not be utilised as a means of protecting industries. Therefore, the rates of the tax should be determined to have similar tax burden on indigenous production and imported goods. In short, sales tax should be applied at the level of retails. In the Industrial Enterprises Act sales tax has been exempted by giving it the same status as other taxes. This sort of exemption should not be considered on its merit only but on the industrial development as a whole and the policy thus formulated should have fulfilled a specific objective of industrial development instead of giving benefit to all types of industries.

It will be proper to consider applying sales taxes on consumable services also. Service also. Service taxes will be raised from the users only and as these users generally belong to high income brackets the taxes raised from them will not only increase the revenue but will contribute in fulfilling the objective of social equality. Therefore, service taxes will be applied on telephone and telecommunication services, non-life insurance premiums and tourist package services.

5. Excise Duty

Elaborate arrangements in the present practice of changing the rate of excise duty will be made to increase flexibility. When excise duty is fixed according to price the administrative burden will increase tremendously. Therefore where practical difficulty due to administrative consideration exists in fixing excise duty according to changes in price the practice of fixing excise duty on the basis of national consumer price every will be adopted. Excise duty will be only on certain specific goods and in others excise duty will be mixed with sales tax.

In the existing Industrial Enterprises Act new industrial enterprises have been exempted from paying excise duty for the first three years and rebate is given for utilisation of additional capacity as compared to the past three years. Attempts will be made to evaluate the revenue loss due to this policy and the extent of fulfilment of the objective. It is improper to allow tax exemption from the consideration of revenue collection on the basis of capacity utilisation because fast developing industries will enjoy the exemptions and it is the fast developing industrial houses which can contribute to increase in revenue collection.

6. Customs Duty

It is rather difficult to make the import custom duty fulfil its many sided objectives. The import customs duty which is fixed with objectives such as increasing revenue collection protecting indigenous industries against the competition of foreign industries increasing the price of goods used by high income group reducing the price of goods used by low income group, reducing the price of the equipment and raw materials required for industry and agriculture etc, become ineffective. As an example measures such as minimum customs duty on edible goods and essential goods or exemptions to be given high customs duty on luxurious goods low customs duty on equipment and raw materials have to be effected. But this sort of tax structure will not only have adverse effect on the objective of revenue collection but will take the form of antidevelopment because producers of luxurious goods will get more protection and industries producing essential goods machinery tools and industrial raw materials and traders dealing on them will get less protection. Therefore the pattern of customs duty should be made to fulfil only one objective instead of self contradictory many sided objectives. The only objective is to protect the indigenous industries from the competition of foreign industries. If this policy is to be adopted the practice of tax exemption given to them to import the industrial machinery and raw materials should be reviewed and proper studies must be carried out in identifying the goods which are indigenously produced and require protection in determining the degree of protection required through the medium of customs duty.

Necessary steps will be taken by conducting studies in adopting different types of measures for increasing the non tax revenue in addition to the above mentioned taxes which are the main source of revenue during the seventh plan period.

Chapter 21

Monetary and credit policy

Banks and financial institutions have pioneering roles to play in the process of economic development of the country. Huge investments are required for increasing the production capacity by developing physical infrastructure of economic development and for providing basic services like education health etc. to the people. Greater attention has to be given to the mobilisation of the internal resources for meeting these huge investments since heavy dependence on foreign aid is not desirable from a long-term consideration. The contribution of banks and financial institutions has been very substantial in increasing production and employment by motivating people to save and in collecting the scattered savings to provide necessary finance to the interested entrepreneurs. Achievements in this direction in the last decade has been encouraging and it is extremely in this direction in the last decade has been encouraging and it is extremely essential to further develop and strengthen these institutions which are the infrastructures of financial development in the seventh plan.

In the course of economic development bank and financial institutions have to be assigned primarily two functions. Firstly efforts have to be made for maximum mobilisation of the savings by developing various channels for collection of savings and fixing reasonable interest rates. If resources scattered through increasing investment expenditures of both the public and private sectors can be effectively mopped up in the form of savings through institutional mechanism then savings thus generated can be used for additional investments and for maintaining a balance between internal prices and the balance of payments situation.

Secondly resources thus mobilised can be directed towards investment to support economic and social development. Additional efforts will be put to steer up the monetary and credit policies of the central bank towards this direction during the seventh plan./

According to the monetary protection for the seventh plan the annual growth rate of money supply should be limited to 13.00% to maintain internal and external balances of the economy. In view of the concretionary effect of the increase in time deposits assets and net unclassified liabilities of the banking system and the expansionary effect of the increases in the foreign asset holdings on money supply is to be controlled to 13 per cent. The excessive increase in the share of borrowings by the government sector was the main reason behind the steep growth in internal borrowings which remained at 21.00% during the sixth plan. If the internal loans exceed the annual growth rate of 16.00% balance of payments will be adversely effected and there is a possibility that the price rise may exceed the rate estimated by the plan . In the seventh plan since the private sector is given its due importance the demand of the government sector for the bank credits will be maintained within the limit set by the seventh plan. In the sixth plan period to meet the growing demand of credit by the government sector credits to the private sector had to be controlled and so the annual growth rate of the credits to the private sector was only 7.00% In the seventh plan, the demand for credits by the private sector is estimated to grow by 27.00% per annum. No stone will be left unturned to meet his demand During the seventh plan it is expected that about Rs. 3.00 billion will be made available for investment from the Employees provident fund and Rastrya beema samsthan from which the major portion of the credit demand of the government sector will be met.

The following monetary and loan policies will be adopted in fulfilling the targets set for economic development in the seventh plan keeping in view above considerations:

1. The policy will be to maintain the annual growth rate of money supply at a maximum of 13.00% at the pre set price to keep the internal price and balance of payments of the country within a balanced limit.
2. Additional resource requirement of the government will be met through resource mobilisation and by reducing the dependence on deficit finance. Emphasis will be given to meet budgetary deficits through resources from the non banking sectors than from the banking sectors.
3. The rate and pattern of interest rates will be thoroughly reviewed and necessary improvements will be initiated.
4. Policy will be adopted by studying the utility of giving autonomy to the banks and financial institutions in determining the interest rates on their deposits and loans.
5. Greater emphasis will be laid on mobilization of savings through development bonds to meet the resource requirement of the financial institutions.
6. The resources of the banks and financial institutions will be used on priority basis to meet the requirements of the small farmers industrialists business men and exporters. Priority sector loans implemented by the banks export loan programmes and small farmer development programmes of the Agricultural Development Bank will be expanded.
7. Steps will be taken to execute the savings in the field of banking and to make their services more effectively.

8. For creating an atmosphere of competitiveness in the field of banking and to make their services more customer oriented banks will be established with joint foreign collaboration and encouragement will be given to the domestic private sector to establish commercial banks.
9. Special attention will be given to make the banks and financial institutions efficient and strong by improving their work procedures and administrative system.
10. Necessary programmes will be launched for development and expansion of the capital market in the country.
11. A high power committee of the concerned institutions under the convenorship of the Nepal Rastra Bank will be established with representation from the commercial banks non banking financial institutions and Sajha organisations to ensure that these institutions function in a planned manner to monitor and follow up their programmes.

Chapter 22

Policy of Women's Participation in Development

In the process of economic development women's participation is important. It would not be out of place to accept the socio economic standard of women as an indicator of development of the country because women constitute half of the population of Nepal. According to the population census of 1981 out of the total population of 15,022,839 it is estimated that male population is 7,695,336 and women 7,327,503. It is evident that only an active involvement of the women a huge labour force consisting of 48.80% of the total population can accelerate the pace of development by increasing production. Necessary opportunity and appropriate environment must be created to make women participate on the same footing as men do in the process of development of the country.

The women of Nepal have not been able to fully take part in the development activities because of their uneducation ignorance and poverty. The superstitions prevalent in the society and negative thinking have been major obstacles in mobilising women to participate.

National policy on women's participation has been adopted from the sixth plan period to increase women's participation by eliminating the obstacles apparent in the process of all round development of the Nepalese society including the women community. In connection with the celebration of 1975 as the Women's Year throughout the world at the call of the United Nations the world women's convention in the city of Mexico decided "each nation has to carry out in the government or non government sector development activities in a planned manner by formulating a national work plan on the basis of the needs and demand of the country in order to execute the national work plan on development of women" Accordingly National work plan for women's Development was formulated under the convenorship of women's services coordination committee by collecting suggestions through various channels about the feasible and practical programmes to be implemented through different HMG institutions and non government sectors for the women's development in Nepal. With the aim of increasing women's participation in every field in the socio economic development this National work plan has presented basic objectives problems and steps related to administrative and policy matters by allocating different fields such as education health employment agriculture cooperatives forest for women's development. Though the programmes presented in the National work Plan have had concurrence in principle by the government and non government institutions for gradual implementation on the basis of practicability no substantial achievement has taken place so far in their implementation aspect.

Nepalese women are employed in agriculture sector private industry cottage industries different HMG Institutions Corporation and non government organisations. Also the contribution of rural women in devoting their time and labour for agriculture and domestic work is equally important from economic and monetary consideration. But because of the present practice of evaluating only the economically active women statistics related to women's participation in the total national product is very low. If it is extremely necessary to properly evaluate the active women labour force from economic consideration it is equally important to widen the limited opportunity for women's participation in the process of different levels of decision making.

The thinking is that in all the development projects which will be formulated and executed during the seventh plan the role of women will be increased and they will be encouraged to participate more in each social and economic field. The following objectives and policies will be adopted in increasing the women's participation in development activities.

Objectives

1. Proper opportunities will be provided for development of women a reservoir of huge labour force and make them efficient in their participation in each field of development in the country.
2. To upgrade the social and economic standard of women for their all-round development.
3. To make the women gradually self reliant and productive by utilising their skills and ingenuity.

Policies

1. Women population must be educated and skilled in order to carry forward the process of development in a balanced manner because education is the basic infrastructure of the all-round development of the country. Since the literacy rate of women is still 12.00% only majority of women are ignorant and uneducated. Therefore special opportunities will be provided to get women educated. Several motivating steps will be taken to increase the admission of girls in the formal educational institutions by fixing quotas in addition to the special programmes to be launched in the areas which are considered backward from the educational viewpoints. Women will be made forward looking by providing necessary facilities and by giving them training in the field of technical and non technical subjects such as health education agriculture and engineering. Employment opportunities also will be increased for such trained women labour force. Vocational adult and informal education will be provided to the women in addition to the formal education. Improvement will be brought about in the environment and physical facilities for this.

2. Statistics about the health and level of nutrition and mortal age of the women reflect the standard of economic and social development. Special efforts are necessary to bring improvement in women's health who have low mortal age and deficiency in nutrition as compared to the women of other developing countries. Hence maternity welfare programmes will be launched as a priority project of health in the seventh plan. The women do not get adequate health services. But more serious problem is that they are ignorant and do not have the general knowledge on health. Since good health and proper nutrition of the family members depend on the mothers it is extremely necessary to have women actively participate in all the programmes in the field of health. In the seventh plan opportunities for providing basic health services will be increased and more women will be participating in the nutrition programmes and health education.

To control the population growth rate according to the target of the seventh plan women will have to play an active role. Women will be more involved in family planning and maternity programmes in addition to launching of programmes which will provide opportunities for education and employment for upgrading socioeconomic standard of women.

3. Nepal, being an agrarian country has more women involved in agriculture. Women have a remarkable contribution in agro-businesses, agro industries and small scale industries. Full participation of the women power is highly necessary in agriculture programmes like agriculture publicity and promotion, training, use of imported seeds and chemical fertilisers, improved farming techniques, crop survey techniques etc. executed for increasing productivity by involving the women in agriculture sector effectively. Hence participation of women will be increased, by determining the quota if necessary in various programmes such as training programmes and increasing production and productivity in the field of agriculture development during the seventh plan.
4. Participation of women will be increased in the field of forest also in addition to agriculture. Their participation in conservation, development and growth of forests will be increased. Women will be made more aware and conscious about the many sided benefits to be derived from the well managed forest resources. Because women can contribute remarkably in the cooperative services their participation will be increased in different services to be provided by the cooperative organisations and in all types of training cooperative movement.
5. Nepalese women have limited employment opportunity in non agriculture sector and are employed in low salary jobs only. Appropriate steps will be taken to create more employment opportunity and skills and training will be given in order to improve the socio economic condition of the rural women and low salaried women in particular. Since semi employment is widely prevalent in the pre and post cultivating seasons the women will be properly briefed about the training and employment opportunities for encouraging them to get involved in cottage and village industries in maximum numbers. Vocational training of different industries will be given for increasing their employment and necessary facilities with respect to capital and market will be made available to them and encouragement will be given to carry out these activities through cooperative organizations.
6. Necessary facilities and appropriate training will be given to the limited educated women labor force employed in the government and non-government sectors in encouraging many of them participate in the process of policy formulation.
7. Necessary facilities will be extended to encourage active participation by the non-government sector in addition to the government sector for institutional effectiveness in the programmes related to women development. Since Nepal Women's Association and Women Services Coordination Committee have been playing the important roles with full responsibility for the welfare, protection and upgrading the women community, their contribution will be made more active and time bound. Attempts will be made to extend the participation of Panchayat and non-government organisations in the activities of Women development by activating the Nepal Women's Association units from the village level to the national level.
8. Necessary amendments of acts which make the women participate in the development activities difficult are to be made and in order to upgrade their socio economic standard and necessary arrangements will be made to execute them.

CHAPTER 23

POLICY FOR CHILD DEVELOPMENT

Children are the future backbone of country. If all round development of the children takes place from their childhood they will be capable citizens from physical, mental and intelligent consideration in the future. Development of children must be considered at the national level. According to the population census of 1981 child population of age group 0-14 years is 6,211,973 of which 3,227,012 are boys and 2,984,960 are girls. According to this census child population is 41.00% of the total population. Different studies about the situation of children conducted so far points out that child population support the family income by way of important child labor and majority of children have no access to education, health and other facilities and suffer from unbalanced diet. Infant mortality rate is estimated to be still 150 for years 1,000 which is higher as compared to that in other developing countries.

Bringing the programmes within the sphere of the plan is very essential to coordinate inter regional programmes which are to be launched under the policy to be framed at the national level for effective implementation for the overall development of the children. The national policy for the development of children will be to provide all at he possible facilities from the stage of womb to grown-up stage for their physical, mental and social development. All facilities will be provided to the children of the country by promoting and gradually developing nutritious food, health, education and other social and economic services. The policy to be adopted for the development of children within the Seventh plan will be as follows.

Objectives

1. To develop the children physically, mentally and intellectually.
2. To develop good behavior from the childhood for making the children loyal to the crown, patriotic, disciplined, moral and efficient citizens.
3. To develop the sentiments of the children attached to the recognition of the values based on Nepalese culture and heritage.
4. To make necessary arrangement of protecting the interest and rights of the children.

Policies

1. Since the bright futures of the children depend on the parents and guardians, the parents must acquire the first hand knowledge and skill which will be imparted to the children. It is possible of provide necessary food, medical care and proper education to the children if the existing superstitions and ignorance can be eliminated from the Nepalese society. Publicity and promotion will be carried out for educating the parents for upgrading their knowledge and skill through short-term training, posters, pamphlets and bulletins for care, health and education of the children and such programmes will be included in health worker, child hospital and maternity welfare programmes. Since child care in not only the responsibility of the parents alone but of the community also, efforts will be made to have public participation in such programmes.
2. A healthy mother gives birth to a healthy body. Since formation of a baby takes place in the womb of the mother, pregnant women need periodic health check, medical care and nutritious food. attempts will be made to make the currently executed programmes for free medical care and child care in the village accessible to pregnant women and mother of newly born babies.
3. Since infant population of age group 0-5 years is vulnerable to diseases and children of this age-group have to be injected against epidemic diseases, D.P.T., B.C.G., vaccinations and polio vaccine and feeding programmes will be expanded and made effective. The system of making medicines for common disease such as cholera, etc. easily available will be introduced.
4. Essential medicines like gripe water and others will be made easily available at the local health posts for improving health of the rural children and special observation will be carried out about the situation of health and nutrition of the children through the community health workers.
5. Nutritious food directly affects the protection of the health and physical development of the children. For improving the existing nutrition level of children treatment of children having under-nutrition and sales and distribution of nutritious food at proper price for making nutritious food available to the children will be organised. Since programmes related to nutrition are multi-faceted and health, agriculture and education programmes are primarily involved, coordination will be maintained among the concerned institutions. Promotion and publicity activities on priority basis will be carried out through poster, documentary and radio in dissemination the information about nutrition.
6. Expansion of appropriate and properly managed medical services will be effected for the health car of the children on the basis of nutrition system. In the hospital separate beds for the children will be provided and manned accordingly and Kanti Children Hospital will be developed as a Central Children Hospital by adding necessary facilities.

7. The system of free distribution of course books to the school children along with the establishment of schools at the appropriate places for providing free primary education will be further organised. Studies will be made to identify the factors which cause the students of the pre-primary and primary schools dropping out and necessary steps will be taken to discourage such actions accordingly.
8. Proper care is essential for the well being of the physical and mental condition of the basis . It has become necessary to open day child care centres in an institutional manner for leaving the basis in the healthy and protected places for the working mothers. At the moments the number of such centres established in the urban areas is negligible and hence they will be opened in the urban areas and gradually spread to rural areas in the Seventh Plan. For opening the day child care centres the basis of 25 working women in one organisation in the industrial estates and in other areas according to population density and the HMG regulations. In the day child care centres babies of 45 days to 3 years of age will be taken care of and nutritious food, primary health facilities and educational toys will be provided. Non-government sectors and private sector will be encouraged to participate more in opening of the day child care centers.
9. Books, magazines useful for the children will be published for propagating national feeling, national festivals, culture, language, customs and other activities in addition to teachings for bringing out the latent ingenuity of the children.
10. Children library, educational child documentary and children swimming pools will be opened for the development of physical and intellectual capacity of the children. Libraries in the primary and middle schools and swimming pools based on the children density will be established.
11. Orphan children will be given skill oriented vocational education in addition to general education in order to make them capable citizens of the country. Bal Mandir, S.O.S. villages, Paropakar Organisations will be improved and expanded to take proper care of the orphan children.
12. Disabled and insane children will be provided with free education and supplied with free course books by giving them skill-oriented programmes in order to rehabilitate them under special education programmes.
13. to safeguard the welfare and security of the children by law child legislation will be formulated and existing acts will be accordingly amended.
14. Government and non-government organisations are involved for running the programmes related to children development because they are many sided. Since there is no coordination among the various projects Project to project and inter-regional-under one institution to the exten required project are passing the buck to each other and programmes have not been executed in other areas.
15. Internal and inter-regional coordination will be maintained effectively by adopting unified process of programme execution in the planned development activities for children development.
16. Special attention will be given to encourage non-government social organizations actively participate in the execution of programmes which are useful to the children and for the welfare of the children.

CHAPTER 24 AGRICULTURE DEVELOPMENT

There are indications that the national production target of agriculture sector in the Sixth Plan will be fulfilled. But weather is still playing a direct role in target fulfilment and the situation demands that efforts to increase production should be made all the more extensive in view of population growth and its impact on consumption. Since agriculture accounts for almost 53 percent of national production and it has still to continue providing employment opportunities on a massive scale, the need to assign priority to agriculture sector from national point of view remains conspicuous.

1. Review of the Progress of the Sixth Plan

Fulfilment of target is very important in view of the fact that agriculture is the main means of livelihood for the majority of population and it has major contribution to national earnings of the country. Physical progress as compared to target in agriculture development during first four years of the Sixth Plan period is presented below.

The target of foodgrain production was set at 4.346 million metric tons. But achievement did not exceed 4.289 million metric tons during the first four years. This means an achievement of 98 percent of the plan target. Production of major food crops is presented in the Table 24.01.

Among food crops the production of paddy exceeded the target to a certain extent. The production of wheat far exceeded the target. The production of maize is 89.00% of the target, millet 78.5 percent and pulses 88.00%. The productivity of food crops is shown in the Table 24.02.

It becomes evident from an analysis of the productivity situation of agriculture crops that it has fallen short of the target of the Plan. But compared to the productivity during the year preceding the commencement of the plan period, paddy, wheat and barley have recorded some increase in productivity whereas maize and millet have lagged behind. It has, therefore, become indispensably necessary to emphasize the urgency of arresting the downward trend in the productivity of common man's main food items, i.e. maize and millet.

The progress situation and productivity of the cash crops are presented in the Table 24.03 and Table 24.04

Among cash crop, the production of sugarcane has been 79.00% of the target and oil seeds 70.00%. The production of jute and tobacco also lagged far behind. This is attributed to inferior quality of the product and the fact that the farmer did not secure the proper price. The production of potatoes has exceeded the target.

Though the statistics of production of vegetables, fruits, fish, meat and milk have not been systematically collected, concerned technical estimate indicates that the progress has been according to the plan target. Details of the progress are presented in the Table 24.05 and table 24.06

The progress in supplying agriculture inputs in the first four years of the plan period for fulfilling production targets is cited in the Table 24.07.

Though the sales and distribution of the agriculture inputs have increased as compared to the initial years of the plan, they fell far behind the target during the plan period. The main reason for this is that the production inputs and services did not reach the farmers in time, as per schedule because of the weak management and shortfall in irrigation as compared to target. Moreover, farming still depends largely on weather and appropriate technology have not been developed. There is plenty of scope to increase production if irrigating facilities along with production inputs can be provided to the farmers in time.

The progress in the distribution of improved variety of livestock is presented in the Table 24.08.

Table 24.01

Production of Major Foodgrains in the First Four Years of the Sixth Plan Period

	Paddy	Maize	Wheat	Millet	Barley	Pulses
Situation of 1979/80	2,058,930	553,760	439,990	119,340	23,290	80,000
Sixth Plan target	2,740,357	849,566	579,090	151,000	26,000	95,000
Progress of four years						
1980/81	2,464,310	742,940	477,190	121,530	23,030	86,000
1981/82	2,560,080	751,520	525,930	121,710	23,320	88,000
1982/83	1,832,620	718,240	656,630	121,070	21,160	84,000
1983/84	2,756,980	761,110	633,700	114,910	22,270	84,000
1984/85 target	2,885,000	888,000	693,000	156,000	27,000	102,000
Percentage progress of fourth year against Sixth Plan target	101%	89%	109%	76%	86%	88%

Table 24.02

Productivity of Major Foodgrains in the First Four Years of the Sixth Plan period

	Paddy	Maize	Wheat	Millet	Barley
Situation of 1979/80	1.64	1.28	1.20	0.97	0.90
Sixth Plan Target	2.14	1.78	1.31	1.23	1.00
Progress of four years					
1980/81	1.93	1.62	1.22	1.00	0.86
1981/82	1.93	1.58	1.32	1.00	0.86
1982/83	1.45	1.41	1.36	0.94	0.87
1983/84	2.07	1.51	1.34	0.93	0.88

Table 24.03

Production of Major Cash Crops and Potatoes in the First Four Years of the Sixth Plan

in metric tons

	Oil seeds	Jute	Sugarcane	Tobacco	Total	Potatoes
Situation of 1979/80	61,870	67,500	384,370	5,500	519,240	278,400
Sixth Plan Target	104,220	85,000	643,700	10,000	842,920	336,525
Progress of four years						
1980/81	77,140	59,000	483,380	5,490	625,010	275,180
1981/82	79,120	43,000	590,000	4,820	716,940	319,750
1982/83	69,480	39,000	616,570	6,640	731,690	372,970
1983/84	73,150	25,048	509,070	6,880	614,148	383,080
1984/85 Target	98,400	40,000	786,000	8,600	933,000	376,000
Progress of fourth year against sixth Plan target	70%	29%	79%	69%	73%	114%

Table 24.04

Productivity of Major Cash Crops and Potatoes in the First Four Years of the Sixth Plan

in metric tons per hectare

Crops	Situation of 1979/80	Sixth Plan Target	1980/81	1981/82	1982/83	1983/84
Potatoes	5.42	6.55	5.55	6.15	6.30	6.49
Oil seeds	0.53	0.67	0.63	0.69	0.63	0.66
Jute	1.50	-	1.14	1.21	1.28	1.04
Sugarcane	16.63	23.34	20.02	23.44	24.23	22.13
Tobacco	0.73	-	0.76	0.70	0.74	0.78

Table 24.05
Production of Fruits and Vegetables in
the First Four Years of the Sixth Plan

	in thousand metric tons	
	Fruits production	Vegetable production
Situation of 1979.80	274	485
Sixth Plan Target	361	723
Progress of four years		
1980/8	271	511
1981/82	316	520
1982/83	318	672
1983/84	336	700
1984/85 target	343	750
progress of fourth year against Sixth Plan	93%	97%

Table 24.06(a)
Production of Fish, Meat and Milk Products
in he First our Years of the Sixth Plan

	Meat						Fish	Milk
	Buffalo	Pig	Sheep	Chicken	Goat	Total		
Situation of 1979/80	82.80	5.80	2.00	3.50	17.70	111.90	3.70	10.60
Sixth Plan Target	97.20	7.10	2.50	4.30	21.10	132.10	5.40	18.40
1980/81	83.60	5.20	2.00	3.90	18.30	113.00	3.70	12.60
1981/82	89.90	6.50	2.10	4.00	18.80	121.00	3.90	16.50
1982/83	93.90	6.20	2.30	4.20	20.20	127.10	4.30	19.80
1983/84	98.40	7.10	2.50	4.40	21.20	133.60	5.30	20.90
1984/85	102.50	7.60	2.70	4.50	22.20	139.50	6.20	29.30
Progress of fourth year against Sixth Plan target	101%	100%	100%	100%	100%	101%	98%	114%

Table 24.06 (b)
Production of Milk and Milk Products and
Eggs in the Firs Four Years of the Sixth Plan

	Milk* (in thousand metric ton)			Milk Products (in metric ton)			Eggs Production (in million)
	Cows	She buffalo	Total	Cheese	Butter	Total	
Situation of 1979/80	130.00	417.70	547.70	116.00	72.00	188.00	131.20
Sixth Plan Target	174.60	509.60	684.20	170.00	120.00	290.00	201.70
1980/81	103.80	383.50	487.30	75.50	94.60	170.10	172.80
1981/82	141.00	436.20	577.20	70.90	44.80	117.70	179.50
1982/83	147.00	569.60	616.60	17.40	73.00	144.40	190.40
1983/84	150.00	494.30	644.30	87.49	119.60	207.00	201.80
1984/85	178.20	526.80	705.00	79.00	84.00	163.00	207.60
Progress of fourth year against Sixth Plan target	86%	97%	94%	51%	100%	17%	100%

*since the figures are adjusted they may tally with past statistics.

Table 24.07
Sales and Distribution of Agriculture Goods
in the First four Years of the Sixth Plan

	Distriution of improved seeds (metric tons)			Distribution of Chemical fertilisers (new) metric tons			Agri. loan disburseme nt (rupees million)	Agri. implements (rupees million)
	Paddy	Wheat	Maize	N.	P.	K.		
Situation 1979/80	305	2,471	143	15,500	4,286	1,177	147.90	1.798
Sixth Plan target	2,750	20,600	2,375	129,292	48,102	38,008	1744.10	10.700
Progress of four years								
1080/81	204	1,516	104	16,767	5,105	586	134.10	1.217
1981/82	244	2,187	135	17,976	5,073	774	256.40	1.062
1982/83	691	4,667	283	22,882	7,457	939	345.80	1.600
1983/84	318	2,514	166	28,057	8,461	779	453.30	1.843
Progress of 4 years	1,457	10,884	688	85,682	26,096	3,078	1189.60	5.722
do(in percent)	53	53	29	66	54	8	68	53

Progress of four years (in metric tons)

Improved seeds total 13,029,Progress in percent 51

Chemical fertilisers total 114,856,progress in percent 53

TABLE 24.08
Distribution of Livestock in the First
four Years of the Sixth Plan
in numbers

	Ox	he-buffalo	Yak	Sheep	Goat	Pigs	Chicks (thousand)
Sixth Plan Target	439	214	94	790	320	11,720	1,570
Proress of four years							
1980/81	136	105	12	526	160	1,988	69.90
1981/82	118	161	16	271	157	1,368	140.20
1982/83	202	362	9	231	210	1,595	282.50
1983/84	204	463	12	292	261	1,431	355.10
Proress of 4 years	660	1,091	49	1,320	778	6,382	847.70
do (in percent)	150	510	52	167	243	54	54

Note : The reason for distribution of ox, he-buffalo, sheep, yak and goats in excess of targets is that achievements of the targets of the integrated rural development project not included the formulation of the Sixth Plan have also been included in the progress report .

Distribution of ox, he-buffalo, goats, sheep, exceeded the target in the field of improved livestock .But distribution of chicks, yak and pig fill short of the target .

On analysis of the progress situation of the Sixth Plan and obstacles observed during development o agriculture the following points desire consideration :-

1. Improved seed was not widely used and its supply was not made in time and according to target.
2. Slow pace of development of irrigation and under-utilization of the existing irrigation capacity .
3. Fertiliser fo increasing the fertility of the soil was not adequately used, consumption of chemical fertilise per hectare was low and its supply and distribution was no effective .
4. For unirrigated land, particularly for hill crops, appropriate techniques were not developed and research activities wee not carried out in time and a definite regular intervals for supporting the increase in production .

5. Agriculture extension service, agriculture inputs, agriculture credit and different technical services did not reach the farmers in time.
6. Ineffectiveness and inadequacy of the arrangements for providing good prices and marketing facilities for farmers agricultural produce.
7. Available technical manpower had to remain lagged down in administration.
8. System of collecting production statistics of fruits, vegetable, meat, egged down in administration.
9. Continuous follow-up , review and periodic evaluation at different levels are not carried out effectively, and responsibilities and authorities are not effectively delegated to the field level for project execution.
10. Since foreign aids was concentrated more on developing physical facilities than on providing inputs which directly support increasing production, there was low investment in the activities which directly support increase in production.

2. Background of seventh plan

The objective of development planning is to increase production as far as possible through the maximum use of limited resources and means and the available infrastructure. The government sector has an important role in encouraging the large number of farmer families of the country in role in encouraging the large number of farmer families of the country in influencing the decision making process for the mobilization of resources in the private sector. The field of production has to be classified on the basis of feasibility of increasing agriculture production by concentrating the use of the limited resources and means in foodgrain crops, fruits, vegetables, fish, livestock in feasible areas.

Programmes should be launched as a campaign by giving foodgrain top priority and by dividing the arable lands into production blocks for fulfilling the needs of the increasing population and production services and other facilities should be made available to the production block for encouraging the farmers. It is possible to increase production if technical services like distribution system of irrigation water, chemical fertilizer, improved seeds, agriculture loan, crop protection, etc. which support the production programs, are made available to the production blocks according to the needs of the farmer and in time.

Though irrigation has been recognized as one of the important requisites for increasing agriculture production intensive farming has not been able to move ahead because of delay in the expansion of irrigation facilities and the use of the available techniques. Development of all the feasible sources of irrigation as a campaign has been essential.

Increasing production by the use of available techniques widely in the areas where irrigation facilities are available is necessary. It is also necessary to give additional attention to supply agriculture inputs by reconsidering the sales and distribution of improved seeds throughout the country through institutional channels responsible for supplying improved seeds to the farmers according to the requirement. The improved seeds sales and distribution must be encouraged by producing the seeds at the farmer level. It is essential to organize the technical services such as agriculture extension, crop protection, soil test, crop technology services and seed inspection and certification in order to execute the agriculture program for producing seeds in a systematic manner and on a wider scale at the farmers level and to make the agriculture research simple, practical and target oriented .

Keeping in view the fact that farmers have not been attracted for additional investment in the absence of proper market and price incentives system, and production and productivity have increased wherever improved techniques were used, it is extremely necessary to provide reasonable prices and marketing facilities.

Even through production of milk, meat, eggs, fish, fruits has been estimated to be good, their import to a certain extent still exists. Programmes have to be executed in producing those goods for self sufficiency according to the need of the market by discouraging their import. It is necessary to provide required services and facilities for commercial production by developing specific areas for fruits and vegetable gardens by fixing the areas for fruits and vegetables. Execution of programmes to produce fruits of citrus family widely is necessary keeping in view he feasibility of producing fruits in the central hilly area.

It has become necessary to give emphasis on increasing production of grass in central hilly areas by silvi-pasture in order to solve the problems of pasture in the northern areas and to reduce the potential pressure on the forest land in view of pasture land becoming a problem for animal feed. For the development of livestock, it is necessary to create proper atmosphere in terms of developing systems for proper price and market for fish, meat, milk and milk products. Also it is necessary to provide concessions and facilities in investment or production, involving maximum number of farmers in commercial livestock.

If it is necessary to give special emphasis to give commercial touch to the fruits and livestock business in order to improve the decaying economic condition of the hills and for strengthening the inter-relation of hills and terai on the basis of geographical feasibilities for increasing agriculture production, it is equally necessary to enhance self-reliance by increasing the foodgrains production in the hills by utilising feasible hill bases to the maximum because transport problem will not be solved in he immediate future for supplying the foodgrains to

the Hilly Region. Executions of programmes for increasing national earning is extremely essential for increasing production in the Terai Region because this area is more feasible for foodgrain and industrial crops.

Land reform programme should be formulated and so directed that it will create atmosphere for attracting investment for increasing production because utilisation of agriculture land has a major influence in agriculture production. In spite of the fact that land owner exceed the land tillers in number, farming has not taken the shape of commercial farm. Since regional balance has not been maintained by diverting the savings from agriculture to industrial sector, the land reforms programmes should be carried forward in order to develop institutional farming by encouraging the arming on contract, etc.

It won't be possible of attain the target in the absence of the systems which will scrutinize plan and programmes and projects for fulfilling various production targets, their execution according of the target within the deadline, obstacles and problems during execution, achievements, forms of future plans and programmes. The process of evaluation and monitoring should continue and this process should cover from the project level to the national level on a regular basis. In order to make the evaluation and monitoring of plans effective it is essential to integrate it with the reward and punishment system.

By mobilisation of the local leadership agriculture programmes can be executed in a more effective manner because agriculture programmes are the programmes of farmers' clear cut participation. Formulation, execution, follow-up and evaluation of agriculture development programmes to be executed in each district should be done at the district level by organising a production group consisting of representatives from all institutions related to agriculture in each district and also system of execution, follow-up, evaluation of agriculture programmes through the service centres by the production group should be introduced from the district level itself.

3. objective of the Seventh Plan

Keeping the above background in mind the objectives of the agriculture development for meeting the needs of the country will be as given below:-

- a. Production of food will be increased on a steady basis to meet the demand of the continuously increasing population and also or increasing the consumption level.
- b. To attain self-reliance by increasing the production of vegetable, fruits, fish, meat, milk and milk products.
- c. To increase earnings and employment opportunities by increasing the production of goods that are export-oriented and import-substitute.
- d. To increase the industrial raw materials.

4. Policy o the Seventh Plan

- a. Programme of foodgrain production will be executed as a campaign for increasing production and productivity of foodgains. Programmes will be executed in such a way as to make the hills self-sufficient within the next ten years.
- b. Programmes will be executed in such a way as to have fish, duck, fruits and vegetable arming and livestock business concentrate around the road network, urban area and densely populated areas and to solve the pasture problems of the northern areas.
- c. By concentrating the production programmes within the area influenced by the infrastructure developed so far, institutional arrangements so far made for increasing production and productivity will be utilised in a more consistent manner.
- d. Construction of feasible irrigation projects in the hills and terai, improvements and tube-well boring will be executed in an effective manner with the participation of the people for increasing irrigation facilities to increase production; agriculture and irrigation will be developed in an integrated manner by harnessing irrigation potential according to their capacity.
- e. For utilising the limited resources to its maximum in the proper use of agriculture implements, their supply will be made to the areas receiving priority under the production programmes. In the sales and distribution of chemical fertilizers prices and transport subsidy will be gradually reduced and programmes will be executed by associating private sector and by giving priority to the cooperative organisation for the sales and distribution of agricultural inputs.
- f. Certified seed will be made available through the institutional arrangement in order to supply the improved seeds at the farmers level, seed breeding programme will be extended for producing the improved seed at farmer level for sales and distribution.
- g. For the supply of raw materials required for the agro-based industry, encouragement will be given or producing cash and specific crops in order to be se-reliant gradually.
- h. By giving attention to the increasing internal consumption of fruits, vegetables, fish and livestock products, production of selected agriculture goods will be increased to substitute imports and increase

exports. Such programmes will help additional programmes which will provide services and facilities for creating suitable atmosphere for pushing agricultural business forward in a commercial way.

- i. Opportunity for increasing earnings and employment in the rural level will be increased by multi-cropping through diversification of farming, special crops, or commercialisation.
- j. Make available attractive prices and market facilities by making institutions responsible for the purchase and sale of agriculture crops and develop the practice of distributing to the deficit areas by making a system of direct purchase of the foodgrains from the producer at the production block, when the surplus of foodgrain exists, by encouraging the farmers for producing foodgrain in the Hilly Region.
- k. Agriculture research will be made effective for making it problem oriented and useful and increase production by the proper use of implements produced by the available techniques in the irrigated area and emphasis will be laid to develop techniques for farming in the unirrigated areas particularly in the hills.
- l. Expand the programmes gradually such as foodgrain preservation; procession, quality control and development of nutritious foods and crop protection and execution of programmes for reducing the loss after the harvest and programmes will be executed for increasing the supply of foodgrains.
- m. Service like crop protection, seed processing and certification will be executed effectively.
- n. Necessary institutional improvement of service centres will be made according to the requirement of the expanded programmes.
- o. Agriculture promotion programme like agriculture publicity, agriculture loan, agriculture goods and complete technical services will be carried to the farmers through the medium of service centres in order to make it effective and women agri-worker participation will be increased.
- p. Expand the area of agricultural statistics collection and strengthen it.
- q. The system of reward and punishment will be strengthened to making the agricultural programme effective also with the monitoring and evaluation system.

5. Production Target of Seventh Plan

The target of production of foodgrain has been fixed by including quantity of foodgrain required for population growth rate, increase in income and also for export.

The existing per capita consumption of foodgrains of 159Kg. will be increased to 174 Kg at the end of the Seventh plan. The production target of foodgrain, cash crops, fruits, fish, meat milk and major agriculture production is presented in the Table 24.09 and Table 24.09(a)

Programmes:

1. Crop programme:-

Keeping in mind the increasing internal demand and quantity required for export, the following special arrangements will be made in order to launch the production programme for main foodgrains like paddy, maize and wheat in the form campaign
- 1.1 Productive inputs like fertilisers, seeds, insecticides, agriculture loans, etc. will be delivered at site in the production spots in the special and pocket regions according to the priority of the programmes for increasing the production. In other areas these inputs will be supplied to service centers before the farming season.

For this purpose distribution of production inputs will be carried on in different areas under the following classifications:- large areas with irrigation facilities will be called special areas, small and scattered areas with irrigation facilities will be called pocket areas, and those without irrigation facilities and dependent on monsoon where increase in production is feasible will be called general regions. Areas that can not be directly served under the programme will be classified as other regions, for crops other than paddy, maize and wheat in the special, pocket and general areas agriculture inputs and services will be allocated area-wise on the basis of feasibility.
- 1.2. To make the supply of production inputs and services effective in the districts, production teams will be organised with representation from institutions related to development in mobilising various technical and other services like agriculture promotion, agriculture loans, improved seeds, distribution of chemical fertilisers, seed processing, soil analysis, crop protection, cooperative services, etc. in a co-ordinated manner in line with the production of each district.
- 1.3. Service centres on the basis of intensiveness of the programmes will be organised in the district. At the district level production services will be provided to the farmers under the supervision of the production team. These services will be provided on the basis of priority assigned to special, pocket and general areas. For such services in the special and pocket regions intensive programmes will be executed demarcating blocks of 1,000 hectares and one production officer with necessary assistants will be appointed.

- 1.4. Encouragement will be given to use fertilisers and necessary techniques and far as possible.
 - 1.5. Minimum facilities such as crop protection goods implements soil analysis kits and manpower will be made available regularly in the places where there are service centres.
 - 1.6. Special emphasis will be given to increase production by providing additional irrigation facilities such as tube-well boring in the erai Region under the small irrigation construction programme . For the small irrigation construction and renovations expansion of pocket area with 40,000 hectare in the hills receiving additional irrigation facilities will support the self dependence by increasing additional 56,000 metric tons of paddy and 14,000 metric tons of wheat.
 - 1.7. Since the producers have to receive proper price or encouraging the production programmes information of the anticipated price will be given in advance and institutional arrangement will be made for purchases and sales.
 - 1.8. Production teams will undertake periodic evaluation and monitoring of the programme at the district level. In addition to this the practice of supervision and direction to this the practice of supervision and direction at the regional zonal and the central division levels including preparation and submission of evaluation reports for review at the central levels will be made more active .
 - 1.9. Special honour will be given to local panchayats on the basis of their achievements in increasing productivity and there of cultivation under improved seeds and techniques. Efficient farmers will be awarded by organising production competition in each service centre at district and national level for stimulating interest in increasing production.
 - 1.10. Members of the production teams which are involved in the programmes will be rewarded on the basis of efficiency in the production.
 - 1.11. the system of regular monitoring and evaluation of the programmes will be made more effective.
- Crop- wise production programmes will be executed in the manner given below for carrying forward to guidelines mentioned above in an effective way.

Paddy Production Programme

As there is no room for increasing the area under paddy cultivation the predominant foodgrain of Nepal emphasis will be focused on increase in productivity. Hence the target for production of **chaite/bhadaiya** and summer paddy is fixed at 3.40 million metric tons from an area of 1.334 million hectares for both crops. From this paddy production will increase by 667,000 metric tons as compared to the base year For attaining this target the overall productivity of 2.01 metric tons of paddy per hectare will be raised to 2.50 metric tons per hectare.

The following arrangements will be made in executing this programme :

- a. The paddy production programme will be implemented by dividing the areas into major irrigated area minor irrigated area partial irrigated area or the area dependent on monsoon water sources and other areas dependent on weather into special pocket general and other areas respectively. Available means and resources will be utilised in these areas on a priority basis.
- b. Expansion in irrigation facilities may increase the area under paddy crop and thus contribute toward increase in production. Chaite/bhadaiya paddy has a predominant place in such increased area of farmland.
- c. Since area will not expand remarkably special emphasis will be given on increasing productivity . During the Seventh Plan period in areas of special programme productivity of 3.56 metric tons per hectare will be increased to 4.00 metric ton per hectare in areas of pocket programme productivity of 2.77 metric ton per hectare will be increased to 3.40 metric tons per hectare; and in areas of normal programme productivity of 2.14 metric tons per hectare will be increased to 2.60 metric tons per hectare. In other areas productivity of 1.66 metric tons per hectare will be increased to 1.90 metric tons per hectare.
- d. Utilization of production inputs such as improved seeds chemical fertilisers and irrigation water which have a direct impact on increasing production will be carried on in the manner described as follows:
 - i) **Improved seeds** - Emphasis will be laid on the use of improved crops recommended for hills and Terai. While planting chaite paddy emphasis will be given to plant the seed which would have quick in order to avoid adverse effect on summer crops. Similarly summer crops should be so selected that these crops do not adversely affect winter crops in the areas where winter crops will be planted. For the supply of seeds government farm stations will produce 700 metric tons of foundation seeds during the plan period. Seed breeding programmes and seed inspecting and certification services will be made effective for increasing the supply of seeds at the farmer level. Institutional distribution activities will be concentrated on the seeds which will increase production. For propagating the popularity of improved seed techniques mini-kit distribution programme will be executed.
 - ii) **Chemical fertilisers** - Chemical fertilisers will be extensively used in the areas where continuous irrigation water is available. In order to maintain the quality of soil the use of compost fertiliser will

be encouraged in the irrigated areas and other areas. Emphasis will be given on the use of chemical fertilisers in special and pocket areas. Use of proportion of Nitrogen phosphorous and potash will be gradually increased to a level of 60:20:20 under special programmes 40:15:15 under pocket programmes and 30:10:10 under general programmes. Use of fertilisers in other areas also will be encouraged. Social emphasis will be given to increased use of zinc and agri-lime in order to increase the effectiveness of fertilisers.

- iii) **Irrigation water** - Water distribution working groups with the public participation will be organised for distribution of irrigation water through the irrigation drains / canals keeping in mind the fact that only timely supply of water can improve productivity. Necessary arrangement will be made when government irrigation projects are regularly repaired and maintained to see that agriculture works are not adversely affected. By completing tube-well boring and small irrigation works and drain construction works additional irrigation facilities will be provided to 20,000 hectares of land every year.
- e. Thus 560,000 metric tons of paddy under special programmes 595,000 metric tons under pocket programmes and 839,000 metric tons under general programmes add up to 1,994,000 metric tons from the areas covered by those programmes with 1,406,000 metric tons from other areas not directly influenced by those programmes this makes a total of 3,400,000 metric tons of paddy. Annual break-down of the target of paddy production during the Seventh Plan is presented in Table 24.10

Table 24.10

Fiscal year	Area - in hectares				Total
	Special	Pocket	Normal	Others	
1984/85 (Base year) Area	118,851	156,220	251,109	831,820	1,358,000
Production	423,137	449,371	537,373	1,323,119	2,733,000
Productivity	3.56	2.87	2.14	1.59	2.01
1985/86 Area	120,000	158,000	252,000	828,000	1,358,000
Production	432,000	474,000	554,400	1,461,750	2,922,150
Productivity	3.60	3.00	2.20	1.80	2.15
1986/87 Area	125,000	162,000	265,000	806,500	1,358,500
Production	462,500	502,200	609,500	1,432,140	3,006,340
Productivity	3.70	3.20	2.40	1.80	2.30
1987/88 Area	130,000	165,000	300,000	764,000	1,359,000
Production	494,000	528,000	720,000	13,381,800	3,123,800
Productivity	3.80	3.20	2.40	1.80	2.30
1988/89 area	135,000	170,000	315,500	739,000	1,359,000
Production	494,000	528,000	720,000	1,381,800	3,123,800
Productivity	3.90	3.30	2.50	1.80	2.40
1989/90 area	140,000	175,000	322,770	722,230	1,360,000
Production	560,000	595,000	839,202	1,405,798	3,400,000
Productivity	4.00	3.40	2.60	1.90	2.50

Table 24.11

Production Target of Paddy during Seventh Plan
(according to development region)

Fiscal year	Area - in hectares					Total
	Easten	Central	Western	Mid-western	Far-western	
1984/85 Area	436,300	444,060	254,260	122,210	101,170	1,358,000
Production	887,960	1,033,710	483,540	240,530	186,260	2,733,000
1985/86 Area	436,300	444,060	254,260	122,210	101,170	1,358,000
Production	869,576	1,050,424	535,832	258,806	207,512	2,922,150
1986/87 Area	436,350	444,290	254,370	122,220	101,270	1,358,500
Production	885,360	1,082,740	552,320	264,820	221,100	3,006,340

1987/88 Area	436,500	444,390	254,500	122,340	101,270	1,359,000,
Production	930,000	1,102,500	566,000	266,750	248,550	3,123,800
1988/89 Area	436,600	444,490	254,600	122,440	101,370	1,359,500
Production	976,144	1,112,420	578,000	280,500	262,236	3,219,300
1989/90 Area	436,750	444,600	254,700	122,550	101,400	1,360,000
Production	1,071,680	1,142,160	621,680	293,600	270,880	3,400,000

Table 24,12
Production Target of Paddy during Seventh Plan
 (according to geographical sub-regions)

area - inhectares
 Production - inmetric tons

Fiscal year	Higher hills	Hills	Terai	Total
1984/85 Area	25,600	263,740	1,068,660	1,358,000
Production	45,650	556,390	2,130,960	2,733,000
1985/86 Area	25,600	263,740	1,068,660	1,358,000
Production	53,155	584,697	2,284,298	2,922,150
1986/87 Area	25,600	263,740	1,068,660	1,358,000
Production	56,462,	619,880	2,335,998	3,012,340
1987/88 Area	25,600	263,740	1,068,660	1,358,000
Production	60,303	638,194	2,425,303	3,123,800
1988/89 Area	25,600	263,740	1,068,660	1,358,000
Production	64,883	712,685	2,622,432	3,400,000

Maize Production Programme

Maize occupies the second in the overall production of foodgrains in the country. There is no room for expanding the area of maize crop also and so emphasis has to be given on the increase of productivity in particular. To execute the maize production program as a campaign the target of producing 936,000 metric tons from 556,000 hectares is fixed for the plan period. As compared to the base year this programme will produce additional 73,000 metric tons of maize. For fulfilling this target the existing productivity of maize of 1.52 metric tons per hectare will be increased to 1.65 metric tons per hectare.

To increase the maize production according to the target from this programme the following steps will be taken :

- a. Maize crop development also will be executed by dividing programme into special pocket general and other programmes. Special program will be implemented in valley maize area in the hills and winter and spring season maize areas in the Terai. Similarly in hilly and terai areas where transportation facilities exist summer maize will be cultivated under pocket programme and in other areas in the hills services will be provided by the programme to 216,000 in the hills services will be provided by the programme to 216,000 hectare under general programme and the remaining areas under other programmes. Available resources and means will be mobilised according to priority under special pocket general and other programmes.
- b. While implementing the programme this way in the areas under special programme production of 2.79 metric tons per hectare will be raised to 3.40 metric tons per hectare under pocket programme 1.68 metric tons per hectare will be raised to 1.62 metric tons per hectare and under other programme 1.44 metric tons per hectare will be raised to 1.45 metric tons per hectare.
- c. Utilization of improved seed chemical fertilisers and crop protection materials which have a direct bearing on the increase of maize production will be carried out as follows:
 - i) **Improved seeds** - Under special programme in the area where winter maize is planted 50% will be hybrid maize in areas where in areas where spring maize is planted after winter crop Arun-2 and improved maize seed will be used will be used under pocket programme khumal Maize and Manakamna will be used in the Hilly Region and Rampure Composite and Arun 2 in the terai Region. Under general programme emphasis will be given on increase production by using Khumal Yellow Manakamana Kakani Yellow and Ganesh

maize variety. Use of Kakani Yellow will be encouraged in the higher altitude because it has been found adoptable. The required quantity of improved seeds will be supplied to the special and pocket areas through institutional means. The required quantity of seeds for the general programme will be supplied by the private sector by supported by the private sector by supporting the seed breeding programme. 20% of the certified seeds required by the seed men programme. Other seeds will be supplied by farmers themselves. Seed breeding programme will be carried out under seed processing and development programme. Maize mini-kit programme will be implemented in order to popularise the use of improved seeds and techniques.

ii) **Crop protection** - Crop protection services will be made more effective because maize production is greatly affected by insects. Crop protection units and service centres will be made active in saving the losses for increasing the production by observing the use of chemicals in the soil prior to farming and when the plants grow.

iv) **Chemical fertilisers** - There is no two opinion that soil should contain nutritious elements for increasing production. Priority will be given to the use of chemical fertilisers in connection with soil nutrition according to the intensity of the programme. In the special areas the proportion of nitrogen and phosphorous will be 90L:45 kg. for the Terai Region and 60:30 kg per hectare in the Hilly Region. Similarly under normal programme nitrogen will be supplied at the rate of 23 kg per hectare to a minimum of 50% of programme area. Special programmes will be implemented to encourage the use of compost fertiliser to maintain the quality of soil. In other regions use of compost fertilisers will be emphasized.

- d. In the Terai Region extension of tube-well irrigation to 50,000 hectares and other minor irrigation to 10,000 hectares will bring a minimum of 12,000 hectares for winter and spring maize and raise production by 36,000 metric tons.

From the above mentioned approach under special area 86,000 metric tons under pocket area 89,000 metric tons under general programmes 351,000 metric tons and under other programmes of 390,000 metric tons making a total of 916,000 metric tons of maize will be produced during the plan period. The target of this production according to development regions and geographical sub-regions is given in details in the Table 24.13.

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Table 24.13

Area - in hectares
Production - in metric tons
Productivity - in metric tons per hectare

Fiscal year	Special	Pocket	Normal	Others	Total
1984/85 Area	15,060	15,013	110,277	415,830	556,180
Production	42,017	25,222	176,443	599,318	843,000
Productivity	2.790	1,680	1.600	1.441	1.515
1985/86 Area	15,060	15,013	110,277	415,830	556,180
Production	43,674	26,273	176,995	599,628	846,570
Productivity	2.900	1.750	1.605	1.442	1.522
1986/87 Area	17,051	23,820	139,277	376,032	556,180
Production	54,153	42,876	224,236	542,615	860,880
Productivity	3.00	1.800	1.610	1.443	1.547
1987/88 Area	20,462	30,059	158,641	346,838	556,180
Production	63,432	55,609	256,205	500,834	876,080
Productivity	3.100	1.850	1.615	1.444	1.575
1988/89 Area	23,874	37,324	187,674	307,308	556,180
Production	77,590	70,916	304,032	444,062	896,600
Productivity	3.250	1.900	1.620	1.445	1.612
1989/90 Area	25,284	44,594	216,447	269,855	556,180
Production	85,966	89,188	350,644	390,287	916,085
Productivity	3.400	2.000	1.620	1.446	1.647

Table 24.14

Production Target of Maize in the Seventh Plan
(according to development region)

Area - in hectares
Production - in metric tons

Fiscal year	Eastern	Central	Western	Mid-western	Far-western	Total
1984/85 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	216,730	299,580	154,990	122,610	49,090	438,000
1985/86 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	217,730	301,180	155,390	122,810	49,460	846,570
1986/87 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	220,730	305,180	157,700	125,310	51,960	860,880
1987/88 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	223,730	309,480	160,700	128,010	54,160	876,080
1988/89 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	228,730	314,500	165,900	130,810	56,660	896,600
1989/90 Area	137,820	188,650	106,880	86,270	36,560	556,180
Production	232,730	321,985	169,900	133,310	58,160	916,085

Table 24.15

Production Target of Maize in the Seventh Plan

(according to the geographical sub-region)

Area - in hectare
Production - in metric tons

Fiscal year	Higher Hills	Hills	Terai	Total
184/85 Area	45,480	350,480	160,220	556,180
Production	65,090	484,540	293,370	843,000
1985/86 Area	45,480	350,480	160,220	556,180
Production	56,660	486,540	294,370	846,570
1986/87 Area	45,480	350,480	160,220	556,180
Production	67,860	494,540	304,680	876,080
1987/88 Area	45,480	350,480	160,220	556,180
Production	68,860	502,540	304,680	876,080
1988/89 Area	45,480	350,480	160,220	556,180
Production	70,860	513,540	312,200	896,600
1989/90 Area	45,480	350,480	160,220	556,180
Production	72,860	523,540	319,685	916,085

Wheat Production Programme

Wheat occupies the third place in the overall production of foodgrains in the country. In the campaign for raising production of foodgrains production of wheat also has to play a significant role. target is fixed to produce 900,000 metric tons from 563,000 hectares by raising both the area and productivity in the plan period. Accordingly 300,000 metric tons of additional wheat will be produced during the plan period. For this production growth productivity of 1.37 metric tons per hectare in the base year will be raised to 1.60 metric tons per hectare in the final year of the plan period.

To increase the wheat production according to the target from this programme the following steps will be taken :-

- a. There is enough room to expand the area under wheat cultivation and additional production can be attained 126,000 hectares which may be added by the new irrigation system.
- b. Since the need to increase productivity has to be emphasised as expansion of area alone would not adequately increase production, in the special area the base year productivity of 2.95 metric tons per hectare will be raised to 3.20 metric tons per hectare in the final year of the plan period in the pocket area productivity of 1.70 metric tons will be raised to 2.30 metric tons per hectare in the general area 1.38 metric tons per hectare will be raised to 1.46 metric tons per hectare and in other areas production will be raised from 0.58 metric tons per hectare to 0.66 metric tons per hectare.

i) **Improved seeds**

Emphasis is to be given for selecting new varieties and their uses because continuous use of one variety of seed brings deterioration in quality and vulnerability though improved seeds are mostly used in wheat cultivation. Rs. 29 has aided a big popularity. But the decline in productive and resistance capacity of this variety compels its replacement. For the Terai Region emphasis will be given in the use of varieties like Tribeni Lumbini Vinayak Vaskar and Siddhartha. Use of UP 262 and Tribeni will be emphasised in the hills. In the higher altitude use of term 52 because of its popularity will be encouraged. mini kit programme will be implemented for the wheat also in order to popularise the use of new seeds and techniques.

Major portion of the seed supply will be met by the private sector by making seed inspection and certification services active through the seed breeding programmes. Emphasis will be given to encourage seeds through institutional seed distribution when old variety of seeds have to be replaced. Since it is not possible to produce adequate quantity of certified seeds in the government farms alone during the plan period selected seed producing farmers will be associated in the production of seeds. This way 5,000 metric tons of certified seeds will be produced at the central level.

ii) **Chemical fertilisers**

Special emphasis will be given to encourage use of adequate quantity of chemical fertilisers in improving productivity. Awareness will be brought for continuous use of compost fertilisers for maintaining the quality of soil. In the special area the use of nitrogen phosphorous and potash will be gradually increased to reach 80:40:20 kg per hectare during the Seventh plan period. In the pocket area 60:30:20 kg. per hectare in the general area 50:25:0 kg per hectare and in other areas efforts will be made for increasing the use of fertilisers.

iii) **Irrigation water**

Wheat crop does not need continuous supply of water but water is needed at the right time. Hence water users groups will be organised with the participation of the people in order to make the effective distribution of water from the irrigation project. Coordination will be brought about between irrigation programme and agriculture programmes to avoid hampering the farming during the period of repair and maintenance of irrigation projects. In addition to normal irrigation programmes since the aim is to irrigate 40,000 hectares by construction of small irrigation schemes in the hills and irrigate additional 60,000 hectares by tube well boring and construction of small irrigation projects in the terai Region in winter wheat crop will receive 25% of water from the construction of irrigation projects and 60% from the tube well. In the additional irrigated lands providing production services facilities in a package from the farmer will help support the efforts for self-reliance by producing additional 14,000 metric tons of wheat in the hills and special contribution will be made in increasing production by producing additional 40,000 metric tons in the total target of the terai.

- c. With this production programme production of 272,000 metric tons from special programme 241,000 metric tons from pocket programme and 256,000 metric tons from general programme will make a total of 769,000 metric tons. Adding 131,000 metric tons to this from the areas not receiving the services the total will be 900,000 metric tons. The target of annual production of wheat during the Seventh plan period is presented in the Table 24.16 Table 24.17 and Table 24.18.

d. **Millet/Hog Millet Production Programme**

- e. Mostly millet / hog millet used by the low income group as a daily food are cultivated in less fertile areas in the hills. Since improved techniques have not been developed for this crop its productivity has been dwindling. Hence assuming that the area will not expand during the plan period the target is fixed at produce 120,000 metric tons from 124,000 hectares of land. The following steps will be taken to increase the production :-
- Production inputs and services required for millet crops will be supplied under the general programme through the nearest service centres in a package form. For executing the programme successfully planning monitoring evaluation and other measures will also be taken for this crop as necessary.
 - By the third year of the plan new variety of seeds will be selected and programme will be implemented from the fourth year.
 - Mini-kit programmes will be used for popularising the variety of seeds presently recommended and varieties recommended for the hilly regions.
 - Testing will be conducted at the farms for seed breeding by selecting improved seeds presently recommended and varieties recommended for the hilly regions.
 - To protect the crop from the diseases development of disease resistant seeds will be emphasised. Insecticides to stop wire worm and army worm found in this crop will be used.
 - A separate unit will be established for development of hilly crops like millet hog millet brady buck wheat etc. under crop development programme. This unit will concentrate on development of techniques for millet / hog millet crops.
 - Programmes for cultivation of amaranthus which has not been used as food grains so far but contains more nutritious elements and gives high yields in the marginal lands and hilly areas will be implemented after necessary studies.
 - Since no technique has been developed for the use of chemical fertiliser compost fertilizers will be encouraged.

Annual production targets of millet according to millet production programme during the plan period is given in the Table 24.19.

Table 24.16

Area - in hectares
Production - in metric tons
Productivity - in metric tons per hectare

Fiscal year	Special	Pocket	Normal	Others	Total
1984/85	61,000	89,000	128,000	159,000	437,000
Production	180,000	151,000	177,000	92,000	600,00
Productivity	2.95	1.70	1.38	0.58	1.37
1985/86 Area	65,000	93,000	131,000	186,000	475,000
Production	195,000	186,400	183,400	110,100	674,500
Productivity	3.00	2.00	1.40	0.59	1.42
1986/87 Area	70,000	96,000	142,000	192,000	500,000
Production	213,500	195,000	198,800	117,650	725,000
Productivity	3.05	2.03	1.40	0.61	1.45
1987/88 Area	75,000	99,000	153,000	200,000	527,000
Production	232,500	207,900	217,260	132,840	790,500
Productivity	3.10	2.10	1.42	0.66	1.50
1988/89 Area	80,000	102,000	164,000	199,000	545,000
Production	252,000	224,400	237,010	131,340	844,750
Productivity	3.15	2.20	1.44	0.66	1.55
1989/90 Area	85,000	105,000	175,000	198,000	563,000
Production	272,000	241,500	255,820	130,680	900,000
Productivity	3.20	2.30	1.46	0.66	1.60

Table 24.17
Production Target of Wheat in Seventh Plan
(according to development region)

Area - in hectares;
Production - in metric tons

Fiscal year	Eastern	Central	Western	Mid-western	Far-western	Total
1984/85 Area	66,650	164,036	87,233	68,058	51,023	437,000
Production	98,138	239,441	114,452	85,100	62,869	600,000
1985/86 Area	69,760	171,970	98,396	81,442	53,432	475,000
Production	101,374	246,454	136,478	119,002	71,192	674,500
1986/87 Area	73,042	175,611	105,381	91,078	54,888	500,000
Production	104,495	215,707	157,332	132,858	78,608	725,000
1987/88 Area	77,602	179,986	115,875	69,651	56,886	527,000
Production	116,403	268,680	174,812	146,476	84,129	790,500
1988/89 Area	80,759	181,592	123,084	102,600	56,964	545,000
Production	125,176	280,470	191,780	159,030	88,294	844,750
1989/90 Area	83,750	186,341	130,150	105,141	57,618	563,000
Production	134,200	297,146	208,240	168,225	92,189	900,000

Table 24.18
Production target of Wheat in the Seventh plan (according to the geographical sub-region)
area -in hectare
Production - in metric tons

Fiscal year	Higher Hills	Hills	Terai	Total
1984/85 Area	17,693	139,821	279,486	437,000
Production	18,586	187,243	394,171	600,000
1985/86 Area	18,517	146,180	310,303	475,000
Production	27,395	126,645	480,960	725,000
1986/87 area	18,892	150,078	331,030	500,000
Production	27,395	126,645	480,960	725,000
1987/88 area	19,272	153,542	354,186	527,000
Production	28,908	230,313	531,279	790,500
1988/89 area	19,285	155,604	370,111	545,000
Production	29,892	241,186	573,672	844,750

1989/90 area	32,114	256,429	611,457	900,000
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Table 24,19
Production Target of Millet / Hog Millet in the Seventh Plan

Fiscal year	Ara (hectares)	Production (Metric tons)	Productivity (metric tons per hectare)
1984/85	124,000	115,000	0,93
1985/86	124,000	115,000	0,93
1986/87	124,000	116,000	0,94
1987/88	124,000	118,000	0,95
1988/89	124,000	120,000	0,97
1989/90	124,000	120,000	0,97

Barley Production Programme

Barley also is one of the crops cultivated in less fertile land. There has been no improvement in the area, production and productivity of the crop because improved techniques have not been applied to this crop so far. Assuming that there will be no expansion of land production target of 25,000 metric tons is fixed from the area of 25,000 hectares. For this production programme base year productivity of 0.90 metric tons per hectare will be raised to 1.00 metric ton per hectare during the plan period.

The following steps will be taken to fulfil the production target :-

- Necessary production inputs and services for this crop will be made available under the general programme through the nearest service centres in coordinated way.
- By the third year of the plan selection of improved seeds will be completed and emphasis will be given to use the selected seeds as much as possible. Selected seeds will be tested approved by the farmers at the farmer's levels. Parent seed required for this and the certified seeds will be produced by the government farm and stations.

Mini-kit programme will be implemented for popularising the use of recommended seeds.

- Hilly crop development unit will be helpful for development of black wheat barley etc.
- To protect the crop from rust disease and black smut use of disease resistant seeds will be encouraged. Insecticides will be used as necessary.
- Since techniques have not been developed for the use of chemical fertilisers for this crop use of compost fertilisers will be encouraged.
- Evaluation monitoring and incentive system for the program will be designed for the crop as necessary.
- Programme for increasing production of malt variety of barley used by the growing breweries of the country will be implemented.

The annual production target of the barley production programmes is presented in the Table 24.20

Production Target of Barley in the Seventh Plan

Fiscal year	Area (hectares)	Production (Metric tons)	Productivity (metric tons per hectare)
1984/85	25,000	25,750	0,91
1985/86	25,000	23,000	0,92
1986/87	25,000	23,500	0,94
1987/88	25,000	24,000	0,96
1988/89	25,000	24,500	0,98
1989/90	25,000	25,000	1,00

Pulses production programme

The contribution of pulses is rather significant in providing the nutritious elements to the population. It is extremely necessary to give special emphasis on increasing production of certain crops because of the wide use of pulse in the daily food and the increasing contribution of lentil in the exportable pulses. In view of the fact, base year production of 88,000 metric tons of pulses will be raised to 95,000 metric tons in the Seventh plan. Area of 226,000 hectares will be expanded to 230,000 hectares. Additional production in the Seventh plan will be 7,000 metric tons and productivity of 0.39 metric tons per hectare will be raised to 0.411 metric tons per hectare.

- The following crop programme feasible areas will be divided into pocket and normal programmes. Available resources will be mobilised by giving priority to the pocket programmes.

- b. Special emphasis will be given to cultivate lentil, gram, pigeon pea, soyabean, black bean, mung and beans among the cereal crops. production of other cereal crops such as mahsyang. peas, gahat will also be given proper attention.
- c. the target of average productivity of 0.413 metric tons per hectare will be fixed by taking into consideration the productivity of 0.472 metric tons per hectare from the pocket area and 0,402 metric tons per hectare from the pocket area and 0.402 metric tons per hectare from the general area.
- d. To attain the above productivity, programmes will be implemented for utilizing the production inputs and services under the supervision of the production team to be established at the district level, which will be supplied by the centre. Cereal crop programme will be implemented with its centre in the Terai by giving emphasis on the development of improved variety of pulses.
- e. In the Terai Region, emphasis will be given for the production of lentil, gram, soyabean, black bean and beans. in the inner terai and Hilly Region lentil soybean black bean and beans will be emphasized. under pocket programme, lentil, gram chickpea, mang, and beans will be cultivated in the districts of Bara, Parsa, Rautahat, sarliahi, Mahotari,. Dhanusha, Siraha, Banke, Bardia and Kalaiyaing Terai Region; lentil, soyabean, black bean and beans in Makawanpure and Chitwan, similarly, soyabean, black bean, beans and lentil will be cultivated in Kathmandu, Lalitpur, Bhaktapur and Kavrepalanchok districts.
- f. under general programme, production will be rased by increasing the use of improved seeds and techniques along with publicity and promotion services in feasible areas of the hills and Terai. Since cereal crop helps improve the fertility of the soil, emphasis will be given to its wide dissemination.
- g. Since development of improved seeds is at its early stage incase of bean crops, some seeds which have been recommended so far will be used at the moment. foundation seed and certified seeds will be used at the moment. Foundation seed and cerified seeds will be produced by the government farms and will be made available to selected farmers for implementing the seed production programme. Emphasis will be given to supply the seeds at the farmer level by providing inspection and certification services through the seed processing and developing programme. Mini-Kit will be distributed to increase the effectiveness of the improved seeds and techniques. Disease resistant seeds will be recommended for protecting the crop against diseases and emphasis will be given to use insecticides.
- h. Complex fertiliser will be used in the ratio of 20:20 in the areas where pocket programme will be implemented.
- i. Quality will be improved in collaboration with Trade Promotion Centre for promoting export of lentil and other pulse for marketing the products. Use of soyabean is possible for vegetable ghee and oil industry and hence marketing will be done in coordiantion with the industry.
- j. Monitoring, evaluation and incetive measures measures will be carried out as in case of other foodgrain crops.

Annual production trrget of pulses according to the programme during the Seventh Plan period is presented in the Table 24.21

TABLE24.21

Production target of Pulses in the Seventh Plan

Area-in hectares

Production -in metric tons

Productivity - in metric tons per hectare

Particulars	Pocket	Normal	Total
Base year 1984/85			
Area	21,000	205,000	226,000
Production	8,800	79,200	88,000
Productivity	0.419	0.386	0.389
1985/86			
Area	21,000	205,000	226,000
Production	8,800	79,200	88,000
Oridyctivity	0.419	0.386	0.389
1986/87			
Area	25,000	202,000	227,000
Production	11,000	79,000	90,000
Productivity	0.440	0.391	0.396
1987/88			
Area	27,000	201,000	228,000
Production	12,000	79,000	91,000

Productivity	0.444	0.393	0.406
1988/89			
Area	30,000	197,000	229,000
Production	14,000	79,000	93,000
Productivity	0.467	0.401	0.406
1989/90			
Area	36,000	194,000	230,000
Production	17,000	78,000	95,000
Productivity	0.472	0.402	0.413

Oil Seed Production Programme

Special emphasis has to be given to the production of oil seeds and mustard seed in particular, because oil has an important place in the daily food consumption of Nepal and export of mustard seed is feasible. Base year production of 77,000 metric tons of oil seeds will be raised to 95,000 metric tons by increasing the area from 112,000 hectares to 129,000 hectares during the plan period. In the plan period, additional 30,000 metric tons of oil seeds will be produced. Thus productivity of 0.68 metric tons per hectare will be raised to 0.74 metric tons per hectare. Peanuts constitute 12% of the total production of oil seeds.

The following steps will be taken to fulfill the production targets:

1. Oil seed production programme will be implemented by dividing the farm lands into 3 types of area i.e pocket, general and other areas on the basis of feasibility. In the pocket area, selected district are producing more than 1,000 metric tons are Morang, Sunsari, Sindhuli, Makawanpore, Sarlahi, Rautahat, Chitwan, Navalparasi, Rupandehi, Kapilvastu, Surkhet, Dang, Banke, Bardia, Kailali, Kanchanpur; in the general are districts which are producing between 500 to 1,000 metric tons are Ilam, Saptari, Siraha, Nuwakot, Dhanusha, Mahotari and Parsa, Other districts are put under other area by giving first priority to pocket programmes, necessary inputs and resources will be provided in other areas by dividing the farmlands as mentioned above. Special emphasis will be given to implement production programme in the districts through production groups which consist of district level units related to development of agriculture.
2. In view of absence of studies and research activities for proper techniques on improved oil seeds, emphasis will be given to use some existing popular seeds. Production will be increased by adopting promotion and publicity for increasing production. Paying reasonable prices and institutional marketing by selecting the seeds out of the production of the farmers for encouraging oil seed cultivation in target areas. In the pocket areas additional encouragement will be given to cultivate oil seeds by providing production services such as agricultural loans, chemical fertilizers, crop protection etc. at site.
3. Farmers will be selected for associating them in increasing the supply of improved seeds. Supply of seeds will be done through the private sector by providing inspection and certification services through the seed processing and development programmes. Certified seeds and other technical services required for seed breeding will be provided by oil seed programme
4. Mini-kit on oilseed crop will be distributed for wide publicity and promotion of improved seeds and techniques.
5. Encouragement will be given to a large number of farmers switching over to peanut farming by making proper arrangements for reasonable prices and marketing facilities in collaboration with the vegetable ghee industry in the pocket region, because peanut demand is increasing with vegetable ghee industry consuming a large quantity of peanuts among oilseeds. Publicity and promotion of inter-cropping with other crops will be done for increasing the production of rape seed and mustard seed.
6. Emphasis will be given to increase production by expanding the use of production inputs like chemical fertilizers in the ratio of 60:40:20 (N.P.K.)kg. per hectare in the pocket areas Attempts will be made to increase the use of chemical fertilizers in addition to the use of compost fertilizer in the general area. Chemical fertilizers will be used in 30% of the total land covered by oil seeds for increasing production during the plan period.
7. Monitoring, evaluating and incentive measures will be carried out as done in case of other agriculture programmes.

Annual production target of oilseeds according to this programme during the Seventh Plan is presented in the Table 24.22 and Table 24.23

TABLE 24.22

Production Target of Oil Seeds in the Seventh Plan

Particulars	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
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Crops						
a. Mustard, Sarsui, Rayo						
Area (hectare)	111,000	111,500	112,000	113,000	115,000	117,000
Production (metric tons)	75,500	75,820	76,160	76,840	79,350	83,000
Productivity (metric tons/hectare)	0.68	0.68	0.68	0.68	0.69	0.71
b. Peanut crop						
Area (hectare)	1,500	4,000	6,000	8,000	10,000	12,000
Production (metric tons)	1,500	4,000	6,000	8,000	10,000	12,000
Productivity (metric tons/hectare)	1.00	1.00	1.00	1.00	1.00	1.00
Total						
Area (hectare)	112,500	115,500	118,000	121,000	125,000	129,000
Production (metric tons)	77,000	79,820	82,160	84,840	89,350	95,000
Productivity (metric tons/hectare)	0.68	0.69	0.70	0.70	0.71	0.74

TABLE 24.23
Production Target of Oil Seeds in the Seventh Plan
(according to development regions)
Area -in hectare
Production -in metric tons

Fiscal year	Eastern	Central	Western	Mid-western	Far-western	Total
1984/85						
Area	14,197	34,875	11,689	34,234	17,505	112,500
Production	8,516	25,633	8,047	23,785	11,019	77,000
1985/86						
Area	14,542	36,614	11,780	34,673	17,891	115,500
Production	9,590	26,290	8,205	23,870	11,865	79,820
1986/87						
Area	14,032	39,188	11,587	34,904	18,019	118,000
Production	9,960	27,850	8,360	23,940	12,050	82,160
1987/88						
Area	14,210	41,285	11,985	35,310	18,210	121,000
Production	10,080	29,685	8,645	24,030	12,400	84,840
1988/89						
Area	15,100	43,200	12,110	36,000	18,590	125,000
Production	10,610	32,280	8,750	24,800	12,910	89,350
1989/90						
Area	15,380	45,770	12,230	36,690	18,930	129,000
Production	10,950	35,290	9,220	26,080	13,460	95,000

TABLE 24.24
Production Target of Oil Seeds in the Seventh Plan
(according to development regions)
Area -in hectare
Production -in metric tons

Fiscal year	Higher hills	Hills	Terai	Total
1984/85				
Area	1,490	22,220	88,790	112,500
Production	840	13,890	62,270	77,000
1985/86				
Area	1,900	22,360	91,620	115,500
Production	840	15,200	63,780	79,820
1986/87				

Area	1,490	22,510	94,000	118,000
Production	840	15,320	66,000	82,160
1987/88				
Area	1,490	22,720	96,790	125,000
Production	840	15,500	68,500	84,160
1988/89				
Area	1,490	23,200	100,310	125,000
Production	840	16,020	72,490	89,350
1989/90				
Area	1,490	23,660	103,850	129,000
Production	840	16380	77,780	95,000

6. Cash Crop and Special Crops Production Programme Sugar Production Programme

Sugarcane has the first place among the cash crop. It is not only meeting the requirements of the existing sugar mills and khandsari sugar mills but also supporting cottage industries producing raw sugar and brown sugar also. Sugarcane crop has contributed a lot to the impotr substituiton of sugar, raw sugar, etc. A target has been fixed to increase the base year area under sugarcane from 21,000 hectares to 28,280 hectares and production from 500,000 metric tons of sugarcane to 800,000 metric tons during the Seventh Plan keeping in mind the need to increase sugarcane in order ot meet the demand of sugar for incresing populstion and urban areas. Thus additional 301,000, metric tons of sugarcane will be produced during the plan period. Base year productivity of sugarcane of 24.00 metric tons per hectare will be raised to 29.00 metric tons per hectare. Export promotion will be undertaken. Considering the need of opening up avenue of export business if supply can be made to the market of northen neighbour,and hence emphasis will be given to open sugar mills for increasing production of sugar.

The following steps will be taken to fulfil the production target of sugarcane;

- a. On the basis of feasibility sugarcane production programme will be assigned top priority and mobilisation of available resources and means will follow the classification of top priority areas and other areas. Areas under top priority include the hinterland areas of sugar factories, such as morang, Sunsari, Dhanusha, Sarlahi, Mohotari, Rautahat, Bara, Parsa, Navalparasi, Rupandehi and Kapilavastu. Production programme will be implemented with special efforts according to the needs of the district by providing specialists. Activities will be carried out in supporting cottage industries by producing Khandsari and raw sugar in the districts of Kavre, Dhading, Siraha, Banke and Kailali. Programmes will be implemented and supervised by appointing one technical assistant for sugarcane in each district. Besides these 16 districts, publicity and promotion and crop protection services will be provided in other districts also.
- b. Base year productivity of 25.00 metric tons per hectare will be increased to 31.00 metric tons per hectare in the areas which are given top priority.
- c. Sugarcane production programme meant for fulfilling the total target by attaining the above productivity will be implemented under the supervision and coordination of the proposed production group for each district. Production inputs and services will be provided in the districts where sugarcane will be produced as mentioned above through the service centers as per schedule as in the programmes.
- d. Emphasis will be given to use the popular high quality seeds since improved seeds, chemical fertilizers, crop protection services have an important role in increasing productivity of sugarcane as in the case of the other crops. Insecticides will be used in controlling the diseases and insects in order to stop production losses . On the basis of the results of the soil analysis, chemical fertilizers will be used in reasonable quantities and right proportion. Compost fertilizer will be used for maintaining the quality of the soil.
- e. For the supply of improved seeds, government farms and efficient farmers will produce the certified seeds. Mini-kits on sugarcane will be distributed through the farmenrs for seed breeding. Seeds will be tested in the farms and distributed accordingly. Private sector will be encouraged to supply improved seeds by providing seed inspection and certification through seed processing the development services under seed development programme
- f. Due to lack of proper attention in improving rattoons, productibity is dwindling and so publicity and promotion will be carried out for improving the ratoon crop. Also emphasis will be given to increase farm production by inter-cropping of mustard seed, poratoes, maize, etc. with sugarcane.
- g. Programmes for coordinating the sugar industries will be implement without affecting the marketing of sugarcane production.
- h. Monitoring, evaluation and incentive measures for the sugarcane crops will be carried out as in the case of other crops according to necessity.

Annual production targets of sugarcane according to the sugarcane production programme during the Seventh Plan period is presented in the Table 24.25

TABLE 24.21
Production target of Pulses in the Seventh Plan
Area-in hectares
Production -in metric tons
Productivity - in metric tons per hectare

Particulars	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Total						
Area	21000	22,000	23,500	25,000	26,00	28,000
Production	500,000	546,520	597,674	633,000	722,465	801,100
Productivity	23.81	24.84	25.43	26.52	27.26	28.60
Priority Areas						
Area	17,740	18,500	19,500	21,000	22,000	23,000
Production	439,000	481,000	526,000	588,000	638,000	705,000
Productivity	24.74	26.00	27.00	28.00	29.00	30.70
Other Areas						
Area	3,260	3,500	3,800	4,000	4,500	5,000
Production	61,000	65,520	71,174	75,000	84,465	95,000
Productivity	18.71	18.72	18.73	18.75	18.77	19.00

Cotton Production Programme

Attaining self-sufficiency in production of cotton, an important surce for the production of clothings as one of the most basic and essential goods, is very necessary. Programme for the production of cotton has been so designed in the Seventh Plan that Hetauda Textile Factory, other factories adn small cloth processing units will be self sufficient and will not have to depend upon the import of cotton. In the plan period, base year area of 1,100 hectares and production of 1,600 metric ton will be raised to 10,000 hectare and 15,000 metric tons, respectively.

The following steps will be taken to produce cotton of fulfil the proposed production target in the Seventh Plan:-

- A. Cotton production programme will be implemented in two ways by dividing the cotton area into organised cotton development farms and other farms, Cotton development project will cultivate cotton in 1,000 hectares of its own farm and in 9,000 hectares through publicity and extension service in Banke, Bardia, Dang, Surkhet Navalparasi, Kapilvastu, Rupandehi, Kailali and Kanchanpure.
- B. Cotton development committee will be made active for implementing the cotton development programme in a special manner.
- C. Cotton seed, insecticides, technical services required for cotton cultivation will be freely distributed through cotton development committee.
- D. Cotton produced under cotton production program will be purchased from the farmers by paying them a remunerative price and a processing plant will be established for processing the cotton thus purchased for supply to the industries.
- E. If the seeds produced from the cotton processing is more than required for cotton farming the surplus will be sold with the cooperation of the vegetable ghee industry.
- F. Cotton development committee will establish nucleus farms for the extension the promotion of cotton production programme. Publicity and extension, training and distribution of production inputs and technical services will be effectively provided to the districts under the catchment area of the nucleus farms.
- g. Monitoring, evaluation and incentive measures for cotton production programmes will be implemented as for other agriculture programmes.

Annual production target of the cotton to be produced during the Seventh plan is presented in the Table 24.26

Table 24.26
Production Target of Cotton in the Seventh Plan

Fiscal year	Area of proposed cotton cultivation in hectares	production in metric tons
1984/85	1,100	1,600

1985/86	2,500	3,700
1986/87	3,500	5,000
1987/88	5,500	8,000
1988/89	8,500	12,000
1989/90	10,000	15,000

Tea Production Programme

Tea has a very important place in the beverage family. The situation of importing tea exists because indigenous tea production meets only 40% of the per capita consumption of 135 gm. in view of the feasibility of producing tea indigenously, tea farming will be encouraged in a large area to reduce dependence on import and become gradually self-sufficient. For increasing the earning and employment of the small farmers through the development of tea plantation, target is fixed to increase the self dependence by raising the share of indigenous tea to 60% of the per capita consumption in the Seventh Plan.

The target, base year production of 900 metric tons, will be raised to 1,599 metric tons in the Seventh Plan. Base year tea plantation area of 2,054 hectares will be raised to 5,427 hectares including the private sector plantation. Thus there will be an increase of 75.33% in production and 164% in the area under tea. \

The following steps will be taken to produce tea to fulfil the proposed production target in the Seventh Plan:-

- a. Tea production programme will be classified into special and general programmes. Special production programme will be carried out by tea Development corporation, and the general production programme will be implemented at the farmer level and by the private tea planters. Available resources and means will be supplied on priority basis. Small farmer tea development programme under the supervision of Tea Development Corporation also will be implemented under special programme.
- b. Production of tea will be increased expanding tea plantation in feasible areas and naked hills of the eastern development region under the guidance of the tea Development Corporation. This Corporation should be strengthened as a responsible organisation for providing technical services for expansion of tea plantation. Tea development Corporation will play the pioneering role in guiding the private sector for tea plantation around Kathmandu valley and feasible naked hills in the Central development region. It should provide the necessary technical services in addition to the declared programmes in the tea plantation areas of the eastern development region. Under this programme, farmer will be encouraged to have tea plantation in 2,000 hectares. If necessary, the Ministry of Forests will make available naked hills of the forest area for this programme.
- c. Tea development Corporation will be made more active in mobilisation of modern technical services for tea plantation for increasing the production capacity of the existing tea gardens. Tea Development corporation will provide necessary assistance in providing training programmes and technical services for encouraging tea plantation at the farmers' level and increasing production and productivity of the private tea gardens.
- d. Production inputs like chemical fertilisers, agricultural, credit, soil analysis and crop protection service will be provided on the spot through the nearest service centre on the supervision of production teams of increasing production and productivity of tea.
- e. Tea Development corporation will supply through its own nursery farm new plants for replacing the dead plants, old plants and those required for the new plantation. The corporation will supply plants to small farmers and other farmers of the declared areas to encourage tea plantation. Technical services will be provided through the corporation to the private tea gardens for developing nurseries for producing plants.
- f. Necessary facilities will be provided to transport the green tea leaves produced by small units to the nearest factories. Tea development programme will plant trees of short maturity period within its command areas for fulfilling fuel requirements for tea processing.
- g. Emphasis will be given to stabilise prices by supporting tea in a regular manner for increasing the consumption of indigenously produced tea by selling in small packets and wholesale auctioning system.
- h. Special emphasis will be given to the production of exportable tea, bearing in mind the feasibility of producing high quality exportable tea, fetching high value in hilly region.
- i. Tea Development will undertake necessary steps to recommend for exemption from land limits, income and other facilities and preparation of tea plantation schemes including necessary recommendations for loans for attracting the farmers to tea plantation.
- j. In view of increasing production and productivity of tea and for carrying out the research activities regularly for increasing the quality of tea. Tea Development Corporation will implement the research programme with the approval of the Agricultural Research Coordination Committee.

- k. Monitoring, evaluation and incentive measures and other programmes will be implemented to make the tea development programme effective. Special attention will be given to organize competition among tea gardens for developing small farmers tea plantation and prizes will be distributed to the best gardens. Similarly, excellent farmers will be rewarded.

Annual production targets of tea according to the tea development programme in the seventh plan is presented in the Table 24.27 and Table 24.28

Table 24.27
Production target of tea in the seventh plan

Fiscal year	corporation production in metric tons	Private sector production in metric tons	Total in metric tons
1984/85	320	580	900
1985/86	368	680	1,048
1986/87	423	735	1,158
1987/88	486	794	1,280
1988/89	560	857	1,417
1989/90	643	926	1,569

Table 24.28
Area to be covered by Tea Plantation in the Seventh plan

Fiscal Year	Corporation plantation (hectare)	Expansion at the farmer level* (hectare)	Private sector plantation (hectare)	Total area (hectare)
1984/85	840	-	1,214	2,045
1985/86	882	-	1,242	2,124
1986/87	1,060	500	1,313	2,873
1987/88	1,229	1,000	1,429	3,658
1988/89	1,435	1,500	1,562	4,497
1989/90	1,692	2,000	1,735	6,427

*Areas of tea plantation in declared tea plantation area of Koshi and Mechi and some hilly districts of the central development region.

Coffee production programme

Coffee has a second place next to tea in the beverage family. With the increase in the consumption of coffee in the urban area import quantity has been increasing. Expansion of area under coffee has been found feasible from the studies conducted in the previous plan. Emphasis will be given to produce marketable coffee by processing coffee seeds, increase demand of coffee by developing coffee cultivation in the feasible areas by paying good prices and special emphasis will be given to increase earning and employment opportunities to farmers.

In the seventh plan existing production of 19 metric tons of coffee seed will be increased to 46 metric tons. Base year area of coffee farm of 61 hectars will be increased to 151 hectares.

The following steps will be taken to produce coffee to fulfil the proposed production target in the seventh plan.

- Production resources and means will be mobilized in implementing the coffee plantation as special programme.
- At this moment, coffee farming is concentrated in Gulmi so far but will be extended to Palpa and Arghakhanchi during the plan period. Greater emphasis will be given in the expansion of coffee farming in a commercial scale.
- Production inputs like chemical fertilizer seeds, agricultural loans and different technical services will be provided through the nearest service center under the supervision of district production team.
- Coffee plants produced by the private nurseries under proper technical supervision will be marketed.
- Studies as approved by research coordination committee will be carried out for increasing production and productivity.

- f. Private sector will be made more active for coffee processing and organising market by installing roaster and grinder for coffee seeds thus produced. Necessary technical services will be provided by the food processing programme.
- g. Additional arrangements will be made to develop necessary manpower commensurate with the intensity of the coffee programme. Basic training of workers and farmers, who will be associated with the programme, will be conducted according to approved training programme through the training centres. Planting techniques, increase production and productivity by use of fertilisers and water and ploughing, on-the-spot seasonal training will be conducted at agriculture farm at Palpa and through service centres under the supervision of concerned agriculture branch
- h. Monitoring, evaluation and incentive measures for coffee production programme will be implemented as for other agriculture programmes.

Annual production target of the coffee production during the Seventh Plan is presented in the Table 24.29 .

Silk production programme

Sericulture helps increase the earnings and employment opportunities of the people of the hilly regions in particular and mulberry gardens are necessary for breeding of silk worms because these gardens can help the geo-environment in the hilly region from long term consideration and hence it is essential to develop sericulture in the feasible areas. Mulberry farming has been possible in 146 hectares of land by attracting farmers so far, the target is fixed to expand the farming to 811 hectares and produce 87 metric tons of raw silk.

The following steps will be taken to produce silk according to this programme to fulfil the production targets in the Seventh Plan:-

- a. Sericulture programme will be implemented as a special programme in the following manner:-
- (i) it will be the responsibility of the entomology section branch to produce silk according to the target fixed.

TABLE 24.29
Production target of coffee in the
Seventh plan
AREA - IN HECTARES
PRODUCTION - IN METRIC TONS

	Gulmi		Palpa		Arghakhanchi		Area	Total Producti on
	Area	Producti on	Area	Producti on	Area	Produc tion		
Situation as of 1984/85	57	19	2	-	2	-	61	19
1985/86	67	20	6	-	6	-	69	20
1986/87	77	25	10	-	10	-	97	25
1987/88	87	30	14	1	14	1	115	32
1988/89	97	35	18	2	18	2	133	39
1989/90	107	40	22	3	22	3	151	46
In the Plan period								
Increase	50	21	20	5	20	5	90	27
Percent	87.70	110.50	1000.00		1000.00		147.00	142.00

- (ii) standing mulberry plants and new plants will be properly maintained with the use of fertilisers, water and proper ploughing.
- (iii) Constant studies and follow-up will be expanded in the feasible new areas.
- (iv) Plantation of mulberry saplings will be expanded in the feasible new areas.
- (v) available resources and means will be mobilised by giving proper priority.
- (vi) responsible institutions and persons will be assigned for necessary improvement in the management of programme implementation.
- b. Production inputs and services will be made available to the fixed programme area through the nearest service centre under the supervision of the proposed production group in the district. Constant follow-up of the programme will be effected by providing specialists or technical assistants according to the weight of the programme in the district where sericulture farming will be carried out. If production group carries out the evaluation and monitoring of the programme at the district level, entomology section will carry out the evaluation and monitoring at the central level.

- c. Silk worm eggs required for the sericulture farming will be provided to the farmer by this programme. The parent mulberry plants will be provided by the programme and plant meant for distribution will be produced by selecting the farmers and through them the plants will be marketed.
- d. Commercial silk worm project will organise the market around the vicinity of the project site and in other areas reeling unit in the cottage scale will be developed with the cooperation of farmers and through them market will be organised.
- e. Competition of silk production will be organised in the districts where silk is produced and the best farmers will be rewarded.

Annual production target of silk cocoon by expanding the sericulture farming under the silk production programme in the Seventh Plan is presented in the Table 24.30

TABLE 24.30
Target of Silk Production and area
Expansion in the seventh Plan

Fiscal year	Production				Area - in hectares Production - in metric tons		
	high quality silk	low quality silk	AD silk	Total	AD silk	Other silk	Total
1984/85	—	—	—	—	—	146	146
1985/86	2.50	0.70	0.05	3.25	22	246	268
1986/87	7.00	2.00	0.30	9.30	44	381	425
1987/88	11.00	4.00	0.70	15.70	66	547	613
1988/89	16.00	6.00	1.20	23.20	88	638	726
1989/90	25.00	9.00	2.00	36.00	110	701	811
Total	61.50	11.70	4.25	87.45			

Honey Production programme

Since bee keeping business also supports increasing the source of the farmer, special programmes which support the bee keeping in Morang, Bhojpur, Dolkha, Dhading and Rolpa under the supervision, coordination and administration of entomology branch will be implemented. Thus 28.00 metric tons of pure honey will be produced from the programme areas in the plan period. 1,400 bee hives will be distributed for producing 3,000 bee colonies for marketing. Requirements such as credit facilities, publicity services and training programmes will be provided through the production teams of the districts. In addition to this bee keeping will be made a part of the orchard in order to execute experimental farms to demonstrate the integrated farming of fruits and bee keeping.

Mushroom production Programme

It is necessary to develop mushroom farming as a cash crop because it helps the small farmers increase their income. In the Seventh Plan base year production of about 75 metric tons of mushroom will be raised to 300 metric tons per year.

The following programmes will be implemented to fulfil the target of mushroom production during the Seventh Plan.

- a. From the consideration of market, mushroom production programme will be implemented as a special programme in the specified area only by assigning top priority to Kathmandu, Lalitpur, Bhaktapur, Kaski and Sunsari.
- b. Maximum number of farmers will be associated by providing publicity and disseminating improved farming techniques, improved seeds, and training in coordination with the district production team about the possibility of increasing earnings from a small investment in a short time from mushroom farming at home. One contact J. T.A. will be deputed to the district where the programme is executed.
- c. Necessary support facilities will be provided to market the mushroom thus produced and know-how on preservation techniques of processed mushroom will be provided.
- d. Necessary techniques for improving the quality and productivity of mushroom will be developed.

Tobacco Production Programme

Tobacco crop is very important for import substitution and foreign exchange earning through the export of high quality tobacco and for increasing the opportunities for earnings and employment. From the studies and research activities for improving the quality of tobacco, techniques will be developed and the target of raising the

base year productivity of 0.76 metric tons per hectare to 0.82 metric tons per hectare has been fixed. Under the special programme, productivity of 0.77 metric tons per hectare will be raised to 0.91 metric tons per hectare.

Target of producing 1,500 kg. of fluecured improved tobacco and seeds 600 kg. of suncured improved tobacco seeds has been fixed during the plan period through the Tobacco Development committee. The seed breeding will increase by 500% as compared to that of the first year of the plan. Techniques developed for the improvement of tobacco farming through research will be transferred to the farmers through publicity and extension training, supervision and soil analysis services. Studies and research activities will be carried out only on the approval of agriculture research coordination Committee.

Technical services and agriculture implements required for the proposed programme will be provided through the nearest service centres under the supervision of the district production team. Studies, research, publicity and extension, necessary manpower for training programme and physical infrastructure will be organised according to necessity. Thus the target is fixed for producing tobacco by providing extension services in an intensive manner under tobacco development programme. This programme will be implemented in Sarlahi, Mahotari, Dhanusha and Siraha as a special programme. In other areas, services will be provided under district agriculture programme according to necessity.

Annual production target of tobacco to be produced under the tobacco production programme in the Seventh Plan is presented in the Table 24.31.

TABLE 24.31
Production Target Of Tobacco In The Seventh Plan

	Area - in hectare		Production-in metric tons			
	Productivity - in metric tons per hectare					
	1984/85	1985/86	1986/87	1987/88	1988/89	1998/90
Special Programme						
Area	3,300	3,395	3,492	3,591	3,695	3,800
Production	2,540	2,703	2,876	3,060	3,256	3,465
Productivity	0.77	0.80	0.82	0.85	0.88	0.91
Normal Programme						
Area	5,600	5,715	5,833	5,953	6,075	7,200
Production	4,220	4,325	4,433	4,544	4,658	4,774
Productivity	0.77	0.76	0.76	0.76	0.77	0.77
Total						
Area	8,900	9,110	9,325	9,544	9,700	10,000
Production	6,760	7,033	7,309	7,604	7,914	8,239
Productivity	0.76	0.77	0.78	0.80	0.81	.82

Spices Production Programme

With the increase in daily consumption of spices the quantity of import has been increasing. Special emphasis should be given to the development of spices cultivation in order to increase farmers earnings. There is enough room for increasing the opportunities for earnings and employment for the small farmers by increasing their production and there are more items of low weight and high value products in the spice family. In view of the fact the production of cardamom, ginger, turmeric, garlic and Dhania must be increased to attain self sufficiency and generate exportable surplus during the Seventh Plan. Studies and research activities have not been carried out for improving techniques for spice crops like ginger, Turmeric, garlic, chilly, jeera, dhania cardamom. Under this programme 2,000 metric tons of cardamom, 40,000 metric tons of ginger, 4,000 metric tons of chilly and 17 metric tons of jeera will be produced.

To fulfil the proposed production target, the programme will be implemented in the following manner:-

- Emphasis will be given to the production of ginger in Bhaktapur Palpa, Syangja, Tanahun, Kaski, Salyan, etc among the important spices. Programme will be implemented by giving priority to cultivation of cardamom in Ilam, Raptahijung, Panchthar, Dhankuta, Thehrathu, Bhojpur and of jeera in Dhading. Emphasis will be given to Chilly production programme in Jhapa, Siraha, Saptari, Sarlahi Mahotari, Chitwan, Kathmandu, Bhaktapur and Lalpur to generate exportable surplus. Production programme of garlic and dhania will be implemented by giving special emphasis in the areas under vegetable production under special programme.
- Production inputs and other facilities will be provided to this programme in the form of a special programme through the nearest service centre under the supervision of the district production teams.
- Marketing of selected improved seeds will be done by the farmers under technical supervision by encouraging them to produce the required seed. But, in case of Jeera, seeds will be imported and cultivation will be encouraged in the specific areas only for which seed will be marketed by the spices crop programme.

- d. Necessary services and facilities will be made available to deliver the spices produced by the production groups established for the marketing of those spices to the urban areas through the market development programme. Increase of export in collaboration with Trade promotion Centre will be emphasised after attaining self sufficiency in the production of dhania, garlic ginger, dried ginger, turmeric, cardamom, by developing the techniques for export, production and processing and by improving existing publicity and extension service, training programmes. Special emphasis will be given to produce green chilly for self sufficiency and for substitution of increasing import of green chilly. Production programme will be implemented for increasing export of the dried chilly.
- e. For promotion of exports and substitution of imports production programme for small cardamom, tejpat, dalchini, timbur will be started on experimental scale. Production programme for the production of special Jeera in Karnali Zone will be implemented on experimental scale if found feasible after the studies. Programme will be implemented to provide services by the spice production programme for production of saffron in the Jumala orchard. Studies will be conducted to increase production of the major crops mentioned above and bases will be developed for increasing the number of exportable commodities.
- f. spice production programme will be implemented as a separate project under vegetable development programme and it will be responsible to increase production of feasible spice crop through research, studies, testing and improving quality level.

Fruit Production programme

Because of factors like increase in population, change in food habit of the people and increase of tourist inflow, demand for fruits is increasing. To improve the nutrition situation of the people by increasing the consumption of fruits in general and of the urban areas in particular, the target is fixed that base year 1984, 1,000 metric tons in the final year of the seventh Plan with the aim of attaining self sufficiency by import substitution of apple, citrus fruits, bananas, pineapple, mangoes, etc. which are at present imported to the urban areas. Thus addition of 119,000 metric tons of fruits means a growth of 34% in production during the plan period. The major physical targets are presented in the Table 24.32.

TABLE 24.32
Production Target of Fruits in the Seventh Plan

particulars	Unit	Situation upto 1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	
Citrus family								
Area	hectare	7,857	8,947	10,037	11,127	12,217	13,307	5,
Area covered by productive plants	hectare	5,000	6,364	6,541	6,718	6,895	7,136	2,
Productivity	m.ton/hectare	9.02	9.42	9.82	10.22	10.62	11.02	2
Production	m.ton	45,100	59,949	64,132	68,658	73,224	78,639	33
	hectare	43,319	44,622	45,917	46,216	48,515	49,819	6,
area covered by productive plants	hectare	23426	24,193	25,004	25,879	26,800	27,796	4,
Productivity	m.ton/hectare	12,72	12,94	13.16	13.18	13.59	13.78	1
Production	m.ton	298,104	303,831	329,104	346,104	364,104	383,104	85
Total area	hectare	51,176	53,569	55,954	58,343	60,732	63,126	11
Total production	m. ton	343,204	363,780	393,236	414,762	437,328	461,743	118
per capita consumption	kg.	20.56	21.77	22.36	23.08	23.60	24.27	3

According to the above production schedule, mangoes, citrus fruits, pears which are being imported to the urban areas will be completely substituted by indigenous production and exportable surplus will be 3,000, 1,500 and 500 metric tons, respectively. Apples, bananas, pineapples and grapes imported to the urban areas will be completely substituted. Base year 1984/85 per capita consumption of fruits of 20.56 kg. will be increased by 18.04% to 24.27 kg. during the Seventh Plan.

Fruit plantation is a long-term business and so new fruit saplings will be planted regularly in order to meet the increasing demand. During the plan period, citrus fruit saplings will be planted in additional 5,450 hectares and other fruits in additional 6,500 hectares making a total additional area of 11,950 hectares. Citrus fruits will cover 13,307 hectares and other fruits 49,819 hectares, making a total 63,126 hectares of fruit plantation.

Production target of fruits and areas of fruit plantation during the seventh plan is presented in the Table 24.33.

The following steps will be taken to fulfil the production target according to fruit development programme:-

- To fulfil the fixed production target, productivity of existing fruit areas (orchards) will be raised and the area and productivity of fruits with a short gestation period will be increased. Keeping in view the increasing trend of fruit consumption in the future, fruit saplings with long gestation period will also be planted. Programmes will be implemented on a wider scale to provide on-the-spot training to the farmers on subjects like pruning of fruit plants, use of fertilizers and water, and treatment of diseases, etc.
- Production programme will be implemented by dividing it into special and general programmes. Available resources and means will be mobilised according to priority. Under special programme, production of fruits will be carried on in the form of a project by setting up production blocks in the areas around urban centres, having road transport facilities where special production is feasible. By selecting feasible pocket areas within these projects, specific fruit production programmes will be implemented as a project. In this context, cultivation of citrus fruit will be carried out as a campaign in the central hilly region. Against the progress of the Sixth Plan additional 69% will be covered by mandarins. Out of this special programme will be implemented in 4,385 hectares in 20 districts. In each of these districts minimum of 38 sample orchards, each of 0.30 hectare, will be established.

TABLE 24.33
Production of different Fruits and Area to be covered in the seventh Plan

Fruits	Situation as of 1984/85		1985/86		1986/87		1987/88	
	Area (Hectare)	Production m. ton	Area (hectare)	Production m. ton	Area (hectare)	Production (m.ton)	Area (Hectare)	Production m.ton
Citrus	7,857	45,100	8,947	59,949	10,037	64,132	11,127	68,
Apple	4,078	48,472	4,378	53,000	4,678	57,633	4,978	61,

Walnut	1,945	3,073	2,030	3,654	2,115	4,272	2,200	4,
Grapes	143	70	173	70	203	154	233	
Mangoes	7,515	54,209	8,025	59,471	8,515	65,055	9,015	69,
Bananes	2,528	11,248	2,603	12,154	2,678	12,506	2,753	13,
Pine apples	805	10,575	850	11,347	895	12,145	940	12,
pears	6,185	76,893	6,235	78,873	6,285	80,88	6,335	81,
Miscellaneous	20,120	93,587	20,334	85,262	20,548	96,451	20,762	103,
Total	51,176	343,204	53,565	363,780	55,954	393,236	58,343	414,

TABVLE 24.33
Production of different Fruits and Area to be covered in the seventh Plan

Fruits	1988/89		1989/90		Net increase in the seventh plan	
	Area (Hectare)	Production m. ton	Area (hectare)	production m. ton	Area (hectare)	Production (m.ton)
Citrus	12,217	73,224	13,307	78,639	5,450	33,539
Apple	5,278	67,295	5,578	72,179	1,500	23,707
Walnut	2,285	5,589	2,370	6,257	425	3,184
Grapes	263	205	293	348	150	301
Mangoes	9,515	76,786	10,015	82,7224	2,500	28,515
Bananes	2,828	15,045	2,903	15,995	375	4,747
Pine apples	985	13,790	1,030	14,615	225	4,040
pears	6,385	84,920	6,435	86,808	250	9,915
Miscellaneous	20,976	100,465	21,195	104,178	1,075	10,591
Total	60,732	437,328	63,126	461,743	11,950	118,539

blished and around such areas sample demonstrations will be encouraged to adopt the improved techniques of farming. Special emphasis will be given to provide technical services to 59 citrus nurseries with view to improving the quality of plants and to train thenursery owners for marketing their products. Incentive awards will be given to orchard owners and nursery owners for every orchard having an area of one hectare for growing 2 year plants as a a basis for providing support to citrus orchards. This sort of reward will be given to the orchards having an area of 1 hectare and above periodic rewards will be given to the sduccesful farmers for developing excellence by organsing competition among such orchards within each production programme. Skilled mapower will be developed by making technical assistants and technical officers specialists in the field of cirtus fruits only keep in mind the long range feasibility of citrus fruits. On the basis of feasible development and market demand, special programme will be implemented by determining pocket areas for producing fruits such as apple, mango, bananas, pine apples, walnut and grapes on a priority basis which will not only promote export but also substitute import.

- c. production inputs such as fruit saplings, fertilizers, chemicals, agriculture credit and technical services will be provided according to the priority through the nearest service centre in coordination with the proposed production team in the district for increasing production and productivity in the districts.
- d. Training on the spot will be organised and at the training centres for developing skills in a systematic way for the various seasonal activities and in using improved techniques on a wider scale with the aim of increasing the average yield of the orchards by improving quantitative and qualitative aspects of fruits produced.
- e. orchards which are judged excellent will be awarded by organising orchard competition once a year at the level of service centre and in district where special porgramme is implemented. With the aim of managing the orchards properly for increasing production and productivity by improving existing orchards, improved techniques, know how and skills will be imparted to the farmers as fast as possible, under the extension programme for fruits cultivation agriculture inputs and technical services will be provided free of charges under sample demonstration programme to enhance the morale of farmers.
- f. Manpower will be developed at the level of Zone and district to implement in publicity programme of fruit cultivation. Steps will be takern to make available the services of agriculture assistants in order to fulfil the shortage of manpower with the aim of increasing the effectiveness of the field level publicity programmes.
- g. For commercial fruit cultivation facilities such as supply of saplings at concessional rates, orchard implements, exemption from land ceilings exemption of income tax, concession in land tax will be

made available to the farmers. For the specified fruits only exemption from land ceilings will be 5 hectares in the terai. This facility will be given to the orchards in the hills whose size is 5 ropani minimum.

- h. With the aim of solving production problems necessary infrastructure will be developed for implementing studies and research programmes.
- i. Collecting centres at the production areas and retail outlets at the urban areas will be started for marketing the fruits thus produced. Producers association will be established at each production area for transporting the fruits. cold storage plants will be established in the private sector at the major production areas and urban areas.
- j. With the aim of supplying the processed fruits in the major urban areas and their suburbs private sector will be encouraged to establish fruit processing industries by providing them technical services and agriculture loans. Development and expansion activities for fruit processing techniques will be given special support for such processing industries.
- k. Fruit produced in feasible areas in the hills will be supplied to terai urban areas and surplus food grains of the Terai will be supplied to the hills, thus facilitating two way movement of goods and hill-Terai economic integration.
The fruit development programme will be implemented in the following manner according to the guideline given above.

Commercial Orchard Development Programme

- (i) As two third of the country is covered by hills and mountains, altitude face, geological situation and other ecological factors greatly determine the variation in climate in a small area; though technical feasibility exists for developing fruits, feasibility on the basis of transport facilities and speciality of a particular area determine the nature of the fruit production.

Production programme of specific fruits will be implemented within the project in the specified areas as mentioned under special programme for the sake of increasing production a commercial scale. Orange production programme will be emphasized and will be cultivated in 2,500 hectares in Sindhuli and Ramechhap. For implementation of the special programme specific fruits will be determined according to the priority areas which is presented in the table 24.34.

TABLE 24.34
Commercial Fruit Development
Areas in the Seventh Plan

Fruit	Additional	Priority area
a. Citrus fruits	4385	Dhankuta, Bhojpur, Tehrathum, sankhuwasabha, Panchthar, Ilam, sindhuli, remechhap, dhading, Kaverpaloanchok, gorkha, Lamjung, Tanahaun, Syangja, Kaski, palpa Gulmoi, Dailekh, Salyan and Dadeldhura.
b. others	3850	
1. Apple	1105	solukhumbu, sindhupalchol, Rasuwa, Mustang, Jumla, Kalikot, dolpa, Rukum doti Baitadi and darchula.
2. bananas	200	Kavrepalanchok, Dhading, Nuwakot, Sarlahi, Dhanusha, Mahotari, Chitwan
3. Pine apple	150	Dhading, Nuwakot, Sarlahi, chitwan.
4. Mangoew	1,910	bara, Parsa, Rauthat, Sarlahi, Mahotari, Dhanusha, Susari, siraha, Saptari, chitwan, Kapilvastu, Nawalparasi, rupandehi, surkhet and dang
5. Walunt	210	Jumla, Kalikot, Bajhang, Darchula, baitadi, Dolpa and rukum
6. Pears	125	Dhankuta bhaktapur, Lalitpur Kavrepalanchok, dhading, makawanpur, Sandhupalchok, Nuwakot, rasuwa, and Palpa.
7. grapes	150	Banke, Bardia, Manang, Mustang.
	8,235	

Increasing the productivity of the orchards and development and expansion of commercial orchards will be effected under the special programme. Technical services, agriculture inputs and credit will be provided in package form. Priority will be given to establish orchards of commercial scale within 20 km. radius from the highways, urban areas and district headquarter.

The definition of commercial orchards is that it is a plot or land or combined orchards which contains minimum of 0.10 to 0.50 hectare of madarine, apple and pears, 0.10 hectare of walnut, pine apple 0.25 hectare mangoes and 0.50 hectare bananas.

General Fruit Development programme

Under general programme technical services and agriculture inputs will be made available to farmers in a general manner. Under this programme to meet the demand for fruit saplings for production of fruits for domestic consumption or for making residential atmosphere natural or pleasant, fruit saplings will be supplied to the interested farmers. To attract the farmers for planting in kitchen gardens towards the increase of production, competition of kitchen garden fruit development at the district level will be held.

target for increase in area and production of fruits according to the production programme under commercial and general programme during the Seventh Plan is presented in the Table 24.35

TABLE 24.35
Target of Area to be Coverd and Production of fruits in the Seventh Plan
(according to development Regions and Geographical Sub-Region)
Production -in metric tons
Area -n hectares

	Eastern				Central			
	Higher Hill	Hills	Terai	Total	Higher	Hills	Terai	Total
Situation as of 1984/85								
Area	1,709	5,379	3,351	10,439	2,706	7,6,21	7,576	17,093
Production	11,4,62	36,073	22,488	70,023	18,146	51,107	10,804	1,20,057
1985/86								
Additional area								
Special	42	93	100	235	30	555	258	843
Normal	18	83	55	156	56	114	29	199
Sub-total	60	176	155	391	86	669	287	1,042
Grand total	1,769	5,555	3,506	10,830	2,792	8,290	7,863	18,945
Production	12,087	34,417	23,550	73,054	18,850	56,016	53,483	128,349
1986/87								
Additional area								
Special	42	93	100	235	30	555	258	843
Normal	18	83	55	156	56	114	29	199
Sub-total	60	176	155	391	86	669	287	1,042
Grand total	1,829	5,731	3,631	11,221	2,878	8,959	8,150	19,987
Production	12,988	40,722	25,997	79,707	20,437	59,499	57,873	137,809
1987/88								
Additional area								
Special	42	93	100	235	30	555	258	843
Normal	18	83	55	156	56	114	29	199
Sub-total	60	176	155	391	86	669	287	1,042
Grand total	1,889	5,907	3,816	11,612	2,964	9,628	8,437	21,029
Production	13,634	42,564	27,541	83,739	21,391	63,206	60,890	145,487
1988/89								
Additional area								
Special	42	93	10	235	30	555	258	843
Normal	18	83	55	156	56	114	29	199
Sub-total	60	167	155	391	86	669	287	1,042
Grand total	1,949	6,083	3,971	12,003	3,050	10,297	8,724	2,071
Production	14,307	4n,666	2,115	89,124	12,381	67,074	64,043	14,508
1989/90								
Additional area								
Special	42	93	1000	235	30	550	258	838
Normal	18	84	55	157	56	122	29	207
Sub-total	60	177	155	392	86	672	287\$	1,045
Grand total	2,009	6,260	4,126	12,395	3,136	10,969	9,011	23,116
Production	15,026	46,750	30,864	92,640	23,558	7,683	67,402	162,643

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	Western				Mid-western			
	Higher Hill	Hills	Terai	Total	Higher	Hills	Terai	Total
Situation as of 1984/85								
Area	1,111	7,249	2,138	10,498	2,422	3,191	1,958	7,571
Production	7,450	48,612	14,337	70,399	16,242	21,390	13,130	50,771
1985/86								
Additional area								
Special	30	102	20	152	82	129	37	248
Normal	10	152	55	217	17	81	30	108
Sub-total	40	254	75	369	99	190	67	356
Grand total	1,151	7,503	2,213	10,867	2,521	3,381	2,025	7,927
Production	7,759	50,536	14,995	73,290	17,052	22,874	14,179	54,105
1986/87								
Additional area								
Special	30	102	20	152	82	129	37	248
Normal	10	152	55	217	17	61	30	108
Sub-total	40	254	75	397	99	190	67	356
Grand total	1,191	7,757	2,288	11,236	2,620	3,571	2,092	8,283
Production	8,457	55,082	16,247	79,786	18,605	25,357	14,855	58,817
1987/88								
Additional area								
Special	30	102	20	152	82	129	37	248
Normal	10	152	55	217	17	61	30	108
Sub-total	50	254	75	369	99	190	67	356
Grand total	1,231	8,011	2,363	11,605	2,719	3,761	2,159	8,631
Production	8,884	57,815	17,054	83,753	19,623	27,188	15,51	72,392
1988/89								
Additional area								
Special	30	102	20	152	82	129	37	248
Normal	10	152	55	217	17	61	30	108
Sub-total	40	254	75	369	99	190	67	357
Grand total	1,311	8,520	2,513	12,344	2,917	4,141	2,293	9,135
Production	9,806	63,730	18,797	92,333	21,818	30,975	17,152	69,945

	Far- western				Grand total			
	Higher Hill	Hills	Terai	Total	Higher hills	Hills	Terai	Total
Situation as of 1984/85								
Area	1,096	2,545	1,124	4,765	9,044	25,985	16,147	51,176
Production	7,350	17,067	7,537	31,954	60,650	174,258	108,297	234,305
1985/86								
Additional area								
Special	40	62	-	102	224	941	415	1,580
Normal	26	65	38	129	127	475	207	809
Sub-total	66	127	38	231	351	1,416	622	2,389
Grand total	1,162	2,672	1,162	4,996	9,395	26,471	16,069	53,565
Production	8,136	18,709	8,137	34,982	65,784	187,852	11,741	363,780
1986/87								
Additional area								
Special	40	62	-	102	224	941	415	1,580
Normal	26	65	38	129	127	475	207	809

Sub-total	66	127	38	231	351	1,416	622	2,389
Grand total	1,228	2,799	1,200	5,227	9,746	28,817	17,391	55,954
Production	8,720	19,876	8,521	37,117	69,207	200,539	123,494	393,236
1987/88								
Additional area								
Special	40	62	-	102	224	941	415	1,580
Normal	26	65	38	129	127	475	207	809
Sub-total	66	127	38	231	351	1,416	622	2,389
Grand total	1,294	2,926	1,238	5,458	19,097	30,233	18,013	58,343
Production	9,339	21,117	8,935	39,391	72,871	211,890	130,001	414,762
1988/89								
Additional area								
Special	40	62	-	102	224	941	415	1,560
Normal	26	65	38	129	127	475	207	809
Sub-total	66	127	38	231	351	1,416	622	2,389
Grand total	1,360	3,053	1,276	5,689	10,448	31,649	18,635	60,732
Production	9,984	22,412	9,361	41,763	76,699	223,830	136,799	437,328
1989/90								
Additional area								
Special	40	62	-	102	224	941	415	1,580
Normal	26	65	38	129	127	475	207	890
Sub-total	66	127	38	231	351	1,416	622	138
Grand total	1,426	3,180	1,314	5,920	10,799	33,070	1,927	6,336
Production	10,667	23,686	9,829	44,182	80,875	236,824	144,044	461,463

Sapling management

In the area targeted for fruit plantation 6,875,000 saplings are required during the Seventh plan. The objective of supplying the requirement is determined in the manner shown in the Table 24.36

Table 24.36
Target of Distribution of Fruit
Saplings in the Seventh Plan

Fiscal Year	Orchards/Centres	Private nurseries	Total
1985/86	488	887	1,375
1986/87	488	887	1,365
1987/88	488	887	1,375
1988/89	488	887	1,375
1989/90	488	887	1,375
Total	2,440	4,435	6,875

Development and expansion of private nurseries

Since private sector nurseries have to be made more active for the programme of supplying the sapling required for orchards according to the target mentioned above by developing and extending them, 85 private nurseries established during the Sixth Plan will be strengthened and expanded and 17 additional nurseries will be established for the specific fruits at the specified areas making a total of 102 private nurseries during the Seventh Plan. Since the farmers are ignorant about nurseries and their economic importance, the following facilities will be provided for a couple of years for encouraging them to establish private nurseries-

- orchards or centres will supply the seedlings required for the nursery.
- training will be given to nursery owners for supporting nursery development.
- effective follow-up will be carried out for providing regular technical services.
- to take the responsibility for the consumption of private fruit sapling by coordinating it with the programme.

Fertilizers Management

Emphasis will be given not only to compost fertilizer for increasing the production of orchards but also arrangement will be made to supply chemical fertilizer to the pocket which can be justified from transport,

market and other considerations. The ratio of Nitrogen, Phosphorous and Potash for the fruit areas during the Sixth Plan was estimated at 0.023, 0.014 and 0.071 metric tons per hectare and for areas where fruits will be cultivated in the Seventh Plan at 0.099, 0.006 and 0.0031 metric tons per hectare respectively. These fertilizer will be supplied through Agriculture Inputs Corporation. Compost fertilizer will be made available at the farmer level. Thus the requirement of chemical fertilizer will be 10,555 metric tons of Nitrogen, 630 metric tons of Phosphorus and 2,900 metric tons of Potash.

Crop Protection

Crop protection services will be provided to 25% of the total area in the districts where fruit production special programme is executed in association with district agriculture section, orchards, and fruit development section through different district level crop protection units keeping in mind the fact that disease and pests constitute the main factor which affect the growth of productivity adversely in the orchards. This service will be provide with special emphasis to the areas where productive plants are growing.

Agriculture Credit

Under special programme a package containing 4 types of loans i.e.(1) production loan for meeting the expenses incurred in the plantation of sapling the their maintenance, (2) market loan for meeting expenses of marketing of fruits, (3) storage loan for meeting the storage expenses for storing the fruits and (4) consumers loan for meeting the income gap of the farmers until the plants reach the productive stage, will be made available to the farmers who are engaged in commercial fruits cultivation.

Publicity and Training

Technical services, agriculture inputs, credit and extension services will be made available to the farmers for fruit cultivation through service centres under district level programme in a package farm. The farm centres will be held responsible for making available technical services within their catchment area. Training and supervisory programmes will be implemented in the training centres according to service oriented programmes. On-the-spot seasonal practical training will be given.

Fruit Crop Research and Techniques Development

Among the orchards/centres established the country, National Citrus Fruits Development Centre of Dhankuta and orchards of Pokhara will be classified as Citrus orchards, large orchards of Sarlahi as Evergreen Fruits orchard and fruit research centre of Kirtipur, orchards of Jumla and Marpha as Deciduous Fruits orchards. They will be developed and expanded as main research centres for those respective fruits and research activities will be carried out as approved by agriculture research coordination committee. In this research programme studies will be made for trail saffron farming in the orchards of Jumla.

Running of Orchards/Centres

These orchards/centres will be run with the sole objective of fulfilling the targets set in the Plant to have these orchards/centres direct influence on fruit production programme. Orchards will not only produce the saplings required for fruit production programmes but also implement fruit production service programme in addition to practical training within their catchment area. Technical services will be made available through the district level production teams to the indicated districts within the catchment area of the orchards run under fruit production service prp-programme.

Marketing and Storage

For properly organizing the market for the fruit thus produced in line with the market development programme, collection centres in the production areas and sales depots at major urban areas like Kathmandu, Biratnagar, Janakapur, Pokhara, Bhairawa, Nepalgunj, etc. will be established in a coordinated manner. Necessary logistic support will be given to organize producers association in each production centre to help transport the fruits to the sales depots.

Encouragement will be given to establish cold storage plants in the private sector in the sales depots in the urban areas to supply the fruits in a organized manner and regularly.

Fruit Processing Industry

The importance of fruit processing and preservation industry in greater in the hilly areas, where fresh fruits produced cannot be transported to the sales depots due to lack of roads and transport facilities. In the pocket areas where production exceeds consumption and fresh fruits are not sold, establishment of fruit preservation industry is still more necessary. Private sector will be encouraged to establish dehydrating plant, juice extracting plant and semi-processing plant in Solukhumbu, Dhankuta, Helambu, Sindhuli, Mustang, Jumla, Baitadi, etc in the Seventh Plan by providing them the necessary services. In areas like Sindhuli, Janakpur, Sarlahi, Dharan, Biratnagar, Kathmandu and Pokhara where production exceeds consumption, one processing industry with capacity of 50 tons in each of the these locations will be established on the basis of feasibility studies. Besides these, small fruit processing units will be established in the orchards Dhankuta, Dailekh, Jumla, Pokhara, Rasuwa, Helambu, Solukhumbu and Baitadi by coordinating with the food research programme and arrangement will be made to give practical training the farmers on fruits preservation and processing.

Survey and Study Programme

Shortage of necessary statistics on fruits has been realized as an important constraint for the development of fruit cultivation in the country. Bearing this in mind, elaborate study programme on the feasibility of development of fruit cultivation in the country will be implemented in coordination with agriculture statistics and market development programme for the study of the existing situation of development of fruit cultivation, study of marketing system of fresh and processed fruits.

Evaluation Monitoring and Encouragement

The system of evaluation, monitoring and incentive for the proposed fruit development project will be similar to that of other programmes.

Vegetables and Potatoes Production Programme

a. Vegetable Production Programme

Green vegetables have important role in increasing the nutritious elements in the daily food intake. Population growth, urbanization and consciousness of people have increased the demand for vegetables and this demand had increased the quantity of imports of the vegetables in particular. In this context, programmes will be so implemented that consumption level of the vegetables by the people in the Seventh Plan will be improved and self sufficiency will be attained whereby requirement of fresh vegetables in the urban areas need no be imported and export of some fresh vegetables can be increases.

In the Seventh Plan, base year productivity of 741,000 metric tons will be increased to 970,000 metric tons and the area of 138,000 hectares will be increased to 140,500 hectares. Thus additional 228,600 metric tons of vegetables will be produced during the plan period and additional 2500 hectares of land will be covered by the vegetable cultivation. The average productivity of vegetables will reach 5.37 metric tons per hectare. The present per capita consumption of 45.50 kg. will increase to 50.90 kg.

For fulfilling the above mentioned production target to programme will be implemented in the following manner.

1. To fulfil the increasing demand in the urban area and to increase the opportunities for increasing employment and income of the farmers' special programme will be implemented around the urban areas and highway by giving priority to vegetable production. The kitchen garden programme will be implemented as a general programme for the local consumption of the heavily populated rural areas. Besides this the traditional small kitchen garden programme will be implemented by providing general services on low priority.
2. Fertilizers, insecticides and agriculture credit required for vegetable development programme will be provided through the service centres under the supervision of the district production team.
3. Vegetable production programme will be implemented by dividing the programme into three level such as special, general and low priority areas. Available resources and means will be mobilized by giving priority accordingly.

b. Special Programme

1. Under special programme vegetable production programme will be implemented in 30 districts with special emphasis. For this, five projects, one eastern, two in central, one in western, one in mid western covering 23 districts in 4,177 hectares and in seven feasible districts Siraha, Chitwan, Tinau, Surkhet, Jumla, Kailali, Doti in 623 hectares special programme will be implemented for producing 72,000 metric ton of vegetable.
2. Opportunities for employment and income will be increased by producing out of season vegetable in specific areas with the consideration of internal and external markets under special programme. Increasing the production of vegetables like Peas, Tomato, Lady Finger, Chilly, Onion, Raddish, Cauliflower, Cabbage, Pod will not only bring self-sufficiency but also increase exports.
3. Productivity of 10 metric tons per hectare will be raised to 15 metric tons under special programme during the plan period. since follow-up is extremely essential in such production project under the special programme, one production officer will be assigned and on the basis of the loan of the programme, additional technical assistants will be provided for making the follow-up more effective. The programme will completely meet the seed requirement for the purpose.

Production under the special programme during the plan period is presented in the Table 24.37

Table 24.37
Area under Special Programme, Estimated
Production and Quantity of Required Seeds

Fiscal year	Area to be covered hectares	Estimated production metric tons	productivity metric tons per hectare	Required seeds Kg.

1984/85	3,200	32,00	101	20,628
1985/86	3,500	38,500	11	32,464
1986/87	3,800	45,600	12	37,073
1987/88	4,125	53,625	13	43,156
1988/89	4,400	61,600	14	44,290
1989/90	4,800	72,000	15	45,296

4. Area to be covered, estimated production and seeds required for implementing the special programme effectively are presented in the Table 24.38

Table 24.38

Area to be covered, Estimated Production
Required Seed Loans

Programme	Fiscal year	Areas to be covered (hectare)	Estimated production (Metric ton)	Required Seed quantity (Kg)	Required loan in thousand
1. Eastern Vegetable Production Project, (Ilam, Saptari, Jhapa, Morang, Sunsari and Dhankuta)	1985/86	680	7,480	8000	Rs. 850
	1986/87	737	8,100	8,200	Rs. 917
	1987/88	780	8,580	8,300	Rs. 977
	1988/89	855	9,405	8,600	Rs. 1,065
	1989/90	945	10,395	9,100	Rs. 1,180
2. Kathmandu and nearby area Vegetable Production Project (Kathmandu, Lalitpur, Bhaktapu, Dhading, kavrepalanchok, Makawanpur and Nuwakot)	1985/86	1,100	12,100	1,200	Rs. 1,375
	1986/87	1,195	14,340	12,000	Rs. 14,95
	1987/88	1,255	16,315	13,000	Rs. 1,565
	1988/89	1,305	8,270	13,800	Rs. 1,630
	1989/90	1,452	21,780	16,300	Rs. 1,810
3. Mid Terai Vegetable Production Project (Sarlahi, Dhanusha, Bara, Parsa and Rautahat)	1985/86	1,025	11,275	8,100	Rs. 1,280
	1986/87	1,090	13,080	8,700	Rs. 1,360
	1987/88	1,135	14,755	8,900	Rs. 1,415
	1988/89	1,180	16,520	9,600	Rs. 1,470
	1989/90	1,270	19,050	9,500	Rs. 1,585
4. Pokhara Valley and siddhartha Rajmarga Vegetable Production Project (Kaski, Syanja, Rupandehi and Palpa)	1985/86	275	3,025	2,700	Rs. 340
	1986/87	305	3,660	3,000	Rs. 385
	1987/88	335	4,355	3,200	Rs. 415
	1988/89	400	5,600	3,500	Rs. 495
	1989/90	385	5,775	3,600	Rs. 480
5. Western Terai Vegetable production Project (Banke)	1985/86	100	1,110	1,400	Rs. 125
	1986/87	105	1,260	1,400	Rs. 130
	1987/88	110	1,430	1,400	Rs. 135
	1988/89	120	1,680	1,400	Rs. 150
	1989/90	125	1,875	1,500	Rs. 155

General Programme

Keeping in mind the demand of local areas except the urban areas programme will be implemented to cultivate vegetables in 24,000 hectares with improved seeds and techniques under the general programme. This will raise the average productivity of 7 metric tons per hectare to 9.50 metric ton per hectare. To support this programme, vegetable seeds will be distributed in composite packets through agriculture programme, Service centres will supply the required fertiliser, seeds, loans and other production services through the district production seeds. Seeds that will be made available along with technical services will be produced at the farmer level. Estimated area under cultivation, production and seed requirement are presented in the Table 24.39

TABLE 24.39

Area to be covered, Estimated
Production and Required seeds
under Normal Programme

Fiscal year	Area to be covered hectare	Estimated Required seeds kg.	required seeds kg.
1984/85	17,8000	124,600	137,283
1985/86	18,998	137,700	155,681
1986/87	20491	151,600	166,729
1987/88	22,000	167,200	187,392

1988/89	23,000	179,400	194,276
1989/90	24,000	192,000	198,496

Low priority Area Programme

Vegetable production under the influence of special and general programmes or by the farmers or by the farmers in their traditional ways for meeting their requirements are included under this programme. Kitchen garden demonstration for agriculture extension and production competition under the regular programme will provide necessary support to this by disseminating improved seed and techniques. Area under vegetable farming and production during the Seventh Plan is presented in the Table 24.40

TABLE 24.40

Fiscal year	Area to be covered (hectares)	Estimated Production (metric tons)
1984/85	117,002	585,000
1985/86	116,000	588,000
1986/87	114,700	592,000
1987/88	113,400	598,000
1988/89	112,600	602,000
1989/90	111,700	606,000

At the regional level, area under vegetable farming and production under special and general programmes are presented in the Table 24.41

Development activities related to seeds, marketing and techniques during the seventh plan will be as follows :-

(i) Vegetable seeds production programme

The following steps will be taken to fulfil the objective of attaining self-sufficiency in improved seeds and stimulating the private sector production, marketing and distribution of improved seeds for increasing vegetable production; -

1. in the orchards and centres 10,00 kg of seeds will be produced every year 80% of this will be breeding seeds and basic seeds by the end of the project period.
2. basic seeds produced at the government level will be used in the private sector as foundation and for producing improved seeds. Seeds required for special and general programmes are given in the table 24.42

TABLE 24.41
Area -in hectares
Production -in metric tons

Fiscal year		Base year 1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
1. Eastern							
Special	Area	555	755	822	870	965	1,065
	Production	5,550	8,305	9,864	11,310	13,510	15,975
Normal	Area	5070	5,423	5,767	6,045	6,234	6,473
	Production	35,490	38,566	42,457	45,144	48,348	51,840
2. Central							
Special	Area	2,135	2,225	2,405	2,600	2,635	2,892
	Production	21,350	24,475	28,860	33,800	36,890	43,380
Normal	Area	8,240	8,651	9,330	10,005	10,270	10,730
	production	57,680	63,358	69,751	76,912	80,730	86,400
3. western							
Special	Area	300	305	340	400	515	520
	Production	3,000	3,355	4080	5,200	7,210	7,800
Normal	Area	2,805	3,026	3,360	3,672	3,852	3,997
	Production	19,635	22,038	24,261	28,424	30,498	32,640
4. Mid - western							
special	Area	110	115	125	135	153	18
	Production	1,100	1,265	1,512	1,755	2,152	2,820
Normal	Area	1,325	1,348	1,445	1,596	1,824	1,915

	production	9,275	9,641	10,615	11,704	14,352	15,360
5. Far - western							
Special	Area	100	100	107	120	132	135
	production	1,100	1,100	1,284	1,560	1,848	2,025
Normal	Area	360	550	589	682	815	885
	Production	2,520	4,132	4,549	5,016	5382	5,760
Grand Total							
Special	Area	3,200	3,500	3,800	4,125	4,400	4,800
	production	32,000	38,500	45,600	53,625	61,600	72,000
Normal	Area	17,800	18,998	20,491	22,000	23,000	24,000
	Production	124,600	137,735	151,633	161,200	179,400	192,000

Table 24:42
Vegetable seeds production Programme

fiscal year	Special metric tons	Normal metric tons	Total
1984/85	20.60	137.70	158.30
1985/86	32.40	155.60	188.00
1986/87	37.00	166.70	203.70
1987/88	43.10	187.40	230.50
1988/89	41.20	194.20	235.40
1989/90	45.20	198.50	243.70

Improved seeds produced by the government farms and selected seed proucers required for special programme will be marketed. Seeds such as reddish 100% mustard 50% cauliflower 25% and other 10% required for general programme will be produced in the private sector. Such seeds will be made available through institutional channels.

Arrangements will be made for marketing local seeds under the regular extension programme at the private sector level in low priority areas. Programme will be implemented for distributing comosite seed pockets for increasing the consumption of improved seeds.

The manner by which vegetable seeds to be produced in the private sector will be produced with services form the following farms within their catchment area during the Seventh Plan is presented in the Table 24.43

TABLE 24.43
Production of seeds at farmer level

Production area	Base year 1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
1. Catchment area of citrus Development Dhankuta	4,900	8,000	9,000	9,100	9350	9,525
2. Catchment area of large Orchards Sarlahi	9,740	25,700	29,300	30,450	31,785	32,570
3. Catchment area of Agriculture Farm Marpha	1,900	5,200	6,150	6,550	6,750	7,025
4. catchment area of Vegetable Seed Centre Rukum	4,100	13,650	15,850	17,800	19,064	20,155
5. Catchment area of Vegetable Seed Centre Khumaltar	8,360	19,350	19,600	29,050	20,150	20,725
Total	29,000	71,900	79,900	84,000	87,100	90,000

Table 24.44

Associate Farms	Catchment Area of Seed Production Activities,
1. Citrus Fruits Development Dhankuta	Dhankuta, Bhojpur and Tehrathum
2. large orchard Centre, Sarlahi	Sarlahi and Mahotari
Vegetable seed Development centre, Khumaltar	Bhaktapur, Lalitpur and Rasuwa
4. Agriculture Farm, Marpha	Mustang and Dolpa
Vegetable Seed production Centre, Rukum	Rukam, Jajarkot, Salyan and pyutan

(ii) **Vegetable Seed production Project**

To attain self-sufficiency in fresh vegetables in the country, improved seeds must reach the farmers in time for plantation. In the present situation of seed production the farmers have positive response, and there is the possibility of increasing the quantum of seed production. Farmers will be encouraged to increase the production of improved seeds, marketing of which will be provide technical services for enabling seed producers (farmer) at the private level to meet the internal and external demand. Collecting the statistics of the vegetable seed sellers of the district to meet their demand in bringing close and direct contact between the organized seed producers and sellers in private sector will be associated in the increasing seed production and distribution.

(iii) Private sector will be encouraged to coeect and store vegetable for supply to the wholesalers by establishing production teams in the vegetable Production areas. in the urban areas vegetable markets will be organized for the vegetables supplied by the production teams. Whole sale market in the kathmandu valley will be organized and cold storage units will be established for preserving the unsold vegetables brought by the producers.

e. **Technology Development programme**

Research programme as approved by the research committee will be implemented for improving technology in order to increase production for attaining self-sufficiency. By providing improved farming techniques and improved seeds, strong support will be given to the increase of productivity. Productive seeds will be disseminated. Private sector will be encouraged to produce high quality seeds.

f. Necessary plans, monitoring, evaluation and incentive measures required for vegetable development programme will be implemented as done in the crop programmes.

g **Potato Crop Programme**

in order to attain self-sufficiency in potato production at the per capita consumption of 20 kg without resorting to imports, improved and healthy seeds should be produced indigenously and the surplus, if any, will support export promotion in the Seventh Plan. base year production of 409,000 metric tons of potatoes will be increased to 521,425 metric tons in the Seventh Plan. thus increase of production of potatoes will be 112,425 metric tons. Productivity of 6.90 metric tons per hectare will increase to 8.70 metric tons per hectare.

The following arrangement will be made to attain the above mentioned target:-

- I. Production programme will be implemented in two ways, Special programme will be implemented in the fesible areas where produced goods con be delivered to the established markets without any constraint, and in the areas in the north where potatoes will be used as staple food. In other area general programme will be implemented.
- II. In the areas where special programme will be implemented base year area of 3,000 hectares of potato cultivation will be imcreased to 10,225 hectares and productivity will be raised to 17.14 metric tons per hectare. In the areas where general programme will be implemented, base year area of 56,000 hectares will be reduced to 49,575 hectares and productivity will be 6.98 metric tons per hectare.
- III. To attain the proposed productivity, effective utilization of production inputs and services will be carried out in a coordinated manner according to priority in the area of special programme with greater emphasis under the supervision of the proposed district production teams through the service centres.
- IV. Agriculture workers required for the potato production programme will be given fresh and refresher training at specified training centres. Seed producer-farmers will be trained in the farms operated under potato development programme.
- V. The following activities will be carried out for the utilization of improved seeds, chemical fertilisers and crop protection materials which have direct impact on potato production.

Healthy and Improved Seeds:

Programme for production of certified seeds will be implemented in the private sector by distributing foundation seeds produced in the government farms from the selection of proper variety of potatoes. tissue culture laboratory will be established at the central level farm for maintaining the quality standard of basic needs. Certification of seeds will be carried at the central level for controlling the healthiness and quality of the seeds produced by the private sector. Use of quality seeds will be increased by producing healthy and improved seeds. Similarly rate of use of seeds will be raised to an appropriate level. Necessary technical services will be provided for encouraging the farmers to produce potato seeds for sales during the plan period. Foundation seeds thus required will be produced by the government farms and selected farmers will produce certified seeds for distribution. Thus the requirement of foundation seeds, certified seeds for distribution. thus the requirement of foundation seeds certified seeds and other seeds during the plan period is presented in the Table 24.45

TABLE 24.45
Requirement of Potato Seeds
In the Seventh Plan

Fiscal year	Main seeds (farm) metric tons	Certified (Private Sector) metric tons	Commercial (private sector) metric tons
1984/85	55	1,000	48,354
1985/86	70	1,500	48,355
1986/87	70	2,000	49,180
1987/88	70	2,500	50,530
1988/89	70	3,000	51,695
1989/90	70	3,500	52,380

Crop protection

Among diseases dehydration is the predominant throughout the country, the insects which cut the stem and red ants and potato fly pests are rampant in the Kathmandu Valley. therefore, crop protection will be made effective in 16% of the total land in the districts where seed production programme and special programme and implemented in consultation with the district agriculture section which are connected with the crop protection units of different districts and potato crop development programme, Special attention will be given to use the disease resistant seeds in the infested area and proper crop rotation in the areas which have brown girdle disease. Healthy seeds will be distributed.

Supply of Chemical Fertilizers

According to programme load, priority will be given to use chemical fertilizers in increasing production and for maintaining the quality of soil. Emphasis will be given to the use of compost fertilizer. It is estimated that the requirement of Nitrogen, Phosphorous and potash will be 150:100:50 kg per hectare in the special programme areas and 75:50:25 Kg. per hectare in general unirrigated areas. In the special programme area where chemical fertilizers can be supplied, it will be done through institutional channel at the rate of 100 kg. of Nitrogen per hectare and 50Kg. of phosphorous. Compost fertilizer produced of the farmer level will supplement nutrition supply at the rate of 10 metric ton per hectare. In the areas where chemical fertilizers cannot be made available compost fertilizer will be used at the rate of 20 metric tons per hectare. Special emphasis will be given on the use of compost fertilizer in areas under general programme and without irrigation facilities.

Storage and marketing system

It has been realised that majority of farmers have no motivation to increase production because of inadequacy of provisions for storage and marketing facilities for potatoes and regular supply of seeds and consumable potatoes. Storage facilities will be established in the specified production areas for developing market and storage for potatoes. During the plan period under special programme for seed storage in the districts, one cold storage with a minimum capacity of 1,000 metric tons will be established in each of the districts like Jhapa, Sunsari, Siraha, Kavre, Nuwakot, Makwanpur, Bara and Kailali besides the cold storages currently under operation and under construction and 96 simple natural stores (capacity 50 metric tons) in places having colder climate in high altitude and hilly regions. Besides these, the farmers will be encouraged to store consumable and seed potatoes at the cottage level stores by demonstrating appropriate techniques and designs.

To give guarantee on the consumption of consumable and seed potatoes encouragement will be given to sell at Haat ((Weekly) bazaar in the rural areas and at marketing centers the urban areas. Individual or joint marketing will be encouraged in the private sector by providing loan and technical services in the areas where market centers and cold storage facilities exist.

Area	1,325	3,750	4,150	10,225	10,805	30,350	8,420	49,575	59,800
Production	16,500	60,000	98,750	175,250	74,690	212,115	59,370	346,175	521,425

h. Fish production programme

Fishery will be developed for increasing fish production for supplying animal protein at fair prices in a short time and in a simple way in view of the importance of animal protein, for meeting the demand of the increasing population and for improving their nutrition status. Fish development programme will be implemented with special emphasis and by utilizing the available resources and ponds because there is enough scope for the small farmers to increase their earnings from this source. In this context, programme will be implemented with the main objective of attaining self-sufficiency in fish production without resorting to import in the Seventh Plan. During the plan period, base year edible fish production of 6,216 metric tons will be increased to 8,282 metric tons. To achieve this target, provisions will be made to increase fish production by 66.00% in the private farms, 71% in the government farms and 1.00% in natural ponds in order to increase the total production by 33.00%.

Programme will be implemented in the following manner to attain the Seventh Plan.

- I. Fish production programme will be implemented separately as special and general programmes under special programme ducks and pigs will be reared for supplying their excrements for fish ponds; grass, vegetables and fruits will be planted around the cost of production. Intensive fishery programme and integrated fishery programme will be implemented under special supervision by putting right type of fish in right proportion in the ponds and chemical fertilisers and feed also will be used. Under general programme fishery will be encouraged in all feasible areas by distributing fingerlings and providing technical services
- II. Fish production will be given priority in the districts of terai and inner terai.
- III. Present export will be increased by increasing fish production by implementing integrated fishery programmes in the districts of Eastern, Central and western and Far-western development regions.
- IV. Organised fishery will be undertaken in an area of 4,305 hectares, except 1,200cu, meter of cage culture, by adding 1,218 hectares of pond 1,200 hectares in the private sector and 18 hectares in the government sector. Thus, productivity of fish under special programme will be raised to 2.40 metric tons per hectare from 1.50 metric tons and under general programme productivity of 1.00 metric ton per hectare will be raised to 1.20 metric tons per hectare. Total productivity of 1.13 metric tons per hectare will be raised to 1.66 metric tons per hectare.
- V. The private sector is distributing 205 the present supply of fingerling which has to be increased to 35% by increasing the number of private fingerling producers for maximum production and distribution of fingerlings in the Seventh Plan. Technical service credit facilities, etc. required for this will be provided through pisciculture development programme. Incentives will be provided to attract private sector towards duckling production programme. Land required for the fish pond will be exempted from ceilings.
- VI. Feasibility studies will be conducted on existing programme and for the use of rivers, rivulets, natural ponds for developing economical and simple methods of producing fish. studies, experimentation and production programmes will be implemented in a coordinated manner for fishery in the artificial lakes developed by projects like Kulekhani in the Seventh Plan. Such studies will develop bases for future plans.
- VII. Under fish development programme the present production of 144 metric tons of duck and 12 metric tons of pig meat will be raised to 430 metric tons of duck and 248 metric tons of pig meat as a by product by implementing duck and pig farming in the seventh plans.
- VIII. To encourage the fish production programme two fish development farms in dang and Banke, Bardia area will be established.
- IX. Technical services will be provided and publicity and extension programme will be implemented along on operational schedule through service centres under the supervision and coordination of district production team for fish development programme. Programmes will be implemented by assigning specialists for the densely populated on priority areas. Under this programme if ponds of 100-150 hectare size or more are in the district, for every pond one specialist with necessary assistants will be assigned. If the area of the fish pond is 300 hectares or more one pisciculture extension coordinator will also be assigned.
- X. According to training programme, professional fishermen and workers will be trained on related subjects. In addition to this on-the spot seasonal training centre of Jankpur as a central

training unit it will be developed into an institution which will also conduct training programmes on subjects like Aquaculture Development at international Level.

- XI. For development of fish market private sector will be encouraged through technical services and credit facilities and wholesale market will be developed by establishing cold storage. Necessary paraphernalos related to wholesale marketing will be developed. Agriculture programme will also be collecting statistics on fishery regularly
- XII. Plan, evaluation, monitoring and incentive measures will be carried out as in other programmes.
- XIII. Detailed target of fish development programme to be implemented as referred above is presented in the table 24.48 and Table 24.49

TABLE 24.48
Production target of Edible Fish in the Seventh Plan
in metric tons

Source	1994/85 estimated production	1985/86	1986/87	1987/88	1988/89	1989/90	total net increase	increase percent
Private Sector	3,427	3,567	4096	4,531	5052	5,680	2,253	66
Artificial lakes	3,398	3,531	4,052	4,478,	4987	5,600	2,202	65
Special	1,198	1,287	1,768	2,153	2,631	3,192	1,996	168
Normal	2,205	2,244	2,284	2,325	2,369	2,408	203	9
Cage fish culture	29	36	44	53	65	80	51	176
Government Setor	59	63	72	81	89	100	41	69
Farm ponds	51	55	64	72	80	90	39	76
Cage Culture	8	8	8	9	9	10	2	25
Fishlings imported								
by Private sector	530	480	430	380	330	320		
Natural lakes	2,200	2,200	2,200	2200	2200	2,200	20	1

TABLE 24.49
Production target of Edible Fish in the Seventh Plan
in metric tons

Particulars	1994/85	1985/86	1986/87	1987/88	1988/89	1989/90	Total
Government Sector (indigenous fish)	12,145	12,574	13,018	13,478	13,955	14,448	67,473
private sector	3,300	3,653	4,126	4,938	5,885	6,765	25,367
From private dealers	600	1,496	1,530	1,575	1,614	1,630	7,845
Total fishlings	16,045	17,723	18,674	19,991	21,454	22,843	100,685
Ducklings	77	80	87	145	225	300	839
Pig (baby)		1.29	1.55	2.44	3.44	3.70	12.42
Government sector		0.71	0.82	1.17	2.16	2.37	7.23
Private sector		0.58	0.73	1.27	1.28	1.33	5.192

Note: Under livestock program government sector will supply 800 pigs (baby) every year.

(I) Livestock Development Programme

Livestock business has been greatly instrumental in increasing employment and income opportunities for the farmers. The livestock development programme includes provisions for increasing production and productivity of meat, milk, eggs, etc. by improving livestock quality in the country, attaining self-sufficiency in meat, milk, eggs, etc., increasing the supply of exportable livestock products, increasing for feed for the grazing area and supply of grasses animal, making available veterinary services throughout the country etc. The programmes will be implemented as follows:

- i. One the basis of markets which have accessible transport facilities and other infrastructures, population density and locational feasibility livestock development programme will be classified into high, medium, primary and low level priority areas as "A" "B" "C" and "D" categories and available resources and means will be mobilized accordingly with priority in these areas.

- ii. Programme will be implemented for attaining self-sufficiency in milk, meat and eggs without depending on imports. Milk collection centers will be extended and strengthened for collecting additional milk and the areas which have accessible transport facilities. By preserving the milk during the surplus season, milk powder plant will be established at appropriate locations and incentives will be given to establish milk processing industries in the private sector. By reducing the import of powder milk, internal milk production will be increased, good price will be given and market is guaranteed and thus incentive will be provided to invest the income from sales of milk directly on livestock programme. Under nutrition programme livestock development programme will be implemented in coordination with the nutrition programme to distribute fresh milk at reasonable price instead of distributing the powder milk.

Around the feasible areas where transport facilities exists, emphasis will be given to develop goat farming, sheep and mountain goat farming, at high altitude buffalo farming in the feasible areas of the middle hills and Terai poultry farming in the villages near urban areas. Technical services, veterinary services, credit facilities and marketing facilities will be provided in a coordinated manner and by supporting the production of meat, eggs self-sufficiency will be attained.
- iii. For developing animal feed programmes like solving the grazing problems of the northern areas, sample Silvipasture programmes will be implemented in the middle hill with the assistance of the Panchayats through the selected schools for developing grazing grounds and grass plant. Technical services and other facilities will be made available and publicity and extension will be undertaken for their utilization for increasing animal feed and emphasizing the people to develop habit of rearing animals domestically, which will support minimization of encroachment of forest for uncontrolled grazing and grass. In addition to this farmers can plant fodder grass (daligrass) for increasing animal feed production. Fodder plant distribution programmes will be implemented in coordination with the sapling distribution programme for encouraging the farmer to plant fodder trees along partition bed of their farms.
- iv. Livestock assistant and village animal health worker will be assigned to each panchayat for livestock development and animal health care services by training the villagers. Necessary assistance will be provided for credit facilities from Agricultural Development Bank for procuring medicines and instruments for the animal health worker. Specialists will be assigned to areas which are given priority by this programme for livestock recognized as an industry by livestock development programme. The district veterinary centers will be utilized for providing animal treatment services and for providing external services for specific diseases according to necessity. Training programme will emphasize the organization of the private sector vaccinator for vaccination against animal diseases.
- v. Since livestock business has to increases the livestock of improved varieties for increasing the opportunities for earning and employment for the farmers technical services and other facilities including production of improved breed of animals will be distributed to the private sector.
- vi. By increasing the productivity of yak, chauri and sheep in the norther areas, increasing the opportunities for employment and income the people there, solving the grazing problems, training the farmers to develop grazing areas, making health services available programmes will be implemented and additional encouragement to those who devote their time there in the northern areas. By increasing the production and quality of wool to meet the demand of carpet industry private sector will be encouraged for marketing of wool.
- vii. Encourage the private sector to deliver the animal products to the internal and external markets by encouraging the livestock business in the Himali Region and other remote areas for increasing the source of earning of the farmers, for creating proper atmosphere for flourishing livestock industry, for processing the livestock products by providing transport facilities to such areas.
- viii. By increasing the earning and employment of the farmer from he utilization of the exiting techniques used in livestock business Demonstration village will be announced for livestock breeding for observing the direct influence on the economic life of the people, which will have representation from all development regions and geographical sub-regions during the plan period. Only one type of animals or birds will be encouraged for each demonstration village.
- ix. Encouragement will be given to make available improved male donkeys to the private sector for production of mules because mules have an important role in hauling goods at high altitudes.

Details of the proposed livestock development programme are given below:-

Milk Production Programme

To fulfil the demand in the urban areas, production of milk products will be increased and self-sufficiency will be attained in the plan period. As compared to the base year total milk production of 842,455 metric tons, an increase of 137,480 metric tons will be brought about in the plan period. Under this programme production of milk per animal, i.e. 775 liters per buffalo per year 400 liters per cow per year, will be increased to 840 liters per buffalo and 487 liters per cow. Thus per capita availability of 42 liters will be raised to 44 liters.

The following step will be taken to produce milk according to the targets proposed above:-

1. Production services will be provided according to its priority by classifying the programmes into top, medium, primary and low quality on the basis of the improved livestock, roads, market and other infrastructure and feasible production for implementing the production programme as referred above.
2. According to the priority accorded to the programme annual milk production of 271,203 metric tons will be raised to 360,701 metric tons from the areas where top category programme will be implemented. Annual milk production of 196,626 metric tons will be raised to 251,731 metric tons in the areas where medium category programmes will be implemented. Annual milk production of 209,512 metric tons will be increase to 231,014 metric tons in the areas where primary category programmes will be implemented. In the areas where livestock population is decreasing though the production is low, base year milk production of 27,634 metric tons will go down to 17,009 even though productivity is maintained at the same level.
3. Marketing will be carried out in the following manner through the medium of milk collection and processing in encouraging the milk production.
 - i. **Establishment of milk collecting centers:** Around the urban areas where transport facilities exist by improving the collecting process base year estimated milk collection of 11,059 metric tons will increase to 47,331 metric tons by the end of the plan. Purification process at Biratnagar center will be strengthened for providing collecting services at Jhapa, Morang, Sunsari, Saptari, Siraha and Hetauda center for providing collecting services at Dhanusha, Mahotari, Sarlahi, Rautahat, Bara, Parsa, Makawanpur and Sindhuli. Similarly, Kathmandu center will provide to Chitwan, Gorkha, Dhading, Kathmandu, Bhaktapur, Lalitpur, Nuwakot, Kavre, Sindhupalchok and Pokhara center will provide to Tanahun, kaski, Syangja and Palpa milk purification process will be developed at Butwal and Nepalgunj. Butwal will provide to Rupandehi, Nawalparasi and Kapilvastu and Nepalgunj to Dang, Banke, Bardia and Surkhet. Details of these targets are presented in the Table 24. 50

Table 24.50

Target of Milk Collection under National Purification Process

Purification center	Area to be covered	1984/85 metric tons	Final year metric tons
1. Biratnagar	1. Jhapa		1815
	2. Sunsari	392	1698
	3. Saptari	183	798
	4. Siraha		1095
	5. Morang	370	1100
	Total	945	6616
2. Hetauda	1. Dhanusha	462	2223
	2. Mahotari	509	1074
	3. Sarlahi	1749	6215
	4. Rautahat	913	1181
	5. Bara	114	1583
	6. Parsa		803
	7. Makawanpur	87	961
	8. Sindhuli		740
	Total	3834	14770
3. Pokhara	1. Tanahau	392	2372
	2. Kaski	404	2886
	3. Syangja	858	1666
	4. Palpa		438
	Total	1654	7362
4. Butwal	1. Rupandehi		1095
	2. Nawalparasi		1168
	3. Kapilvastu		548
	Total		2811
5. Kathmandu	1. Chitwan		1643
	2. Gorkha		438
	3. Dhading	513	1464
	4. Kathmandu	725	1300
	5. Bhaktapur	474	848
	6. Lalitpur	115	643
	7. Kavre	2799	6652
	8. sindhupalchok		365
	Total	3626	13353
6. Banke (Nepalgunj)	1. Dang		730
	2. Banke		986
	3. Bardia		438
	4. Surkhet		365
	Total		2519
Grand Total		11095	47331

- ii. **Establishment of small dairy industry** : Small dairy industries will be established and from them collection of milk is estimated at 25000 metric tons in inner areas where collection services cannot be provided by milk purification process around the urban and road side areas. One such industry will be established each in Ilam, Udaipur, Solukhumbu, dolkha, Sindhupalchok, Rasuwa, Sinduli, Kavre, Lalitpur, Nuwakot, Dhading, Gorkha, Palpa and Syangja. Capacity of these industries will vary from 500 liter to 1000 liters. Necessary arrangement will be made to enable the cold storage owner to by cream, butter, cheese and ghee produced by these industries. One dairy industry each in these 17 remote districts likw Sankhuwasabha, Tehrathum, Bhojpur, Ramechhap, Lamjung, Myagdi, Baglung, Gulmi, Surkhet, Jajarkot, Dailekah, Bardia, Bajura, Darchula, Baitadi, Doti and Dadeldhura will be established which will be collecting 1250 metric tons of milk. Necessary arrangement will be made to produce cream, butter, dehydrate cheese, ghee for internal and external markets. Emphasis will be given to improve the quality of butter cheese and ghee for export purposes.
 - iii. Encouragement will be produced to the private sector to develop cold storage business for setting up preservation centers at Kathmandu, Pokhara and Surkhet for maintaining the proper price of the milk produced by the farmers and for marketing the milk in the local and international market. Cold storage plants, 200 metric ton capacity at kathmadu, 100 metric tons at Pokhara and 5-0 metric tons at Surkhet will be established. Transport subsidy will be given to transport the milk and milk products produced at the remote areas to the areas where the cold storage facilities exists.
 - iv. Milk processing palnt with capacity of 4000 metric tons will be establis hed one each an Butwal and Nepalgunj for utilizing the surplus collection of milk exceeding the capacity of the catchment areas purification centers when collection is increased this through other process processes and strengthening the preservation for local consumption.
4. One powder milk plant consuming fifty thousand liters of milk per day will be established in the Janakpur-Hetauda sector for producing 900 metric tons of powder milk. This will create a situation which will make import of milk and butter unnecessary and the country will be self-sufficient for meeting the urban demand in the Seventh plan.
 5. Production target of processed milk and milk products during the Seventh plan is presented in the Table 24.51

Table 24.51
Production Target of Milk and Mfl Products

Production	1984/84 Estimate	1985/86	1987/88	1988/89	1989/90	Total	Percent increase
Processed							
Milk	29500	31153	35561	39341	43356	47331	17831 60
Cheese	79	104	109	118	130	145	66 84
Butter	84	88	97	111	117	123	39 46

6. Land ceiling exemption an income tax and other facilities will be given to individuals or firms who are interested to run livestock business for increasing the milk supply and for opening livestock development farm an development of grazing ground for this or development of silvi-pasture in the hills.
7. Classification of priority areas according to the total milk production target in the Seventh Plan is presented in the Table 24.52

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Meat Production Programme

Taking into consideration the increasing consumption of meat the present per capita consumption estimated at 8.30 kg. will be increased to 9.1 kg. For this base year total meat production of 139,446 metric tons will be increases to 173000 metric tons. This way additional meat production will be 33,554 metric tons in the Seventh Plan. This will not only make import of sheep, mountain goat during Durga Puja and Tihar unnecessary but will attain self-sufficiency in supplying in other times.

The following steps will be taken to fulfill the proposed production target.

1. Production inputs and services will be provided to the areas according to priority which are classified into high, medium, primary and low quality areas on the basis of transport facilities, livestock and birds disposal ration and infrastructure development.
2. According to the proposed classification meat production of 48,620 metric tons will be increased to 65,292 metric tons in the high class programme area, from 43459 metric tons to 55909 metric tons in the medium class programme area and from 41,237 metric tons to 46,266 metric tons in the primary class programme area. In the low class programme area the number of animals will be low and will fall into the high class programme area the exiting production of 6130 metric tons will go down to 5518. Contribution animals and birds in the above production will be shown in the Table 24.53

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3. Base year productivity of buffalo meat 179 kg. will be increased to 194.kg, sheep 15.40 kg. to 16.60 kg., goat meat 20.50 kg to 2075 kg., pig meat 48 kg. to 48.60 kg and chicken meat 1.10 kg. to 1.29 kg.
4. Livestock trading on a commercial scale will be emphasized for increasing production and meeting the demand of meat in urban area. Increase of livestock supplies has been necessary. The following arrangement will be made for this :-
 - i. Physical facilities will be development for the location of animal market in Kathmandu, Pokhara and other urban areas according to necessity. In such animal market encouragement will be given to provide animal feed, animal health services and supply of cages.
 - ii. Production team will be encouraged for collecting animals it proper price from animal production areas for supply during Durga Puja and Tihar and by providing loan facilities and other technical services in a special manner to encourage commercial trading.
 - iii. Against the background of increasing consumption of processed meat in the urban areas in general and in Kathmandu and Pokhara in particular, existing meat industry will be strengthened and encouragement will be given in the private sector. This way by selecting traditional meat sellers necessary facilities, technical services and improving meat selling units and encouraging cold storage necessary loans will be provided.

Chicken Egg Production Programme

Programme will be implemented to attain self-sufficiency and fulfill the urban demand because egg consumption of the urban areas has been increasing as the part of daily food. Base year production of 207, 626000 eggs will be increased to 232190000 eggs. From this 24564000 eggs will be increased during the five year plan. This will be sufficient to meet the demand of the urban area without imports.

The following steps will be taken to fulfill the propose target.

1. Production inputs and services will be provided according to the priority accorded with the classification of programme into high, medium, primary and low class in order to implement the chicken development programme.
2. Necessary arrangement will be made to market the chicken and eggs at reasonable price to organizing poultry association in the private sector.
3. Programme will be implemented in the village near the urban market for training the farmers for producing maximum eggs under rural chicken development programme. Emphasis will be given to increase production of chickens adaptable to local condition to minimize the cost of production. During the plan period the programme will produce 2400000 eggs in the rural areas by enabling at least 1000 farmers each producing 150 eggs.
4. During the plan period egg production of 50,499000 will be increased to 60749000 eggs under high class programme. From 94,437000 eggs to 105731000 eggs under medium class programme. From 62,154,000 eggs to 65,162,000 eggs under primary class programme and from 548,000 eggs to 590,000 eggs under low class programme. thus 232,190000 eggs will be produced of which 30% will be of improved variety. Details of the production target of eggs are presented in the Table 24.54.

Production Traget of Eggs in the Seventh Plan

in thousand pieces

Programme	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
High class	50,499	54631	54,785	58,349	60,749	60,749
Medium class	94,437	96,608	98,801	101,062	103,573	105,731
Primary class	62,154	62,253	62,928	63,516	64,406	65,162
Low class	536	538	541	541	546	548

Total	207,626	214,030	217,055	222,600	226,874	232,190
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Wool Production Programme

Special emphasis will be given to substitute import by increasing wool production for meeting the increasing demand of wool by the blanket and carpet industries. In this context base year wool production of 297 metric tons will be increased to 629 metric tons. This way additional wool production in the plan period will be 432 metric tons.

The following steps will be taken to fulfil the proposed production target :-

1. Programme will be implemented by dividing wool production programme into high medium, primary and low classes. Production services will be provided to increase the meat production with the result increased number of sheep will produce more wool.
2. Farmers will be trained about wool cutting techniques because wool production increases with the improved techniques.
3. Emphasis will be given to increase the quality of wool by distributing improved breed of sheep.
4. Production of wool will be encouraged by giving proper information about market and price to the farmers for producing standard quality of wool to meet the demand of wool industries even though there is no problem about the market of indigenous wool production at the moment.
5. Details of wool production during seventh plan are preserved in the Table 24.55

Grazing Development Programme

1. Northern Area Grazing Development

Keeping in mind the grazing problem in the northern areas for developing food out of 10 problem districts such as Taplejung Sankhuwasabha, Gorkha, Manang Dolpa , Mugu, Dokha , Sindhupalchok, Mustang and Humla self-sufficiency will be attained where by animals will not be Sindhupalchok and Dolkha in the first year Mustang and Humla in the third year and the remaining 6 districts in the fourth year.

The following steps will be taken to fulfil the production target :-

- 1.1 Provisions will be made to keep stock of animal feed for about 30,000 animals in border districts of the north for 5 months of snow-bound period. By increasing the grazing areas making water supply available and preserving the hay production area near the villages grass production in the rainy season will be increased. Appropriate techniques will be developed by making comparative studies of the local grass and improved grasses.
- 1.2 Improvement in the income-level will be effected by increasing production from small number of animals by improving the productivity of the local animals. By maintaining the quality level of the animal nonproductive animals will be reduced and grazing will be increased.
- 1.3 Facilities for movement and water will be increased for increasing grazing areas.

Table 24.55

Production Target of Wool in the Seventh Plan

in kilograms

Classified district	Base year 1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Total wool production	297,018	345,036	378,640	441,741	547,826	629,284
Wool production from Class "A" area	93,629	109,136	127,707	149,074	174,517	204,196
Wool production from class "B" area	132,905	149,728	141,654	156,861	169,313	181,678
Wool production from class "C" area	866,282	8,954	103,851	130,187	198,181	236,664
wool production from class "D" area	4,202	5,218	5,428	5,619	5,816	6,746

- 1.4 Farmers will be trained to use improved techniques on hay production and for developing skills for storing hay, *choto* and its use.
- 1.5 Increase the availability of appropriate fodder trees *choto* around the villages.
- 1.6 Local pioneer farmers will be selected for training in order to mobilise manpower for implementing this programme.
- 1.7 Monitoring and evaluation will be made more active for making this programme effective.
- 1.8 Special recognition or additional development subsidy will be given to the local panchayat on the recommendation of central level livestock and grazing development committee where remote area

development committee exists on the basis of contribution made for attaining self-sufficiency for encouraging grazing development. Employees associated with this programme will also be rewarded.

1.9 Details of the grazing problem-stricken animals and required quantity of feed in different districts for fulfilling the target are given in the Table 24.56.

Table 24.56

Animals Affected by Grazing Development in the Northern Area and Grazing Requirement

Districts	Affected number animals (adult)	Required dry grass m. tons	Grass production	Grazing development	Dalegrass plant distribution
1. Taplejung	2,555	1,916	9,580	493	4,800
2. Sankhuwasabha	452	339	1,695	210	600
3. Dolkha	6,382	4,787	23,935	742	12,000
4. Sindhupalchowk	4,582	3,437	27,185	791	8,400
5. Gorkha	502	376	1,880	365	600
6. Manang	825	619	3,095	422	1,200
7. Mustang	3,476	2,707	13,035	2,192	6,600
8. Dolpa	3,723	2,792	13,960	1,786	7,200
9. Mugu	2,360	1,770	8,850	195	4,800
10. Humla	7,521	5,641	28,205	2,607	13,800
	32,378	24,284	121,420	9,803	60,000

In the northern area 5,285 kg. of grass seeds from different farms will be distributed for grazing grass.

6. Few development Service

5.1 Fodder Development

Fodder tree has an important role in the animal feed. This programme will be implemented in two stages, for meeting the grazing requirement of midhills and grass demand by increasing the production of dalegrass.

5.2 Silvi-pasture programme

To reduce the adverse effect on the ecology of the mid-hilly areas because of excessive grazing silvi-pasture programme will be implemented with the objective of utilising the experience of Tinau watershed area in gaining success in increasing source of income of the school by increase of fodder tree by silvi-pasture methods. Such programmes will be implemented through the selected schools in the public barren lands in 35 mid hilly districts during the plan period. District-wise statement is presented in the Table 24.57.

Table 24.57

District for Silvi-pasture in the seventh plan

Fiscal year	Districts
1985/86	Dolkha, Sindhupalchowk, Kavrepalanchok, Nuwakot, Dhading, Tanahau, Gorkha.
1986/87	Ramechhap, Sindhuli, Makwanpur, Chitwan, Kaski, Syangja, Palpa
1987/88	Lamjung, Mustang, Myagdi, Baglung, Gulmi, Arghakhanchi, Udaipur
1988/89	Dhankuta, Rukum, Rolpa, Salyan, Pyuthan, Dailekh, Jajarkot
1989/90	Taplejung, Panchathar, Ilam, Tehrathum, Bhojpurh, Khotang, Okhaldhunga.

The following steps will be taken for the above programme :-

- 5.2.1 Afforestation will be encouraged in the specified district every year by completing fencing the plots of 4 hectare each under the supervision and control of the schools assisted by the local panchayat. The school will be entitled to use the source of income after the growth of trees.
- 5.2.2 For each district free saplings will be planted at the rate of 300 saplings per hectare.
- 5.2.3 After the plantation of the saplings grass seeds will be supplied freely for planting there.
- 5.2.4 Necessary technical assistance will be provided by the pasture development programme for planting saplings and grass.
- 5.2.5 The programme will make available Rs. 3,000/- per hectare as encouragement for fencing the area using the local materials and the school itself has to mobilise the shortfalls. If any with people's participation and necessary assistance of the panchayat.

- 5.2.6 Government farms or private nurseries will supply the saplings.
- 5.2.7 Programme will be implemented in a coordinated manner with the afforestation programme of Ministry of Forest for distributing 25% fodder plants in the areas beside silvi-pasture areas according to the demand of local people.

2. Grass Development Service

For supporting the animal feed development for increasing the availability of green grass in winter and assisting the production of milk, manikin of different grass seeds will be redistributed for motivating the farmers toward production of grass. For this a total of 1,463 mints will be distributed to the northern areas hilly areas and terai region and production exhibitions will be held during the plan period. Grass production programmes will be implemented in 335 hectored in hills and terai. Every 27 metric tons of seeds will be produced for distribution.

3. Agriculture By-product consumption Development Service

By using the straw and other by products of agriculture crops straw cutting knives will be sold to 3,500 farmers of mid hilly areas for preparing manger where they do not use such knives for supporting the supply of feed and establishing the practice of feeding the improved feed.

4. Stall Feeding publicity service

From silvi-pasture programme grass development programme and agricultural by product consumption programme will increase the availability of feed and stall feeding will help derive maximum benefit from rearing improved breed of livestock. Benefits of stall feeding will be disseminated to the farmers through publicity and promotion. On the basis of the example of self-sufficiency attained through silvi-pasture per hectare of pasture land Rs. 2,000 per owner will be rewarded to the farmer for stall -feeding at one time who will carry out livestock farming through stall feeding in the hilly region . Exemption of land tax upto 90% will be given to the farmer who develops silvi-psture land in the hills of area 1 hectare and above.

5. Distribution of Mineral Block

Because of the consumption of dry feed winter causes shortage of mineral ingredients, the physical strength of the animal drops reflecting the productivity. The farmers will be encouraged to develop the habit of feeding mineral blocks having 1 kg. each will be distributed to farmers who will rear buffalo and cows. Encouragement will be given to the cattle feed plan and to the private sector to produce mineral blocks and animal protein and vitamins.

6. Animal Feed

Loan and technical services will be made available to open animal feed depot in the private sector in the district where high class programmes implemented for increasing the availability of animal feed.

Animal Power Production Programme.

In the name of animal power bulls in hills and terai and mules in high hills play an important role. Since 50% of the improved breed of animals have ploughing power equivalent to local breed 50% of the distribution will be improved breed. In the high class programme area more than 50% improved breed animal will be distributed to the commercial milk producers in order to avoid adverse effect on milk production while such producers in order to avoid adverse effect on milk production while such animals are distributed. Animals produced from these improved varieties will be used for animal breeding also.

In the hilly region and particularly in high altitude mules are being used for transporting goods for which demand for male donkey is increasing. The target is fixed to distribute 175 male donkeys for producing 27,500 mules in the plan period. Details of estimated production in the plan period is presented in the Table 24.58.

Table 24.58

Production Target of Mule in the Seventh Plan

Districts	1984/85	1985/86	1986/87	1987/887	1988/89	1989/90
1. Dolpa	-	-	199	604	1,230	1,896
2. Mugu	-	-	199	605	1,229	1,896
3. Humla	-	-	-199	605	1,229	1,896
4. Jumla	-	-	200	604	1,230	1896
5. Rolpa	-	-	199	604	1,229	1,987
6. Manang	-	-	200	604	1,229	1897
7. Mustng	-	-	199	604	1,229	1897
Total	-	-	1,235	1,395	4,605	13,275

Emonstration Village programme on Livestock

Effective implementation of livestock development and animal health programme can bring improvement in the income and employment of the village population and the success of livestock development programme is measured by the rising standard of living of the population and for visibly demonstrating this success demonstration village programme will be implemented in the seventh plan. 52 demonstration villages will be opened in different districts. Techniques and inputs will be provided for production, processing and marketing services for livestock based products according to local condition by increasing their effectiveness as experienced in these villages. Government farms which are near these areas will be encouraged to run outdoor services for actively providing technical services. Selected villages will be treated as sample village whose success stories will be extended to other districts. Targets of such demonstration villages in detail during the Seventh Plan are presented in the Table 24.59.

Animal Research

Animal research programmes will be implemented for executing animal development and animal health programme scientifically by developing appropriate techniques for animal fertility, animal feed, grazing, production of animal-based products, processing, techniques, and animal diseases. By activating the agriculture research committee at the ministry level the following programmes will be implemented in order to take-up those problems which are recommended by the committee for undertaking research.

Table 24.59

Districts where Demonstration Village

Produgramme based on Livestock will be implemented in the Seventh Plan

Animals	Districts					
	1985/86	1986/87	1987/88	1988/89	1998/99	Total
Cows	Kathmandu	Lalitpur & Rupandehi	Bhaktapur	Ilam	Dolkha	6
Buffaloes	Dhanusha	Mahotari & Banke	Sarlahi & Rautahat	Chitwan & Bara	Siraha, Saptari & Parsa	10
Yak	-	-	Solu	Manang	Ramechhap	3
Pigs	-	Sunsari & Kathmandu	Makawanpur	Chitwan	Kaski	5
Sheep	Jumla & Mustang	Kalikot & Dolpa	Humala & Lalitpur	Sankuwasa bha & Rukum	Mugu	9
Goats	-	Tanahau & Dhading	Makawanpur	Sarlahi, Kavre & kailali	doti, Sindhuli & Dadeldhura	
Chickens	Lalitpur	Kathmandu & Sunsari	Bhaktapur & Makawanpur	Kaski, Dang	Bara & Rupandehi, Banke	
Total	5	12	10	13	12	52

1. Animal research panel will be established for executing research programme which will function according to agriculture research committee work-force and the panel will carry out monitoring and evaluation of all research works.
2. Problems recommended by the agriculture research committee will be taken as research project with a responsible person taking its charge.
3. Research activities will be carried out at the farm stations connected with it under the responsibility of its chief. The nearest animal development and animal health centres will be held responsible for providing technical and other services and closest contacts will be established between research and farmers' stable.
4. The research committee will thoroughly scrutinize all the problems and give priority to such research activities which will directly help increase production in particular and make the livestock more profitable.

Fertility Service

Fertility Service has an important role in increasing production of meat and milk by improving productivity by distributing improved livestock. Fertility service will be provided in two ways, namely, artificial insemination and natural pregnancy during the seventh Plan. The target of production of milk and meat referred above will be fulfilled by distributing improved breed animals to the farmers for high fertility.

Artificial Insemination Programme

will be implemented for insemination of cows and buffaloes for supporting production of milk and improved animals by inseminating cows in the rural areas of the districts at the crossing of Mahendra Highway and north south access roads and inseminating buffaloes the high priority areas where road facilities exist. For artificial insemination programme, sperms collection will be executed at the proper locations.

Natural Pregnancy

Due to transport difficulties wherever artificial insemination programme cannot be implemented improved breed bulls and he buffalo will be made available for fertility services. 1,046 improved bulls and 2,913 improved buffaloes will be distributed for natural pregnancy. Of this 216 bulls and 209 he buffaloes will be made available from the government farms. Support will be given to fulfil the target of milk production by distributing a large number of improved bulls and he buffaloes to the areas which are accorded priority.

Male sheep will be produced in the government farm and distributed to the high priority areas for supporting the production of meat and wool from sheep development. By selecting the male sheep produced out of above stock will be distributed to other areas. The target is to distribute 1,443 improved male sheep during the plan period. Government farms will make 1,220 male sheep available during the plan period. Since the productivity of the local goats is satisfactory such goats from the farmers will be selected for distribution. In supporting the fulfilment of the target of meat production during the plan period 1,497 goats will be distributed. Government farms will distribute 350 goats and the balance will be selected from the farmers.

To support the total meat production from pig development 9,530 piglings will be distributed during the plan period. Of this 7,030 piglings will be from the government farms and the rest will be selected from the private producers.

To support the production of milk and milk products from Yak farming in the northern areas Yaknaak will be produced from mixing of Yak in the local villages for distribution. A total of 175 Yaknaak will be distributed of which 64 will be from government farms and 111 from selected private growers.

Since production of chicken contributes a lot for meeting the target of meeting the production and poultry being very popular 8,589,000 chicks will be distributed during the plan period. Of this 2,314,000 chicks will be from government farms and the rest from the private sector poultry.

3. Establishment of Breeder Farmer in the Private Sector

For the proposed distribution of livestock breeder farmers will be established in the private sector to produce livestock to meet the shortfall of government farms. Necessary technical support and credit facilities will be made available to them and distribution of animals will be encouraged. Number of breeder farmers to be established and number of animals to be produced during the plan period is given in the Table 24.60.

Table 24.60

Breeder Farmers to be Established in the Seventh Plan

Animals	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
1. Buffaloes	200	350	350	350	350	350
2. Bulls	35	75	105	105	105	105
3. Sheep	15	15	15	15	15	15
4. Chickens	4	5	7	10	13	13
5. Yak	10	10	10	10	10	10
6. Pigs	125	125	125	125	125	125

Shortfall of the number of livestock from the production of breeder farmers in the private sector will be distributed by selecting from the production of other farmers.

Programme for distribution of improved livestock production and grass seeds suitable for distribution during the five year plan are presented in the Table 24.61.

Animal Health Service Programme

Against the background of requirement of healthy animal power for increasing animal based products the following programme will be implemented for animal health services.

Chickens (in thousands)	Govt.	400	445	550	470	539	2,314
	Private	754	1,019	1,247	1,487	1,768	6,275
Yaknak (no.)	Govt.	27.60	23.60	1940	15.40	11.40	97.40
	Private	1780	21.	26.00	30.00	34.00	129.60
Grass seeds (Metric tons)	Govt.	9	10	12	15	18	64
	Private	26	25	23	20	17	111
Grazing grass seed (m.tons)	Govt.	1.151	1.071	1.036	0.981	0.961	5.20
	Private	0.126	0.206	0.241	0.296	0.316	1.185
Dalegrass	Govt.	-	-	-	-	-	-
saplings (no.)	Private	-	12,500	12,500	12,500	12,500	50,000

Table 24.62

Animal Health Services in the Seventh Plan

Particulars	1985/86	1986/87	1987/88	1988/89	1989/90	Total
Livestock treatment (no.)	432,200	434,400	439,600	451,800	456,600	2,217,600
Disease cured (no.)	20,350	25,000	28,550	34,000	44,550	144,450
Control of Disease						
Paravie control (no.)	984,600	123,700	122,700	1275700	1360600	5,696,300
Gorop services (no.)	110,590	200,000	200,000	200,000	206,150	926,650
Vaccination (no.)	1,555,200	1635150	1893500	2115300	2550500	9719500
Special disease eradication						
Gaugoti (no.)	46000	46000	46000	46000	46000	230000
Footrot (no.)	2000	2000	200	2000	2000	10000
Rabies control	according to necessity					
Production of vaccination						
Rabies (for men and animals) (in million millilitres)	0.40	0.40	0.50	0.55	0.60	2.45
Rabies (for dogs only)	20000	30000	40000	50000	60000	200000
Kharet (dose)	-	-	-	25000	25000	50000

To meet the requirement of animal development and animal health programme livestock training programme will be conducted for the effective implementation of the programme in the following manner.

1. Five training centres will be established at the suitable locations in the five development regions during the Seventh Plan because physical facilities have not been developed so far for livestock training.
2. Arrangement will be made to prepare the syllabus and course materials in consultation with the training experts on programme and subjects. In order to make the training more practical the training centres will be well equipped with physical infrastructures for experimental exercises.
3. In livestock activities women farmers being more attentive than men will be encouraged to take part in training programme for which hostels will be constructed in each training centre for enabling maximum number of men and women farmers to take part. The share of the women will be 15% animal health workers, 5% guide farmr and 10% JT/JTA in such training programmes.
4. Training and manpower development will be considered for conducting training in a planned way by scrutinising the requirements for different programmes thoroughly.

Plan Evaluation and Monitoring

By constant monitoring and evaluation of animal development and animal programme for implementation of district animal development programme under joint responsibility with the proposed district level implementation group and this very group will monitor and evaluate at the district level. District level programme will be monitored and evaluated at the central level.

Plan and evaluation unit will be strengthened for making central level units active. District panchayats which demonstrates excellence in ful-filling the set targets will be given special recognition. Incentive awards

will be given to the members of animal development groups at the district level who demonstrate their excellence. Such excellence will be separated according to the livestock of the districts which fall into different programmes.

Institutional Consolidation

Establish the units which will look into animal-based goods, processing marketing, loan and investment, technical aspects for creating atmosphere for livestock industry, for increasing the capacity of implementing the proposed animal development and animal health programme and for improving the existing management of the organisation in the areas receiving priority from the programme such as in the districts upto primary class programme minimum animal health services, in the district upto the medium class programme animal health services and animal development services, in the districts upto the high class programme animal health services and animal development services and other factor required for creating atmosphere for livestock industry. Private sector will be encouraged to supply materials needed for livestock, like medicines, feed and implements in the areas where high and medium category programme units exist.

7. Production Service Programme

To fulfil the target of production of different crops as mentioned in the production programmes above against the background that inputs like irrigation water, improved seeds, chemical fertilisers, agricultural loans, insecticides, agriculture implements, etc. and service programmes like agriculture publicity, technical services, crops protection services, crops protection services, soil tests, seed technology and certification services, etc. have important role to play in the Seventh Plan and these inputs and services will be mobilised in the following manner.

Production Input

1. Irrigation system

Special and pocket programmes are developed in keeping in the capacity of the available irrigation facilities as of the end of the Sixth Plan and developed during the Seventh Plan for mobilisation of the limited resources in these areas in full. A total of 135,493 hectares of land will be irrigated of which 106,003 hectares by completing the irrigation projects under construction and 29,493 hectares from new irrigation projects. Support will be given to add irrigation facilities for 20,000 hectares by tube-well boring and small irrigation construction programme with people's participation by joint assistance of Agricultural Development Bank and Farm Irrigation Programme. While executing the tube-well boring project coordination will be maintained between the Ministry of Water Resources and Ministry of Agriculture. The existing subsidy given to tube-well boring and small irrigation construction will be continued. The policy will be to give concession in electric charge consumed by the water pumps for pumping water for irrigation purpose where electricity is available.

Estimate of irrigated area during the plan period is below:-

1. Sixth plan achievement	-	338,670 hectares	
2. Existing irrigation Projects (Seventh Plan)	-	106,003 hectares	
3. New Irrigation Projects (Seventh Plan)	-	29,490 hectares	
4. Small irrigation construction (Seventh Plan)	-	100,000 hectares	
Tube-well boring		50,000	
Small irrigation const	50,000		
Total			564,165 hectares

Special attention will be given to distribute irrigation water in the seventh plan with the aim of deriving maximum benefit from the use of irrigation water for making the irrigation facilities from the construction of canals. Water user's association will be organised in each irrigated area for scientific use water. This association will be authorised to raise water tax in order to make it effective and 25% of the water tax thus raised will be transferred to the local panchayat for repair and maintenance of irrigation canals 5% of the water tax will be given to the association in case it fulfils the objective of realising the targeted production rates regularly from water consumption. Such production rate will be determined as fixed by the production group for each irrigated area.

Since availability of irrigation water in time affects production schedule of repair and maintenance of the irrigation programme will be made to coincide with the farming season.

2. Improved seeds

For increasing production improved seed has the uppermost role. For the supply of improved seeds the following arrangements will be made :-

1. Supply of improved seeds will be made prompt in cases where the supply is made through institutional channels for use of new variety and for replacing the existing low quality seed by improved variety.
2. Private sector will be made active for increasing production by providing seed technology and certification services for marketing and distribution of proven improved seeds . For the seeds required for the areas covered by the district programme will be supplied by making self-sufficient with increased production at the farmer level by providing agriculture programme services.
3. Foundation seed required for increasing seed production will be supplied from production of different agriculture farms and stations for shortfalls. if any the selected farmers will been courage to produce certified seeds by providing necessary services.

The existing practice of subsidy and loans which are being made available for promoting storage in the hilly areas is emphasized by foodgrains production programme for storage of seeds for supporting the supply of improved seeds at the local level. The institutional marketing and distribution and seed breeding programme according to different main crops for the proposed production of improved seeds will be as presented in the Table 24.63 / 25.64.

Table 24.63

Target of Marketing and Distribution of Certified seeds in the Seventh Plan

in metric tons

Fiscal year	Paddy	Wheat	Maize	Vegetables	others
1985/86	1,000	5,000	500	40	100
1986/87	1,100	5,200	700	60	135
1987/88	1,200	5,500	800	75	175
1988/89	1,350	5,500	900	100	235
1989/90	1,500	6,000	1,200	125	300
Total	6,150	27,200	4,100	400	840

Table 24.64

Seed Breeding Programme for Distribution of Certified Seeds Through Institutional Channels in the Seventh Plan

Crops	Unit	1985/86	1986/87	1987/88	1988/89	1989/90
Paddy	Hectare	100	128	161	206	256
Wheat	do	2,000	2,180	2,200	2,300	2,400
Maize	do	240	350	395	450	600
Others	do	40	60	75	90	110
Total		2,380	2,718	2,831	3,046	3,369

3. Supply of Fertilisers

It is very necessary to use fertilisers to maintain the level of nutrients in the soil because these nutrients in the soil have major contribution in increasing productivity of the agricultural crops from the limited land. This can be done by the use of compost fertiliser and chemical fertiliser. Because of the weightage of the production programmes the crops consume the nutrients very fast and recouping these nutrients by compost fertiliser being slow it is essential to maintain the fertility of the soil by the use of chemical fertilisers. In this context in the areas which are given priority by the integrated farming or in the special and pocket areas use of chemical fertiliser will be given priority. Use and supply of fertilisers in the Seventh Plan will be as follows :-

1. Use of Compost Fertiliser

Emphasis will be given to increase the availability and use of compost fertiliser in all the programme areas because its use not only maintain the quality of the soil but also vive nutrients to the crops. Against this background where chemical fertilisers are becoming costly publicity and promotion of techniques for preparing and use of compost fertiliser will be carried out for enriching the soil by nutrients by the use of compost fertilisers. Establishment of compost fertilisers plants will greatly support the marketing and distribution of quality compst fertiliser. Transport subsidy on the basis of recommendations of the technical committee will be given for maximum use of quality compst fertiliser and qanimal fertiliser by reducing the imported fertiliser.

2. Use of Chemical Fertiliser

Since chemical fertiliser is not produced in the country and there is less possibility of producing it in adequate quantity in the near future, it is essential to use it in the most judicious manner to gain maximum benefit from limited supplies. Hence marketing and distribution of chemical fertilisers will be undertaken in right quantity in order to attain maximum production. The policy of giving transport subsidy will be adopted according to the production programme for increasing production from the areas which do not have transport facilities. In the special and pocket areas where irrigation facilities exist provision will be made for supplying chemical fertilisers. The policy will be grant some concessions on the price of chemical fertilisers where the farmer will be encouraged to use in the new areas.

3. Availability of chemical fertilisers will be ensured according to the priority fixed by the crop programme before the season by strengthening the supply and distribution of chemical fertiliser. Emphasis will be given to honour the recommendation of the programme and wishes of the farmer when chemical fertiliser is supplied. Cooperative organisation will be given priority by associating the private sector also in the marketing and distribution of chemical fertilisers.

The target of supplying the chemical fertilisers according to the above programme during the Seventh Plan is presented in the Table 24.65 and Table 24.66.

Table 24.65

Target of Marketing and Distribution of Chemical Fertilisers in the Seventh Plan

in metric tons

		Foodgrain crop	Cash crop	Orchard	Oilseeds & other crops	Total
1985/86	N	25,200	3,600	9,100	6,400	45,300
	P	10,800	1,200	2,600	1,700	16,300
	K	3,000	100	200	100	3,400
1986/87	N	31,700	3,400	8,800	4,900	48,800
	P	12,400	1,300	3,400	1,900	19,000
	K	3,200	100	300	100	3,700
1987/88	N	40,000	2,600	5,300	3,700	51,600
	P	16,400	1,000	2,100	1,200	20,700
	K	4,600	100	100	100	4,900
1989/90	N	55,950	3,000	6,000	2,400	67,350
	P	22,200	1,200	500	600	24,500
	K	6,000	100	100	100	6,300

Table 24.66

Import of Chemical Fertilisers in the Seventh Plan

in metric tons

Fiscal Year	N	P	K	Total
1985/86	46,700	17,400	6,600	70,700
1986/87	49,900	19,700	7,900	77,500
1987/88	53,500	21,400	9,900	84,800
1988/89	57,900	23,100	11,000	92,000
1989/90	62,700	25,300	13,500	101,500
Total	270,700	106,900	48,900	426,500

Agriculture Loan

Agriculture loan big role to play in making financial sources available to the farmers in assisting the production programme for increasing agriculture production. The agriculture loan made available to the farmers through institutional channels has greatly helped release the burden off the farmers from paying high interest rates to the traditional merchants. Special emphasis will be given to execute loan and investment for giving benefit to at least 59% of the farmer families in the Seventh plan.

Loan and investment programme will be executed as a composite package with special priority to the irrigation facilities, agriculture implements marketing processing in supporting the fulfilment of target during

the Seventh Plan. Special emphasis will be given to make loans available to the fruits farming considering the requirements from the plantation stage to the production stage on a long term basis in a package. To increase the production capacity of the small farmers small farmer development project will be extended to all the 75 districts and its number will be increased to 230 during the plan period by investing on the programme which will generate opportunities for employment to improve the economic condition of the small farmers. While employing workers in such small farmer development projects 40 workers will be women and in the new projects 25% of the workers will be women for increasing the women participation. Thus the existing projects and the new projects will be encouraged to function as an autonomous body for which small farmers will be encouraged to run the project as a cooperative or an association.

While executing the loan and investment programme due consideration will be given to disburse the loan to the farmers ahead of the farming season. These loans will be disbursed to the farmers on the spot in the special and pocket programme areas. The policy will be to invest loans through the cooperatives by giving them priority. The target is to invest Rs. 3,863,800,000 in loans during the plan period which is more than double the amount invested in the Sixth plan. For good turnover loan realisation will be made more effective. In the urban and rural areas savings collection will be mobilised development bonds will be issued commercial banks will make available finances to the Agricultural Development Bank loans and second mortgage will be made available by the Nepal Rastra Bank. Loan amounts to the projects under multi lateral assistance will be channeled through the Agricultural Development Bank. Investment projections on different projects are presented in the Table 24.67.

Table 24.67

Target of Loan Investment in the Seventh Plan

in thousands rupees

Objectives	1985/86	1986/87	1987/88	1988/89	1989/90	Total
1. Foodgrains	112,800	132,200	151,500	172,500	195,200	764,200
2. Cash crop	55,900	58,600	61,300	64,000	66,700	306,500
3. Special crop	10,370	10,930	13,900	14,550	15,110	64,950
4. Agriculture goods and produce marketing	149,600	153,800	157,440	162,400	166,800	790,040
5. Agriculture implements	18,840	19,740	20,640	21,540	22,440	103,200
6. Irrigation development	62,500	66,600	68,200	72,300	76,400	346,000
7. Gobar gas plant	12,560	13,160	13,760	14,360	14,960	68,800
8. Land development / purchase	2,303	2,170	2,300	2,450	2,580	11,530
9. Agriculture and cottage industries	71,300	78,900	86,500	94,100	101,700	432,500
10. Construction of goodness and cold storage	17,200	18,400	19,360	20,000	21,600	97,160
11. Livestock and fishery	111,800	131,600	151,500	172,800	197,200	764,900
12. Fruit farming	12,230	13,170	14,110	15,050	15,990	70,550
13. Tea, coffee and cardamon	7,830	8,260	8,690	9,120	9,550	43,450
Total	644,960	707,530	769,290	835,770	906,230	3,863,780

In addition to the above loan and investment certain portion of the deposits of the commercial banks will be invested in the agriculture sector for increasing agricultural production.

Insecticides

In the period from the time seeds and saplings of different crops are planted in the soil to the time of harvest diseases and insects destroy the crops. If prevention of these is not effected in time not only the plants are destroyed but the standing crop also causing a big loss and hence supply and use of insecticides for protecidides for protecting the crop is necessary. During the Seventh Plan. insecticides being one of the items of crop protection will be provided for increasing the production and productivity in special and pocket areas specifically emphasised by the programme by protecting the crops from the attack by the diseases and insects, in other areas the main way of increasing the production is to protect the crop from diseases and insects. Such insecticides will be used by activating the crop protecting servises.

124,000 litres liquid and 6,400 metric tons of power insecticides required during the Seventh plan will be made available through institutional channels. Constant effort will be put to supply the insecticides through the institutional channels in the areas without transport facilities and in the areas which can be cultivated immediately. In Other areas private sector will supply. The target of institutional marketing and distribution of chemical fertilisers is presented in the Table 24.68

Table 24.68

Target of Marketing and Distribution of Insecticides in the Seventh plan

Fiscal year	Liquid in litres	Powder in metric tons
1985/86	20,000	900
1986/87	22,000	1,000
1987/88	25,000	1,200
1988/89	27,000	1,500
1989/90	30,000	1,800
Total	124,000	6,400

Agriculture Implements

Agriculture implements have a very important role to increase the production by saving time by making the farmer efficient. Against this background, if less time is consumed in ploughing, harrowing, grading, threshing, processing etc. crop turnover in the limited land will be more resulting in increased production and employment opportunity. Emphasis will be given to manufacture simple and scientific implements required for farming and appreciated by the farmers. Marketing and distribution of Rs. 17,650,000 worth of small agriculture implements will be carried out during the seventh plan. Scientific agriculture implements like plough, seed drill thresher etc. which have direct impact on increasing production in the areas accorded priority by agriculture production programmes will be marketed at concessional rates.

Agri-lime

Emphasis will be given to use agri-lime as a part of agriculture goods in consultation with the soil analysis programme for neutralising the soil acidity which adversely affects the production, that is to use 21,000 metric tons of agri-lime during the plan period. The subsidy presently given in the use of agriculture will continue.

Storage of Agriculture Goods

With the increase in the supply of agriculture goods storage facilities also have to be added and so additional godowns will be constructed in the areas which are accorded priority by the production programme. During the plan period godowns with the capacity of 29,000 metric tons will be added. From this the present capacity of 64,456 metric tons will be raised to 93,456 metric tons.

Production Services

Agriculture Publicity

Increase in agriculture is possible only when the production techniques and inputs are used properly. Improved techniques which have been developed for the proper use of production inputs have to be taken to the farmers who will be explained how these techniques will be amalgamated into their traditional practices how the new techniques will be used. Since the responsibility of agriculture information system is to bring awareness among the farmers for increasing agriculture production increase in earning and employment opportunities and improvement in the standard of living of the farmers target is set in the Seventh plan to use agriculture publicity along with the production target in a composite package. Agriculture information programme can collect information on farming situation favoured crop necessary inputs their kind and their proportion; can exchange information on quantity of inputs required time and place and requirement of types of services and can function like a contact institution with the units carry out activities on agriculture inputs agriculture credit improved seeds crop protection crop technology soil analysis etc. and hence agriculture publicity will be activated in order to support in providing production inputs and services to the farmers at one time and well ahead of the farming season. Taking into consideration of the active role of house wives or women in agriculture women's activities affairs coordinators programme at the departmental level will be organised for making women's participation effective.

District production will be established with the representation of all institutions related to agriculture development in each district for providing production inputs and services to meet the requirement of farmers in making agriculture publicity information effective. The objective of all the institutions related to agriculture development of the district will be so framed that their common objective is to attain the agriculture production

fixed for the district. Such groups will scrutinize all the production programmes of the district and their responsibility is to formulate execute send the report to the centre by evaluating at the district level.

The secretariat of the production group will be at the district agriculture development office. reward and punishment will be related to the attainment of the target set for the district.

District production programme will be executed by dividing the program into special, pocket and normal on the basis of irrigation facilities, existing as well as feasible, and production inputs and services will be provided according to the priority accorded. Areas which have no direct influence of the programme will be put under other programmes.

Service centers will be organized by taking into consideration the weightage of the district production programme for their effectiveness. At these centres basic infrastructures such as crop protection materials, implements, soil analysis kits, fertiliser, seeds, marketing, loan investment and technical assistance will be made available. District production teams will implement the production programmes through these service centers.

Production services in the form of a package will be provided to the farmers on the spot in the special and pocket areas through the services centres. Training and supervision services will be provided to the farmers through these service centres by determining production blocks of 100 hectares each or according to the requirement of the panchayat in a package from for which one agriculture assistant or panchayat level agriculture assistant will be assigned. These assistants will be evaluated on the basis of improved techniques being used in their respective areas. In the orchard having 25 hectares one trained agriculture assistant will be provided. Such training programmes or supervision programmes will be carried out in the farms of the farmers. While training is given among the new recruits of agriculture assistants 10% of them will be women. Also for travels and seminars organised for the farmers 10% participation will be given to women.

Since regional directorate are not effective because they have to supervise many districts with regard to monitoring and direction of district production programme, instead of this zonal level agriculture information offices will be established to monitor and direct the district production programme effectively. In addition, district agriculture development offices will be strengthened technically. information and coordination, training and manpower development and planning and evaluation at the departmental level will be consolidated.

Agriculture extension will be made more practical by consolidating agriculture information services during the plan period. Necessary support will be given to involve rural youth programme with the training of farmers in order to expose the new generation towards improved techniques for agriculture development.

Important activities on agriculture publicity programme for fulfilling the production target in the Seventh Plan by the agriculture publicity services programme in brief is given below:-

1. To attain the set agriculture production target.
2. To provide production inputs and services to the farmers in time to attain the target set.
3. Improved techniques for agriculture production will be widely publicized by exhibition of result and methods, agriculture workshop, agriculture tours and discourses., distribution of booklets, training of farmers, radio programme, competition of production.
4. To organise competition of crop production from service centre level to the national level and to reward the excellent farmer and one month allowance will be given as token of encouragement additionally to the agriculture assistant on the basis of attaining the set production target.
5. Production programme will be monitored and evaluated at every stage.

Other production services which are to be provided to the farmers under agriculture extension will be mobilised in the following manner.

Crop Technique Service

Within the command area of different farms station problems will be studied on the spot at the production areas and services will be provided from these farms for solving them. Necessary services will be provided according to the weightage at the program for the areas outside the catchment area of these farm stations.

Crop Protection Services

Since crop protection service has an important role it will be more effective by increasing the crops by protecting them from diseases and insects, birds, rats, etc. In addition to the crop protection units in different farm stations additional crop protection units will be established in different farm stations during the plan period. These units will be developed by equipping them with equipments, chemical including laboratory services, for these crop protection officer in the district agriculture development office and technicians in other district service centres will be deputed.

Local JTA/JT, Agriculture Assistant will be trained on crop protection and they will be mobilised for prevention of disease and insects. For the crop protection services for organising the central crop

protection office looking after programme formulation, coordination and supervision, organisational improvement will be brought about by keeping all the employees of all groups who take part in crop protection in the field of insects and diseases.

Therefore, by agriculture publicity it means not only the publicity of agriculture techniques alone but all the efforts combined in a package form also in order to make the production programme successful.

Soil Analysis Service

The soil analysis service is extremely important for recommending the type and dose of fertilisers by testing, analysis and study of the fertility power of the soil because it is the most important input in maintaining the nutrients of the soil and recommending the required ingredients to neutralise the unnecessary and destructive elements in the soil. Since chemical fertilisers have to be imported their use has to be done in the wisest possible manner. In this context, soil analysis services will be used in order to attain the target of agriculture production in an integrated manner with the agriculture production programme in making it effective during the Seventh Plan. Soil analysis services will be production group in fulfilling the production target according to special, pocket and normal programme areas in order of priority. Soil analysis services will be made more elaborate by training the technical assistants and agriculture assistants of the service centers in the use of the soil analysis kits in testing soil.

Among the recommended nutrients for increasing the fertility of the soil chemical fertilisers, compost fertilisers and animal manure according to the location recommendations about Yojaula Blue, Green Algae and green manure will be made available, Recommendations for the use of zinc and agri-lime for treating the soil will be made available and use of such materials will be programmed.

To provide the services by making the soil analysis more effective existing soil analysis units in different places and additional units in Janakpur, Surkhet, Jumla and Doti will be strengthened. These 12 units will provide soil analysis services to the farmers in the specified command areas. For formulating the soil analysis programmes for coordination and after assessment of problem central level soil science and agri-chemical programme will be activated for giving directions.

Seed Technique and Development Service

For increasing agriculture production purity of seed variety has a very important role. Government farms and government institutions alone cannot play the adequate role in the production of seed. They will be directed to be busy in predicting new variety of improved seeds and production of high quality seeds for substituting the aged seeds. Government farms will produce foundation seed and some certified seeds and through Agricultural Inputs Corporation production of certified seeds will be increased. Selected farmers will be associated in these activities by training them on techniques for determining purity, selecting highly fertile seeds, storage, etc. for associating the private sector in increasing the production and marketing and distribution of improved seeds which have been recognised. Seed testing, seed crop inspection and seed certification for the farmers involved in the seed breeding programme will be carried out under the seed techniques and development services.

For making the seed technique and certification services effective seed testing laboratories will be added at Khairnitar, Hardinath and Dang and the existing laboratories together eight laboratories will be strengthened. Are units in 7 places like Bhojpur, Kankai, Kavre, marfa, Rampur Doti and Kanchanpur will be organized. Districts covered by the programme will be made self-sufficient by effective operation of these units in providing quality seed development services. Thus supply of improved seeds will be made to the farmers in time thus creating the atmosphere in establishing seed processing industries by making the private sector capable in seed production and distribution.

Seed technique and development services will be provided through the nearest service centre in the area according to priority given by the agriculture production programmes in consulting with the district production groups. Such services will be available from the above mentioned laboratories and area units as well.

To make the seed technique and development services effective and consolidate the seed programme necessary improvement will be brought in the central organisational matters. Activities related to high class seed committee. separate category for the employees of seed technology and development services will be properly organised under this programme.

Training Programme

Training will be very medium for increasing agriculture production by using the inputs and techniques widely by giving training on different subjects to the workers of different levels involved in agriculture development activities for the successful implementation of the agriculture production programme. Against this background, adequate facilities could not be provided to training programmes which were scattered, because training programmes were conducted as part of agriculture programme in the

previous plans with no follow-ups, duplication of activities between the training programme and training centre. The following arrangement will be made in executing the training programme also with the production programme in the Seventh Plan:-

1. Duplication will be eliminated by evaluating the training programmes and training centers.
2. Training programmes will be effectively executed by reducing the 39 training centres to 10. Realising the need of providing preservice training to the new officer recruits and periodic officer training on training centre will be fully equipped to give training on all subjects and the other training centres will be developed to provide training on subjects according to the need of the area where agriculture programme is implemented.
3. Syllabus and course materials will be developed by the training experts in consultation with the programme experts and specialists. The training centres will be fully equipped with physical infrastructure for making the training programme more practical supported by experimental exercises.
4. In farming since women are attentive than men facilities will be increased in each training to encourage women to take part in training including construction of hostel.
5. Training and manpower development will be strengthened for executing training programme in a well organized manner by assessing the requirement for different programmes.

Programme will be implemented in a coordinated manner in such a way that concerned programmes will furnish the materials required for their respective subjects such as foodgrain crops, cash crops, fruits and vegetable and fish development in carrying out training programme for different levels.

Agriculture Research and Technique Development

To increase the agriculture production according to the need of the country it is extremely necessary to use appropriate techniques. Dynamic research programme is necessary to develop improved techniques for use by the farmers according to needs. It is extremely necessary to execute agriculture research programme as complementary to agriculture publicity for developing a technique which is simple, easy to apply and matching to condition of the farmer by studying the problems cropped up while the recommended techniques are used by the farmers. Against this background agriculture research and technique development programme will be implemented with a clear cut direction. For this research programme will be implemented in the following manner:-

1. In the sixth plan even though emphasis was given that research farms were given specified areas for research in the farm and external services in the command area but lack of clear cut direction could not make services and research works effective, and also because the research works carried were only to the interest and capacity of the researchers more than meeting the specific requirement. Organizational improvement will be brought about for giving clear cut direction in research and development during the Seventh plan.
2. For implementing the agriculture research and development programme by activating the inactive research coordination committee in the form of national agriculture research coordination committee in the Ministry of Agriculture consisting of Tribhuvan University, National Council of Science and Technology will be set up. If this committee does not ratify no research will be carried on any problem.
3. Research panels will be set up to carry out the function of the secretariat of the agriculture research coordination committee in the field of agriculture animal development, animal health and socio-economic study. In these panels concerned specialists will be nominated and these panels will prepare the clear cut research projects which will solve the short-term and long-term problems for increasing the production taking into consideration the problems faced by the farm station and as pointed out by agriculture publicity programme, and these projects will be included in the annual programme after ratification by the national agriculture research coordination committee and the research panel will identify the person who will take the responsibility of executing the research project and the research will be carried out through the appropriate farm stations.
4. Research works specified by the committee only will be carried out in the research farms and stations. In such research activities the responsible person will not be held responsible for the services to be provided to the command area of the farm stations. By deputing research assistants in the research farms for providing the external services in the command area through these assistants, research will be experimented in the farmers' fields, technical advice will be provided for crop development, results of experiments from the fields of the farmers will be communicated to farm researchers and these assistants will be held responsible for the researches which are related to the farmers' fields.

5. The budget allocation made for the research project approved by the national agriculture research coordination committee will establish a clear situation for correct assessment of the investment or research and its achievement by eliminating the vagueness of the existing investment in the research farm station.
6. The existing central research unit at Khumaltar will be activated by reorganising it in the form of national research centre and it will be developed as a source centre for the research panels in issuing direction by monitoring and evaluating all the research and technical services of all the farms and station. In the main units related to researches of the national agriculture, research centre with subject-wise division, major crop development programme and agriculture farm and stations will be established.
7. To make the proposed research and technique development programme dynamic, existing centres will be reorganised and consolidated. The activities of the research farms will be clearly spelt by classifying them into research farm, service oriented farm and service and commercial farms.

Agriculture Price and Market Development

To derive the expected results from the proposed additional investment for increasing production, the produced goods must receive proper price and market. Priority will be given in the Seventh plan to give fair price and market for the agriculture goods produced for encouraging increased investment and effort for increasing the production. Of the goods produced since some surplus will be available for marketing, proper price and marketing will be guaranteed for 15% of the total marketable quantity of the major agriculture product every year. For issuing this guarantee the following steps will be taken: -

1. One advisory committee will be set up consisting of experts for counselling His Majesty's Government on approved prices every year by constant study of the cost of production, comparative benefits and selling prices of the agriculture products. Against the present practice of fixing price by different institutions, responsibility will be given to this committee for fixing the price of all agriculture products and to implement this price and study its effectiveness.
2. Fixation of approved price will be done on the basis of goods promoted by agriculture programme and high classified goods and special quality or variety goods. The farmers will be informed about the approved prices of the specified crops well ahead of the farming season in order to enable them to formulate their production plan.
3. Study programmes will be implemented in order to make the expert committee with regard to approved price on farming expenses, on crop conditions, pre-crop condition, supply of foodgrains and consumption and so on according to necessity.
4. Arrangement will be made to fix the responsible central institution to buy the agriculture at the approved price or to buy at the market centre or depot when majority of the farmers sell their produce at the approved price fixed by the consolidation of Nepal Food corporation. Thus if the farmer can increase the source of their income by selling the small surplus this will also bring a definite supply position by the institutional procurement of agriculture produce enabling to maintain a certain level of quantity and quality for export trade as well.
5. For marketing of agriculture produce at the coordination of the central institution market will be established for the farmers at the production spot where village level cooperatives are there and where cooperative do not exist through the private agents.
6. Haat market development programme will be implemented for establishing local market and for organising commercial centers and haat markets and developing market facilities. Special priority will be given to develop wholesale market on the weightage of the programme in the area which specifically emphasised by foodgrain production programme. Wholesale market will be developed in a coordinated manner by giving priority to milk and livestock production areas receiving top priority from livestock development programme, urban areas and areas near the highway where special programme is implemented under fruit production programme, area where potato is used as staple food and special programme area near market and having transport facilities under potatoes development programme, vegetable production project area for meeting the demand of the urban area under vegetable production programme, on the basis of market feasibility. To generate the situation for the farmers to bring their produce direct to the haat market or wholesale market production groups will be established which will be provided with the information on market and other technical services and through them agriculture produce will be brought to the market. If collection centres are required for these groups private sector will be encouraged to set up such centres.

- 7 Even though terai will get priority because of its being the main area for foodgrain procurement programme keeping in view the increasing transport expenses for hauling foodgrains to the hilly regions, foodgrain purchase will be implemented in the feasible pocket area. Foodgrains purchased from the haat bazar or wholsale market will be stored in the nearest godown for distribution. Emphasis will be given to establish processing mills in these areas. In case the price of foodgrains distribution fluctuates beyond the set price corrective measures will be taken to contral it only other wise no effect will be allowed in free market price fixation.
- 8 Cash crops will be allowed to be purcased from the haat and wholsale market not below the approved price fixed through the concerned institution.
- 9 Considering the weightage of the volume of production physical infrastructures will be developed at the haat bazar or wholesale market. Price and market information services will be constantly available in these markets.
- 10 Private sector will be specifically made active for the marketing facilities for the sale of agriculture produce near the production areas. In the initial stage of commercialization of market programme and in weaker areas. In the intial stage of commercialisation of market programme and in weaker areas government sector will play the role of pioneering only to initiate the programme by encouraging the peoples' participation. Against the background of decentralisation with regard to market price information and agriculture production statistics and analysis service has to be rendered to fulfil the demands of the local level to fulfil the increasing responsibility of passing such infromation and statistics to the central level, district stationed mardket and agriculture statistics will be unified, units which are located in the priority areas according to agriculture programme will be consolidated on priority basis.
- 11 In addition to fixation of price of agriculture produce study projects on plan formaulation, evaluation , market research and other studies related to agriculture, rural economy, etc. connected with the research programme have to be carrid out and have to be implemented with the approval of the agriculture research coordinatin committee, Ministry of Agriculture.
- 12 Policy studies will be undertaken on agriculture production and market developemnt issues such as subsidy on foodgrain, livestock, fruits, potatoes and vegetable development and subsidy on agriculture inputs, the studies will seek to answer questions relating to the effectiveness of such subsidy on agriculture market developemnt in ruban areas and around highway areas, development in integrated, etc. Periodic studies will be conducted on supply and demand of fish, meat, milk, eggs, fruits and vegetables, in the major urban areas, competitive situatin between indigenous production of processed goods and imported goods, etc. These will throw light on the steps which will be required for taking policy measure for indigenous industries to increase employment and income opportunities.
- 13 For the movement of agriculture produce the whole market of the country will be assumed as one single market and no restrictio will be applied in the inter district movement of agriculture produce. No control will be effected on goods manufactured for export. But to support the export trade certification system will be introduced for maintenance of quality of exportable goods. Emphasis will be given to fix the price according the quality during certification. With regard to export of foodgrain review of the foodgrain production of the coming year will be done before export will be allowed without effecting the internal demand.
- 14 Scientific storage and processing has an important role on the marketing of agriculture produce. Study will be made on the godown of different institutions and requirement of additional storage will be determined on the basis of internal trade centres and export.
- 15 Points Development and extension of appropriate processing techniques of agriculture produce has an important role in the form of a programme for increasing the total quantity of supply and to produce quality goods by improving the processing efficiency of arriculture goods for developing market. In the Seventh plan for increasing the efficiency of storing agriculture produce, rural foodgrain preservation programme, training, processing and storage techniques development and extension programme will be executed in special and pocket areas which have been accorded priority by the agriculture production programme with special ecphasis, Considering the contrnuous requiremnet of rural foodgrain preservation programme a separate institution will be established during the plan period to give a permanent shape to this programme.
- 16 Chassification and certification services of the agriculture goods which come into the internal and external market after determining quality level will be implemented with the agriculture

produce marketing programme in a composite manner. Emphasis will be given to maintain quality, goodwill and reliability in the internal and external markets.

9 Food Technology Development

By carrying out experimental studies on storage and processing of agriculture produce the volume of food items will be increased and for maintaining quality adulteration in the processing food will be stopped. Food research quality control and nutrition research and development programme will be given appropriate priority in the Seventh Plan, for studying the composition of nutrients in the available food, for developing the methods of processing foodgrains, vegetable, fruits and pulses, for improving the nutritious condition of the people through publicity and promotion because such activities affect the people through publicity and promotion because such activities affect the internal and external market and price of agriculture production, for supporting collection of information on market and price and for increasing the agriculture production.

under food research programme, appropriateness of the processed agriculture goods use the new and existing technology, processing activities will be developed in the private sector through publicity and promotion and training. Grinding coffee seeds into powder in Gulmi, establishing processing industry, installing equipment for processing coffee seeds in Palpa and Arghakhanchi, for developing cellar stores for storing potatoes, technical services will be provided to private sector. Special emphasis will be given to establish industries in the major areas where fruits will be produced. Potato development programme will produce appropriate variety of potatoes for producing potato chips, and for processing it into making powder.

The above mentioned programme will be implemented in the areas which are accorded priority by agriculture production programme along with production programme in an integrated manner. Considering the market problem because of the constraint of transport in the Hilly Region for developing fruit small scale units for processing and storage will be established in the orchard by providing technical advice and making training programme effective.

Service-oriented programme will be implemented in order to determine the quality standard according to laws by analyzing the processed goods. Such analysis will be conducted on animal feed also. Additional food laboratories will be established for extending the services. Improvement of laws and regulation will be effected and areas extended. Central food laboratory will be developed as a contact laboratory and necessary technical support will be given to the regional laboratories.

To increase the production from consideration of nutrition, agriculture seed production programme will be coordinated with the public health programme on the recommendation of nutrition programme for the produced goods, train the village workers, publicity and promotion health assistants to recommend the nutritious elements for the sick and for encouraging local goods, list of major food items with nutrition content will be prepared: on the basis of the survey of different districts some critical panchayat will be selected practical nutrition programme to be implemented to coordinate with the concerned programme of the ministry of Education for including subjects on nutrition in the course books and programmes will be accordingly implemented.

10. Foodgrains

During the plan period the total production of major foodgrains will be 5,370,000 metric tones, Consumable quantity of this production will be 3,400,000 metric tons. On the basis of the capacity of supply of production inputs and mobilisation according to the target, per capita consumption will be 174kg. Consumable production of high hills and hilly region will be 87% and 34 of the total production of those areas respectively. By improving feasibility condition through expansion of irrigation facilities from minor irrigation construction in the hilly region, pocket areas will be developed. Provisions will be made to distribute improved seeds and crop protection materials effectively, to provide the agriculture inputs and agriculture extension services to the farmers through service centre for supporting the increase of local production whereby the need for distribution of foodgrains will be gradually reduced. In the high hills since there is no scope for further increase of foodgrain production, its supply has to be increased. Since foodgrain is in surplus in Terai, surplus of terai and pocket areas of the Hilly region will be sold by the surplus owners.

Because of geographical conditions all the areas do not have adequate foodgrains and since a major portion of the Hilly Region has transport problem and because of lack of free market supply is not regular and special arrangement has to be made for supplying foodgrains. The target is set to sell 53,500 metric tones of foodgrains in the first year and 62,100 metric ton in the final year of the plan on the basis of increasing population and deficit in the hilly districts. This sale will be from minimum of 15% to 20% in the high hills and in the Hilly Region from

20% in the first year will be reduced to 15% in the final year with hope of increasing foodgrain production.

To implement the programme in order to supply and mobilise foodgrain for fulfilling the target the following step will be followed.

1. Foodgrain marketing

Distribution of foodgrain will be done through institutional channels in the scarce remote hilly and high hill districts. Districts having transport in the scarce remote hilly and high hill districts. Districts having transport facilities institutional distribution will be reduced. In established areas foodgrain distribution will be undertaken by private sector. The existing practice of institutional distribution in the established areas will be gradually reduced and stopped at the end of the Seventh Plan.

2. foodgrain procurement

Foodgrain will be procured from the production areas emphasised by the agriculture programme for further distribution for which cooperative organisations will be given preference and private sector will be taken into confidence in purchasing the foodgrains from haat bazar or depots at a price not less than the approved price. Thus paddy, wheat, maize, millet cumulatively weighing 62,000 metric tons of consumable quantity will be procured within the plan period. For running and emergency stock 30,000 metric tons will be procured in the first year and every year stock will be renewed by corresponding new purchases. Maximum quantity will be procured from the Hilly Region for easy transport to the high hills for supply in the scarce period. This way if local market is developed transport subsidy is reduced.

3. foodgrain Stock

Stock of foodgrains will be maintained in order not to stop the flow of foodgrain to deficit area and ensure immediate supplies during emergency and to control and maintain the price. Such stocks will be used in a complementary manner.

Considering the time required to transport the minimum running stock and the remoteness, a stock of 22,000 metric tons will be maintained on the basis of 4 month stock need in the high hills and 3 months stock need in mid hills. for meeting unforeseen situation at times caused by landslides, floods, droughts, etc. stocks will be maintained in such selected locations wherefrom rush supplies can be made for estimated 200,000 persons for a period of 3 months, making a total of 8,000 metric tons and in the established areas, 18,000 metric tons. These stock will help arrest artificial price rise if it does take place. It will be made compulsory for the private stockholders to submit the information on foodgrain stock every 2 months for keeping upto date information on foodgrains in connection with the study of foodgrain management and market. When renewing the loan against mortgage of foodgrains prior approval from His Majesty's Government which implements supply programme is essential.

4. Pricing

Foodgrain will be procured at the approved price fixed according to agriculture price and marketing programme. marketing will be undertaken by fixing the price on commercial basis. But in case price has to be reduced or common facilities like transport has to be considered His Majesty's Government will bear such differential costs.

5. Storage

Procurement of foodgrains, marketing, mobilisation, stock, godown for emergency and price stabilisation stock existing godowns will be utilised to their full capacity and new godowns will be constructed at appropriate places. The existing capacity of the godowns is 87,000 metric tons which will be raised to 172,000 metric tons by adding godowns capacity for 85,000 metric tons in the Seventh Plan

The target of foodgrain distribution for the programmes referred above is presented in the Table 24.69

TABLE 24.69

Statement of consumable foodgrains
for Distribution in the Seventh Plan

Development	Geographical	1985/86	1986/87	1987/88	1988/89	1989/90
1. Eastern	High hills	1800	2,300	2600	3200	3400
	Hill	3800	3900	4000	4100	3500

	Total	5600	6200	6600	7300	6900
Central	high hills	1800	2300	2600	3600	4100
	hills	6900	6800	8100	9700	8500
	Total	8700	9100	10700	13,300	12,600
Western	High hills	1200	1400	1400	2200	2400
	Hills	15800	15,500	15900	15900	14100
	total	17000	16900	17300	18100	16500
Mid-Western	High hills	4500	4800	5100	5600	6100
	Hills	12600	11900	13000	14800	12,400
	total	17,100	16,700	18,100	20,400	18,500
5. Far-western	High hills	2,000	2,200	3,300	3,300	3,600
	Hills	3,100	3,000	4,200	4,300	4,000
	Total	5,100	5,200	7,500	7,600	7,600
Grand Total	High hills	11,300	13,000	15,000	17,900	19,600
	Hills	42,200	41,100	45,200	48,800	42,500
	Total	53,500	54,100	50,200	66,700	62,100

* This statement does not include the quantity required for the royal Nepal Army, Police, etc.

11. Agriculture Statistics and Economic Analysis

For formulating policy for agriculture development and agriculture programme agriculture statistics is very essential. Similarly for studying the cost of production of other crops basic information will be collected and analysis prepared for developing policy bases economic analysis is important. To make the agriculture statistics reliable and correct and for making it impartial and independent unit should be established. In this context agriculture statistics will cover maximum areas and, for making it authentic, collection, processing and analysis will be undertaken in the Seventh Plan

Under agriculture statistics in addition to collection of statistics of foodgrains and cash crops regularly statistics of pulses, livestock, fruits fish, vegetables, ginger, cardamon, etc, will be collected processed and published. Techniques will be developed for collection of price date of different agriculture crops every week along the border areas. The date will be publicshed. This programme will be implemented by training the employees in the use of forecasting techniques. For production areas which are accorded priority by the agriculture programme collection of statistics will be done separately and published accordingly.

To implement the study programme of farming expenses effectively by studying the cost of production of the crops in the area which are accorded priority by agriculture farm and agriculture programme, bases will be developed for making the investment required for agriculture programmes by identifying the unit cost of factor such as irrigation water, improved seeds, chemical fertilizer and insecticides, agriculture loan, and technical services which have important role for agriculture production. Similar studies will be carried out on livestock, fruits and vegetable farming. Such studies will be carried out after securing approval from agriculture development coordination committee, Ministry of Agriculture with a person taking full responsibility for such studies.

11. Plan Evaluation, Monitoring and Encouragement Measures.

No matter how effectively the plan is prepared if the implementation is not carried out in a correct way and in time, achievement will not only lag behind the target but the overruns will necessitate additional investment of fulfil the same target and this failure to fulfil the target will adversely affect national product and the overall economy. To fill in the gap between the plan and implementaion of the previous plans with regard to development programmes, effective implementation, follow-up and review and evaluation are a must.

Ern thourtyh the project or programme is attractive but if the implementation is not carried out correctly, the plan becomes meaningless and so for correct implementation in the Seventh Plan constant monitoring will be carried out from the stage of plan formulation to execution of all activities and to establish the practic of review and evaluation of projects and programme will be implemented clearly in the following manner: -

A. Objective of the programme : What to do, why to do, for what

	purpose it is to be done ?
B. Working policy	How to do, what method to be followed?
C. Detailed work plan	Where, When, How Who, How much to do ?
D. Constant monitoring and evaluation	What happened, How much completed, How the work was done and Where? what sort of influence it had?

With regard to question related to A,B,C the Seventh Plan has been formulated with due consideration to these questions. Where, when, who How much are valid every year and so will be taken note of, while preparing the annual programmes.

Agriculture developement project and programme thus implemented will be related to D or the fourth aspect. Constant monitoring, evaluation and review will be an insparable part of the project and programme. Such monitoring, review and evaluation will be applicable from project level to national level. Some portion of investment allotted for the project will set asid for this programme from the project level to ministry level of agriculture programme. This programme will be implemented in consultation with the National Planning Commission.

Thus district production group of service centre level and zonal agriculture publicity office of district level will carry out the monitoring and evaluation. At the central level, division (on related subject) in the department or ministry will carry out the monitoring and evaluation. At the national level National Palnning Commission will conduct the monitoring and evaluation in consultaion with the concerned ministry.

On the basis of success or failure exhibited by monitoring and evaluation of programmes, practice of reward and punishment of the responsible person(s) need to be effectively imple mented. This practice will be strictly followed in the Seventh Plan, in the following manner:-

1. In each district under the supervision to the proposed agriculture production team through the service Centre, competition of crops, livestock, fish etc. will be organised and efficient farmers will be rewarded. Agriculture workers will be rewarded Rs. 200.00 for attaining the target. Appropriate reward will be given to the JT/JTA who attain their respective targets.
2. If the set target of the district is fulfilled, district panchayat will be specifically honoured or additional subsidy will be given to this panchayat. If the district production team fulfils the production target medal, or training in a foreign country, or appropriate reward will be given, similarly, at the zonal level fulfillment of the zonal production target and at the ministerial level fulfillment of the national production target will be appropriately rewarded.
3. Execution of programme and fulfilling the target is possible through joint efforts and, if necessary support is not forthcoming from the respective units or institutions, fitting punishment will be given.
4. To implement the system of reward and punishment, the production target of each service center and production block has to be fixed. This should be done every year on the basis of directives received by the district agriculture coordination committee.
5. To attain the production target of the district, joint participanton of farmers, local panchayats, and agriculture workers will be encouraged, and from the stage of formulation of plan to monitoring, review and evaluation local panchayat will be associated.

Budget

Budget allocation for the proposed programmes in the form of financial inputs is presented below:

	Amount in Million rupees
Programmes	
1. foodgain production Programme	95.00
2. Cash crop and special goods production programme	20.00
3. Fruits produciton Programme	40.00
4. VBegetable and potatoes production programme	25.00
5. Fish production programme	50.00
6. Livestock production service programme	680.00
7. Different production service programme	2400.00
8. Agriculture prce and marketing programme	303.00
9. food technology development programme	20.00
10. Food supply programme	300.00
11. Agriculture statistics and economic analysis programme	40.00

12. Plan evaluation and monitoring programme	10.00
	<u>3983.00</u>

- ◆ Agriculture publicity, training, agriculture loan, chemical fertilizer, improved seeds, agriculture implements, agri-lime, small irrigation seed technique service, soil analyses service, crop protection service.

District level programmes to be implemented during the Seventh Plan

Since agriculture development programme seeks to enlist massive participation of farmers, all production targets according to decerntralis ation are included under district level programme. As mentioned in the sub-heading above on order to attain the target of agriculture production programme all feasible production are have to be brought to use. For attaining such production target production group should mobilize inputs and services like agriculture extension, agriculture credit, improved seed, fingerling, chemical fertilisers, improved livestock, veterinery service, production e3quipment, etc. through service centers in the area which are accorded priority by the programme.

District production teams will be established consisting of representative of all institutions concerned with agriculture development and these teams will have to coordinate with the district agriculture coordination committee for implementing agriculture programme

Therefore, to fulfil the agriculture production target fixed by the Seventh Plan, areas will be specified in the districts and programme will be implemented accordingly, District production teams will prepare the programme, get it approved from the district, implement it and will undertake follow up and evaluation. On the basis of programmes mentioned in the sub-headings for fulfilling the production target proposed, main programmes at district level and budget are presented below. This budget is included in the overall budget presented above.

Programmes	Amount In million rupees
1. Agriculture Extension Programme (Crops, Orchard, fish)	519.80
2. Livestock Development Programme (coordinated animal development and animal health programe)	239.00
3. Market Service programme	17.60
Total	<u>776.40</u>

Chapter 25 IRRIGATION METEROOLOGY AND HYDROLOGY

Introduction

Predominance of agricultural sector can contribute highly significant role to increase national output of the country. In the seventh plan the prime importance of priority has been given to the agricultural sector to fulfill the target of an intensive production at high rate. In this respect there are abundant possibilities to have the intention of accentuation the agricultural production. Agricultural productions are estimated to increase abundantly at highly rate if irrigation facilities are fulfilled, although endowed and enriched with water resources we are still unable to utilize appropriate irrigation facilities systematically because of manifold reasons. 13 percent of irrigation facilities had been fulfilled in the agricultural land by the end of the sixth plan. Because of insufficient irrigation facilities, agriculture should wholly depend upon uncertain monsoon, no doubt.

From these view points several efforts had been attained to the earlier plan periods.. The achievement of the progress is highly low as compared to its targets because of lack of financial resources and scarcity of effective achievements in the working capacity. In order to extend and increase the agricultural output in the terai region to fulfill the necessary foodstuffs in the mountain regions to extend exports to collect foreign exchanges to build mountain regions as a self sufficiency for the foodstuffs and to make sound economic condition to the country at the same time the provisions of irrigation should be facilitated to the agriculture enormously as prime media during the seventh plan. Hence considering the past experiences at the outset the high priority should be given to the achievements of the progress as compared with the main targets on the one hand and an additional irrigational facilities should be attained to the cultivable land involving with the proper utilisation of available water resources on the another hand.

Progress Evaluation of the Sixth plan

During the Fifth plan period the provisions of irrigation facilities for 1,98,481 hectares of land were assumed to be fulfilled. Of this 1,80,926 and 17,555 hectares of land were provided with irrigation facilities in the Terai and Mountain regions respectively.

The main target of the Sixth plan was to provide an additional irrigational facilities to 2,33,482 hectares of land but an area of 18,000 hectares could not operate under construction because of the lack of financial resources and some projects in agreement with foreign aid only by name but not in action. Some other working efficiency of irrigational projects become unable to initiate in time and could not meet the target because of manifold reasons. By this way during the sixth plan period an additional 52,503 hectares of land were provided irrigational facilities for the first four years and an additional 41,630 hectares of land were provided for the Fifth year. Hence an additional 94,133 hectares of land were estimated to be irrigated during the sixth plan period. Furthermore 17137 hectares of land were provided an irrigational facilities for the first four years which had been completed by agriculture Ministry with the digging tube well boring projects and an additional 3,572 hectares of land were provided an irrigational facilities by Panchayat and local Development Ministry at the same time and at the end of the Sixth Plan 24,457 and 8,32 hectares of land were estimated to provide an additional irrigational facilities respectively. Hence the grand total of 73,212 hectares of land had been provided an additional irrigational facilities for the first four year of the sixth plan and 66,979 hectares of land were estimated in the fifth year. During the sixth plan the grand total 1,40,191 hectares of land were provided with irrigational facilities by the end of the sixth plan.

Progress Achievements of Irrigational Developments in Different Plan periods

Prior to plan period	-	6,228	hectares of land
First Five year plan	-	5,2000	"
Second Three year plan	-	1,035	"
Third Five year Plan	-	52,860	"
Fourth Five year plan	-	37,733	"
Fifth Five year plan	-	95,425	"
Sixth Five year plan	-	1,40,191	"
		(Estimated)	
Grand Total	-	3,38,672	"

The assessment of the quantity of water rivers and rivulets is contrastly different between the summer crop season and winter crop season.

There are envisaged some basic initiatives to be launched in the summer crop season drawn up to extend irrigational facilities to most of the farm lands that are irrigable to keep up the working efficiency of

irrigation projects not only those initiatives but special attention will be given to proper maintenance and repair to use the full capacities of irrigation in operation to improve present, arrangement and distribution system of the irrigation, facilities construction canals to agrarian lands to give appropriate methods to utilizing, irrigational facilities to the consumed farmers to coordinate the water distribution among farmers and to pay heed the social and economic conditions of the agriculturists so the available potential capacity of the irrigational facilities will be extended by only 42 percent in a planned and systematic way.

Problems and constraints During the Sixth plan periodic Implementation

During the Sixth plan. There were several problems and constraints which had hindered the progress of projects under construction Some of the major bottlenecks are listed below.

1. Several irrigation projects could not progress to fulfil the target because of financial problems as late release of funds by His Majesty's Government . Funds release for projects are often far less than the requested amount leading to two or three years delay in scheduled project work due to financial stringency which make constraints to its constructive works.
2. Because of the lack of foreign assistance some projects which were initiated under foreign aid had to work on limited budget with long duration.
3. Absence of uniformity in analysing of working rates done by different sectors the basis of contract is on the least rate because of this the contractors are unable to work out qualitatively or loose the contract in the middle or delay if the new contract is called it takes long time.
4. At the outset absence of detailed survey and specific design estimate for the on-going projects was a handicap. From this while under construction it makes delay in working efficiency and it takes long time for completion.
5. At the outset because of lack of geological survey in the hilly areas projects are stopped due to geographical extremities in the middle while under operation it leads to the extension of time.

Recommendations for the Constraints of the Sixth plan

There are some major conscious recommendations and reforms of the problems of the Sixth plan which are enlisted below for the implementation of the seventh plan.

1. To keep in operation of the target of the projects if the financial resources are already allocated.
2. To specify the rate analysis of the operation of the on-going projects and implement them indifferent sectors.
3. To prepare and ensure the basic norms by specifying the feasibility studies of the projects and implement them.

Objectives policies and programmes of the seventh plan

Backgrounds

Irrigational development is indispensable for the agricultural development. The progress achievement undertaken by the irrigational facilities had never been satisfactory and fulfilled to the target attained to the different earlier plan periods. Because of these agriculture sector still depends on uncertain monsoon while paying specific attention to this situation if the target of the Seventh plan should be estimated which is to be practically completed then only the appropriate plans and programmes will be implemented to enhance the fulfillment of abundant agricultural production.

Food deficit problems in hilly areas can not be solved immediately though the foods are transported from the terai to hilly areas. In the mountain regions special programmes will be put into effect to step up the production and productivity of food crops and the on-going projects should be completed and special attention should be given to enhance appropriate plans for the renovation and reforms of the irrigational systems. Irrigations development should provide the encouragement of the private sector for the development of the country utilising the private canals at the maximum rate.

The utilisation of the irrigation facilities can contribute the significant increases in the agricultural productivity scientifically consisting of agricultural inputs and pesticides. It enhances to increase abundant agricultural production per hectares at higher rate. From these viewpoints irrigation projects to be launched in the terai will be completed as soon as possible to avoid unnecessary delay in selecting agricultural development programme to implement new projects in the endowment of water resources place to the canals handled by the farmers to assist short term irrigation projects and to emphasis the ground water irrigation projects wherein the surface projects cannot initiate the achievement. Monsoon oriented agriculture system should have reliable whether forecasting for the present moments on the scientific basis for encouraging the seasonal productions. Special attention should be given to develop infrastructures in the field of Hydrology and Meteorology for the specific utilisation of water resources.

Objective :

The basic objectives of the seventh plan have been stated in the document of irrigational development programmes outlining the basic principles of the seventh plan (1985-1990) as follows.

1. As irrigation plays the vital role in extensive agriculture the certainty and permanency should be given to the uncertain agriculture which depends only on monsoon (rainfall) and then only the target of the agricultural production will be fulfilled by using the surfacial and ground water resources in the form of Natural ones.
2. To emphasis the mobilisation of Hill Irrigation Projects in order to fulfil the self sufficiency of foodstuffs increasing paramount food production in hilly areas as far as practicable.
3. To use the abundant water resources of the country in the form of the development of hydro-electricity, irrigation and drinking water purposes by using specific data and researches relating to Meteorology and Hydrology.

Policies:

1. Grow more food production programme will be drawn up as a campaign designed to increase the production of foods and other crops with the aim of making the mountain regions to a self-sufficient regions within next ten years utilising the available water resources and extending paramount use of irrigation facilities.
2. Small and medium sized irrigation programmes will be launched on a wide scale in the feasible areas of the mountain and the terai as they have a significant role to play in boosting agricultural production enormously. In addition to these, special attention should be given to launch the estimation of low cost projects.
3. The available potential capacity of irrigation facilities are only 42 percent in accordance with the specific data so it should launch the full capacities of irrigational projects in operations, and improvements will be made in the present management and distribution of irrigating water in a planned and systematic way.
4. Quick completion of on-going irrigation projects will be emphasised and given preference to the few selected of new projects and estimated at low cost projects completed as soon as possible and giving priority to emphasis the so called investment.
5. To maintain the working efficiency and capacity of on-going irrigation projects after completion, special attention will be given to proper maintenance and repair.
6. In spite of efforts launched to extend irrigation facilities by His Majesty's Government there should be provision of maximum mass participation in the field of irrigation development from private sector and local institutionalised media in order to help the boost production growth.

Working Policies :

1. There should be the provision of enormous irrigation facilities in the major part of the agricultural land aiming to finish within a short duration and implementing the irrigational programme at low cost.
2. Stress will be given to increase the working efficiency by utilising the capacity of on-going irrigation projects and present water distribution system and develop the reforms in the management of the project in a systematic way.
3. Stress will be given to prepare the scheduled routine to bring into action on the implementation of the on-going irrigation projects. Accordingly, the projects should be implemented.
4. Special emphasis will be placed on the small irrigation projects utilising the water of river and regulate implementing the locally available skill, resources and labour in the mountain regions.
5. Reservoirs irrigation projects will be constructed on the large scale to collect the water during the monsoon and make it available in dry seasons.
6. In places where power is available or is likely to be available in the near future, lift irrigation projects will be put under way Hydraulic Ram Irrigation Projects will also be launched where the places are feasible.
7. In the mountain regions greater emphasis will be laid upon to launch plateau irrigation projects.
8. Small tube-well irrigation projects operated by electronic diesel or physical power will be extensively initiated in the terai.
9. To use the full capabilities of irrigation programmes there should be coordination between Agricultural Ministry and other agencies of irrigation programmes.
10. In the implementation of irrigational schemes on the district irrigation projects, emphasis should be laid upon the mass participation of local labour and local panchayat themselves as far as practicable.
11. In spite of bare necessity of physical facilities there should be cancellation in the administrative expenses and the construction works of physical facilities of the irrigation projects.

12. Special attention will be given to the proper maintenance and repair. Emphasis will be given to enlist the mass participation of local labour and local panchayats in order to help the boost production growth. Proper maintenance and repairing of irrigation projects will not affect any problem initiating in the agricultural programmes at all.
13. On the long term irrigation plan, emphasis will be given to preserve the big and medium sized surface and ground-water irrigation projects and feasibility study of such projects will be carried out in large numbers keeping in view the country's medium term and long term irrigation needs. while starting large scale irrigation projects, they will be emphasized into a multi-purpose form.
14. Popular involvement in river control works will be made only where erosions have assumed most serious proportion or where priority has to be given the mass participation of localities in river control compulsorily and their roles will also be defined clearly and emphasis will be laid on tree plantation and a forest conservation measures in erosion-prone areas.
15. Provisions of water tax system should be made utilising both surface and ground water resources. Legal provision will be made to prevent the distractions and disorder works of irrigational programmes.
16. Before executing developmental irrigational projects, their environmental implications will be routinely studied and assessed compulsorily.
17. A special kind of weather forecast will be made available to the peasants keeping in view the different states of the standing crops to make agricultural operations more reliable.
18. to tie up the developmental basis of the country's economy with the mobilisation and utilisation of the water resources, of the country statistical informations on the water resources of the country will be regularly collected and their potentialities will be constantly studied and analysed.
19. The strategy of Decentralisation should be applied to the implementation of the enactment of annual programmes in the district level. Loan programmes should be undertaking to boost production and incentive schemes from the central level programmes should be implemented.

Priority

During the Seventh Plan, emphasis will be given to enact the irrigational development programmes by establishing priority of new schemes of new schemes of surface water irrigational programmes in the possible areas, such selected priorities in operation are stated as following.

1. On-Going projects.
2. Programmes relating the supervision, control, maintenance and improvement of completed projects and extension of the projects.
3. Mountain regions oriented irrigation projects.
4. Large scale (long term) projects.

Target of the Seventh Plan

The target set for the Seventh Plan in considered as a realistic target aiming the working efficiency of the plan execution and previous experience.

Additional irrigational facilities will be provided to an area of 2,35,493 hectares during the Seventh Plan period. of this 1,35,493 hectares of land will be accounted by Ministry of Water Resources and an area of 1,00,000 hectares (50,000 hectares tube wells and 50,000 hectares small irrigation) by Ministry of Agriculture. Out of 1,35,493 hectares of land of the irrigational facilities accounted by Ministry of Water Resources, 1,06,003 hectares of land are amenable to identification for different on-going projects and 29,490 hectares of land respectively. Furthermore an area of 28,048 hectares are amenable to the district level programmes.

The emphasis of the mobilisation of hill irrigation programmes fulfilling the self-sufficiency of paramount foodstuffs aiming the target of the Seventh Plan is provided to irrigate additionally an area of 54,437 hectares in the mountain regions. out of these 14,437 hectares of land are amenable to identification by Ministry of Water Resources and 40,000 hectares of land by Ministry of Agriculture.

The description of an additional irrigation facilities and sectorwise division targets drawn up by Ministry of Water Resources can be state as following.

1. On-going Irrigation Projects.
 - (a) Terai Region 8,851 hectares of land
 - (b) Mountain Region 7,151 hectares of land
 2. New Irrigation Projects
 - (a) Terai Region 21,600 hectares of land
 - (b) Mountain Region 7,890 hectares of land
- Total 1,35,493 hectares of land
- Division of Developmental Sectors (in hectares)

	Rerai	Hill	Total
(a) Eastern Region	39,235	2,385	41,620
(b) Central Region	34,500	2,390	36,890
(c) Western Region	8,666	5,227	13,389
(d) Mid-Western Region	5,500	1,560	7,060
(e) Far-Western Region	10,950	3,480	14,340
(f) Undesignated	21,600	–	21,600
Total	1,20,451	15,042	1,35,493

An additional irrigational facilities will be provided an area of 40,000 hectares in mountain regions and 60,000 hectares in the terai.

If all of these targets are attained, the net increment in the irrigated area will be 5,74,165 hectares of land, that means, the arable land will be irrigated by nearly 21.7 percent.

Irrigation Development programme in the Seventh Plan

A on-going Surface Irrigation Projects

(1) Begmati Irrigation Project

This project is expected to eventually command 68,000 hectares utilising a barrage in bagmati river between janakpur and Narayani zone within Sarlahi, Rautahat and Bara districts to increase output enormously. This project can be constructed into two phases During the Sixth Plan, it was originally planned to command an area with extensive irrigation as part of the first phase of the projects in development and during the Seventh Plan it will fulfil the target of first phase commanding an area of 32,000 hectares consisting of 12,000 hectares in Sarlahi District and 20,000 hectares in Rautahat district. This projects will provide the irrigational facilities continuously from the fiscal year 1986/87.

(2) Sunsari Morang Irrigation Project:

This project was completed in 1975 aiming to extend the irrigational facilities of an area of 66,000 hectares of Sunsari and Morang Districts but because of the different serious problems nearly an area of 33,000 hectares had been fulfilled to irrigate successfully and this project aiming to make more appropriate and scientific project was further initiated in the fiscal year 1979/80.

The main objective of the Sixth Plan has been to irrigate an area of 33,000 hectares, during the four years of the plan periods and area of 16,000 hectares could be irrigated intensively and the progress of the last period of the Sixth Plan has been estimated to irrigate an area of 15,000 hectares.

By the end of the Seventh Plan the target of an area of 32,000 hectares will be irrigated extensively and completed the remaining works of 2,000 hectares of land with the construction of small secondary canals and extensions of appropriate irrigation facilities.

Besudsm abd area if 12,000 hectares will be completed the irrigational facilities intensively in the fiscal year 1985/86 and the remaining work of 20,000 hectare of land will be estimated to complete in the fiscal year 1990/91.

(3) Narayani Irrigation development Project

By the end of the Sixth Plan the Narayani Irrigation development Project has been consisted of gross area of 31,400 hectares of Bara, Parsa and Rautahat of Narayani zone and net irrigable area of 8,700 hectares in Rautahat district aiming to complete the additional target of an area of 4,700 hectares to fulfil the reformed type of irrigational facilities intensively

This project carried over into the first year of the Seventh Plan consisting of the completion of the part of the phase II of the Sixth Plan. Based on the experiences and performances of the phase II, the project will target for implementing the irrigational facilities and for completing the feasibility study of phase III of the project, renovation of the completion of the feasibility of secondary canal, shallow tube well development, river control and so forth.

(4) Mahakali Irrigation Project

The project with a gross command area of 6,600 hectares is located in the kanchanpur district of Mahakali zone in the Far-western Development Region claiming the rights of the use of Mahakali rivers divided from the Sharada barrage with India. This project was initiated in the fiscal year 1980/81. 5,000 hectares of land will be provided the irrigational facilities and develop an additional area of 1,600 hectares with the objectives of the Seventh Plan improving the reliability of water

deliveries to the farmer. After completion of the project the area of 6,600 hectares will be irrigated intensively. This project will be completed in the fiscal year 1986/87.

(5) Chitawan Irrigation Project

This project located at Chitwan district of Narayani zone in Central Development Region was initiated in the fiscal year 1974/75 Commanding an area of 11,700 hectares. This project comprises Narayani lift irrigation consisting of the construction of an area of 4,700 hectares, 3,900 hectares of land reconstruction of Khageri canal, 600 hectares of land of Panch Kanya water irrigation construction, 1900 hectares of land of Lothar Rapti canal construction, 600 hectares of land of Pithuwa canal renovation and agricultural development programmes at the sametime. This project has been estimated to irrigate intensively the area of 4,700 hectares during the Sixth Plan. By the end of the Seventh Plan the project will complete the remaining work of Khageri canal renovation and development and Lothar Rapti construction at the sametime and will irrigate the area of 1,900 hectares intensively. This project will complete in the fiscal year 1987/88.

(6) Mohana Irrigation Project, Dhangadi

This project is located in Kailali and Kanchanpur district of Mahakali and Seti zones in Far-Western Development Region, This project had the target of irrigating intensively of an additional area of 3,500 hectares consisting of 1,200 hectares of land of Kailali district, of Mohana (Mahali) river water and 2,300 hectares of land of Kanchanpur district. Among them, 1,000 hectares of land will be commanded by the end of the Sixth Plan and during the Seventh Plan, the project will command the irrigation facilities of 3,500 hectares of land intensively. This project will be completed in the fiscal year 1985/86.

(7) Khutai Irrigation Project, Kailali

This project has been initiated aiming to provide irrigational facilities to 5,000 hectares of land constructing of Khautia river diversion were of Kailali district. This project will be completed in the fiscal year 1985/86.

B. Hill Irrigation Projects.

(1) Hill Irrigation Project: First Phase

Under this project intensive irrigation facilities have been provided to an area of 4,100 hectares in the Western Development Region consisting of an area of 1,280 hectares at Bijayapur, Kaski, 580 hectares of land in begnastal, Kaski; 380 hectares of land in Hyangja, Kaski; 850 hectares of land in Chapakot tar, Syangja; 480 hectares of land in Rampur fant, Palpa; 300 hectares of land in Phalewas, Parbat and 280 hectares of land in Bulingtar, Nawalparasi. Unfortunately, The Chapakot tar project could not fulfill the target of the Sixth Plan because of several reasons. Besides, Chapakot tar, the other projects will provide to irrigate intensively an area of 1,165 hectares. The target of the Seventh Plan is the completion of the remaining work of 2,085 hectares of land to be irrigated. This project will be completed in the fiscal year 1986/87. The Chapakot tar irrigation project will be implemented with the involved investment and local public participation on limited resources during the Seventh Plan.

(2) Hill Irrigation Project: Second Phase

Under this project intensive facilities will be provided to the target of an area of 4,400 hectares in Doti, Bajhang, Aachham, Bajura Districts of Seti zone consisting of 1,280; 1,280; 1,780; 440 and 900 hectares of land respectively. This project was initiated in the fiscal year 1984/85. The target for the Seventh Plan is to provide irrigational facilities to 3,000 hectares of land and the remaining works of the Seventh Plan will carry on the Eighth Plan.

C. Ground-Water Irrigation Project

(1) Bhairawa-Lumbini Ground-Water Development Project: Second Phase

This project had completed the objective of irrigating the commanding a gross area of 7,5000 hectares implementing the ground water development and conjecture use of deep wells in Rupendehi district of Bhairawa Lumbini consisting of the first phase of the net area of 4,500 hectares during the Fifth Plan period and an area of 3,000 hectares by the end of the Sixth Plan. The second phase had been initiated during 1,800 hectares aiming the irrigational facilities extensions. This project will irrigate continuously by the fiscal year 1986/87 and complete in the fiscal year 1988/89.

(2) Shallow Tube Well Project

This Project has been initiated for digging tube well development by the government involving the work of boring only but the individual farmer should take loans from agricultural Development Bank or from other institutions or do by themselves for shallow tube wells equipped with a pump, drainage net works and other pump expenses including with reconstruction and repairing at the same time. During the Seventh Plan the project will extend additional irrigational facilities to an area of 10,000 hectares only.

(3) Ground-Water Development Project with a Pump & diesel Engine

This project was initiated in 1983/84 aiming to irrigate especially in Kapilbastu and Mahottari district wherein the surface water is lacked in those districts establishing a ground-water development within a pump and diesel engine, investigating finding out the storage of the ground-water, studying feasibility of the project and utilising the successful tube wells at the same time. This project has the target to irrigate an area 1,200 hectares during the Seventh Plan. This project will be completed in the fiscal year 1989/90.

(4) Kailali Kanchanpur Tube-Well Irrigation Project

This project was initiated in the fiscal year 1980/81 for tube well construction of Kailali and Kanchanpur district to increase agricultural production extensively. The project had extended the irrigational facilities of an area of 2,315 hectares during the Sixth Plan. By the Seventh Plan an additional area of 3,350 hectares will be estimated to irrigate. This project will complete the irrigational facilities in the fiscal year 1988/89. The irrigational facilities were provided from the fiscal year 1985/86.

(5) Groundwater Water Investigation

This project was initiated in the fiscal year 1984/85 investigating ground-water storage into productive tube well construction. During the Seventh Plan the project will estimate extend the works to tube well drilling, tube testing, and investigating.

D. Integrated Programmes

(1) Sagarmatha Integrated Rural Development Projects

This project was initiated in the fiscal year 1979/80 in order to utilise both the underground water and surface water of Siraha, Saptari, and Udayapur districts extending the irrigational facilities of an area of 27,500 hectares and prevent the soil erosion and conservation of the disrupt and constructing the barrage.

During the Sixth Plan, the project will extend the irrigational facilities to an area of 12,845 hectares consisting of 1979 shallow tube wells, 15 deep tube wells, 10 deep tubewells, pump house construction on 1,400 hectares of land, large scale irrigation and 100 hectares of land in the mountain region at the same time. During the Seventh Plan the project will complete the construction in the fiscal year 1986/87 extending the irrigational facilities to an area of 9,9655 hectares consisting of 931 shallow tube wells, 9 deep tube wells, 8 deep tube wells canal and pump house construction 3 short term irrigation, 3 irrigation construction in the mountain region and 4,000 hectares of land of Kamala canal of command area development programme.

(2) Rapti Integrated Rural Development Project

This project, during the sixth plan has estimated extending and irrigational facilities to an area of 600 hectares increasing paramount production to exist consisting of Dang, Salyan, Peuthan, Rukum and Rolpa districts of the Rapti zone of the mid-western development Region and during the Seventh plan it will have to provide additional irrigational facilities intensively extending to an area of 650 hectares.

(3) Mahakali Integrated Rural development Project:

This project has accomplished an additional irrigational facilities to an area of 400 hectares consisting of 3 districts namely Baitadi, Dedeldhura and Darchula of Far Western Development zone under Mahakali Integrated Rural Development Programmes to fulfil the completion of 3 projects out of 4 projects during the Sixth Plan. By the Seventh Plan it will estimate an area of 125 hectares extended an additional irrigational facilities. This project will complete in the fiscal year 1986/87.

E. Feasibility Studies and Implementation of Feasible Project

In the Seventh Plan, like the prior plans, different feasible projects has been estimated to irrigate intensively to agricultural production and utilising maximum amount of water resources into the provisions of irrigation facilities of Nepalese Kingdom. This project during the Sixth Plan has studied the preparation of 20 preliminary projects, detail survey of an area of 52,000 hectares. In addition, This project will complete the feasibility of preliminary study and detail survey of an area of 19,000 hectares under the short term irrigation programme of feasibility study. During the Seventh Plan this project will study 16 preliminary feasible studies including with Sunkosi Diversion Project and detail survey of an area of 40,000 hectares of long term irrigation project and 600 preliminary study projects of the short term irrigation programme emphasizing the priority to the scarcity of foodstuff areas of all developmental sectors and detail survey of an area of 30,000 hectares.

Considering the experiences of the Sixth Plan extensive attention will be given during the Seventh Plan to complete the incompleting projects of the Sixth Plan and to initiate new programmes. During the Seventh Plan this project will implement feasible projects of different projects on the basis of feasibility study extending and additional irrigation facilities of an area of 8,000 hectares in the terai region.

F. Other Programmes

(1) Command Area Development Project

This project had been initiated since 1982/83 extending the irrigation facilities in a scientific manner and maximum utilisation of water resources in terms of irrigational development increasing production intensively

and reforms in the management of the irrigational development projects of Sarlahi District of Janakpur Zone, Nawalparasi and Kapilbastu district of Lumbini zone consisting of Banganga, West Gandak canal and Manusmara irrigation projects. This project will accomplish the maintenance and reconstruction of main and branch canal, rehabilitation of main canal, tertiary and minor drainage work, reconstruction of sanitation at the same time. This project will complete in the fiscal year 1987/88. This project will expand the irrigation facilities of boost production scientifically after completion.

(2) River Control

This programme during the Seventh Plan constructing the barrage to control and prevent the danger created by extensive river flood to the arable land. This project will enhance the implementation of the programme of river control wherein it was severely indispensable emphasizing the local participation. In each and every developmental zones, river control programme will be implemented as a special project.

(3) Supervision, Maintenance and Reconstruction of Completed projects

This programme has been initiated to extend intensive production and to utilise maximum resources by supervising the maintenance and reconstruction of the completed projects continuously. This programme will continue in the Seventh Plan and will handover to the local panchayat through the working consumption committee to increase efficiency of technicians in the district level.

(4) Meteorology

This project was initiated in 1965 for the specific and authentic data of Meteorology and forecasting services to the farmers in a scientific manner. During the Seventh Plan this continuous programme will enhance to establish 5 Weather controlling centres, establishment of 20 Climatologist, 5 Aerosynaptid centres, establishment of 2 pilot balloon centres, and publication of weekly bulletins of climatologically records of Nepal

(5) Hydrology

This project had been initiated since 1962 to collect data and detail surveys of Rivers and Water Resources Development Consisting of different projects. This programme, during the Sixth Plan will complete the implementation of establishing 310 water condition control centres. reconstruction of 310 water condition control centres; constructions of 80 tar ways, constructions of 39 record stations and 20 Thergrane laboratories at the same time. This programme during the Seventh Plan will complete the establishment of Thergrane model collection centres and 5 Thergrane laboratories at the same time. This programme during the Seventh Plan has the main target to establish 350 water conditions controlling reconstruction centres 60 water condition centres, construction of 15 tar ways, construction of 12 record stations, 14 Thergrane model collection centres and workshop of Hydrology at the same time.

G. District Level Programmes under Decentralisation Plan

During the Seventh Plan, Special emphasis will be given to implement the district level programmes under decentralisation plan on irrigation sector, the district level programme will consist of those project which will affect or cover the only one district and should not be handled by development committees. Special attention will be given to mass local participation for the implementation of handling the selection of working programmes on district level. At the outset, under the district level plan this type of programme may enhance to complete on going projects, to specify the project handled by the local services and to initiate new projects with low cost in order to irrigate enormously of an area of 15,000 hectares in the terai region, and 45,000 hectares in the mountain regions respectively. Special efforts should arrange to irrigate enormously at low cost investment on projects.

The proper management of irrigation should be indispensable for utilisation, supervision, maintenance and reconstruction of the completed projects. After completion of the project, the benefits will directly be available to local panchayats and the provisions for supervision, control, reconstruction and maintenance of the projects should be made by local panchayat itself. This type of programme will create the local participation to express the encouragement of the mental sensitive for the conservation of the project. Therefore, during the plan period the responsibility of the project consisting of mobilisation, maintenance and reconstruction should be entrusted to local panchayats, the technical services for the maintenance and reconstruction of the project will be provided by the central level.

The district level projects on irrigational development, during the Seventh Plan, costs at Rs. 587.5 million in the different districts and the projects of central level are transferred to the district level in accordance with the decentralised plan and attention should be given to emphasis on the district programmes implementing annual plans.

Estimations of Expenses

Irrigational programmes, during the Seventh Plan are estimated to have the allocation of expenses at the cost of Rs. 3296.3 million for irrigation facilities and Rs. 52.3 million for Hydrology and Meteorology. The estimation of capabilities of allocation of expenses of and additional irrigational facilities can e presented as following.

Discription of Programme	Additional irrigated area hectares	Estimated Cost (million)	
1. On-going surface Irrigation Programme	82,546		
2. On-going Mountain Irrigation Programme	16,350		
3. Ground-Water Irrigation Programme	2,150		District level programme will be initiated at the cost of Rs. 191 million)
4. Integrated Rural Development Irrigation Programme	11,740		
5. Implementation of Feasible Projects	8,000	120.0	
6. District Level Programme on Decentralisation (New projects only)	11,490	3,70.8	
7. Miscellaneous (command Area Development, River Control, Feasibility study, Maintenance, Reconstruction etc.)			(among this, district level maintenance and reconstruction at the cost of Rs. 25.7 million)
8. Meteorologu and Hydrology		52.3	
Total	1,35,495	3,348.6	

Chapter 26

LAND REFORM, COOPERATIVE AND SURVEY PROGRAMME

A. Land Reform

Land reform programme has its own importance in institutional development for increasing agriculture production. It is necessary to move ahead with the land reform programme in the Seventh Plan in order to develop atmosphere for bringing maximum increase in production by effecting appropriate improvements in land ownership and utilization pattern.

Progress of the Sixth Plan

There has been no progress in fulfilling the target of organisation system and reorganisation of the manpower under the land reform department for the implementation of land reform programme as a special programme in the areas where the integrated agriculture programme is under implementation. Under the regular activities tenancy right is being protected, determination of land tax has been completed in twelve districts in the first four years of the Sixth plan, land tax has been fixed in the whole of the terai region and necessary legal arrangements have been completed for scrutinising the land beyond the exemption limit. The main problem is the delay in preparing the legal basis for carrying out the targeted works inland reform effectively.

Background of Seventh Plan

In the context of the important role of development of institutional system for increasing agriculture production land reform programme should be designed accordingly. While scrutinising the experience of the past years it becomes clear that the programme has been emphasising on protecting tenancy rights, preparing the list of tenants, rent fixation, terminating the dual ownership, selling the excess land above ceilings. But it has not been possible to increase the agricultural production nor agriculture business has taken the commercial form in spite of those programmes. The number of tenants is small as compared to the large number of land owners but there has been no progress in making institutional arrangements for making maximum utilization of their land. If it is necessary to accelerate the practice of deciding on protecting the existing and would-be tenants, determining the land tax for them, introducing the system of the tenants getting loan against their tenancy certificate, securing the loan by auctioning those certificates in case of their default, determining the excess land, making gradual termination of dual-ownership of land effective and to get rid of the legal obstacles on the one hand, it has been found extremely necessary to take steps in creating suitable atmosphere for investment on commercial farming for encouraging majority of the land owners for maximum use of their land. Necessary steps will be taken to provide facilities for encouraging such farming by introducing the system of encouraging the land owners to give the land on contract or on rent and by controlling the fragmentation of additional land, developing the land in blocks, encouraging the individuals or firms to cultivate commercially.

Objective:

1. To update the list of tenants for protecting their tenancy rights.
2. To support land development and production increase by expanding rent fixation system.
3. To make arrangements for terminating the dual ownership of land.
4. to acquire the land in excess of ceilings for sales and distribution.
5. To encourage the activities of fixation of block and land development by controlling sub-division and fragmentation of land which are the constraints to increasing agriculture production.
6. To encourage farming contract and promissory for commercializing the agriculture business.

Policy

1. Implement programmes to eliminate obstacles effectively which come in the way of keeping the list of tenants intact and protect the tenancy rights.
2. To increase the importance of tenancy right necessary systems will be introduced for giving the institutional agriculture loan against the mortgage of tenancy certificates.
3. The system of determine land tax will be executed effectively and productivity will be as the basis of land tax determination:
4. Experimental study programmes will be carried out for adopting an effective process of terminating dual-ownership.
5. Excess land not yet decided will be finalized and will be registered in the names of the tillers.
6. Encouragement will; be given to farming on contract and promissory basis for commercialisation of agriculture business.
7. Fragmentation of land will be checked and necessary steps will be taken to develop the land.

8. Necessary steps will be taken by studying various programmes for increasing the socio-economic living standard of the tenants and small farmers by making them stronger for making land reform activities more effective.
9. Additional legal basis necessary for the implementation of land reform programme will be prepared with proper studies in the first year of the plan.

Programme

1. Complete the work of keeping the list of the missing old tenants and the new tenants up-to date in 21 districts of the terai where the number of tenants is more, 4 districts of the inner-terai and in the hilly districts where the survey is complete. Complete the works related to sales and distribution of excess land and where new survey is complete sell and distribute the excess land found thereby completely in all respect.
2. With the intention of giving a major share of the produce of the land to the tiller and increasing their investment for increasing production rent fixation will be completed by surveying the hilly districts by giving them priority where the number of tillers appear to be large in addition to the 27 districts where rent is determined according to the fixed rent policy. In the districts where rent is determined, studies will be conducted to find out rent effectiveness. Similarly, surveys will be conducted about the process of capital investment in the appropriate land units and land with and without tenancy rights; bases for institutional development will be created for increasing the agriculture production.
3. In this context that while observing the pattern of investment for agriculture production is not effective the policy will be to encourage the agriculture system of farming on contract and promissory basis in the Seventh Plan for increasing the production by proper use of agriculture land in spite of the fact that the composition of land-ownership is more than two-thirds tillers are land owners as well. Arrangements will be made that land owners will be allowed to give the land on contract or on rent for a specific period for commercial farming. Encouragement will be given to those who will cultivate on contract for a specific period by exempting the income tax. Such contracts can be entered into by organisation or individuals.
4. All over due loans will be realised completely within the Seventh Plan and amounts thus collected will be handed over to cooperative organisations through agriculture Development Bank.
5. Atmosphere will be created to associate farmers in maximum number for increasing production by enabling them to take loan against the tenancy certificate when they have to take loan for various inputs for participating in the agriculture production programme.
6. The proposed legal base for terminating the dual-ownership of land gradually will be experimented in certain regions. Experience gained from such experiments in finding out way and means will be implemented on a wider scale.
7. If the farmers who are willing to develop land by making blocks have no money for exchanging suitable land or procure land, finance will be made available to them from agricultural development Bank or other institutions for effecting the system of making blocks and, for the consolidation of land, works related to this will be started and registration fee will be exempted for exchange of land.

B. Comparatives Development

Cooperatives development programme becomes important for bringing improvement in the economic condition of the people by associating them in the development activities through the medium of cooperatives and by gathering together the scattered manpower and small capital. It is very essential to carry forward the cooperative programme in order to make it effective from the bottom level in the Seventh Plan.

Progress of the Sixth Plan

Reorganise the cooperative organisations by conducting feasibility studies for improving the qualitative condition of the existing cooperative organisations under comparing programme and consolidation programme small farmer cooperative organisation under integrated programme for development of cooperatives. 32 small farmers cooperatives and 37 cooperative organisations were established. To fulfil the objective of training cooperative workers, constructing necessary godowns and to run the cooperatives organisations effectively, 9 cooperative godowns were constructed, 742 cooperative organisations were established and \or reorganised by the end of the Fifth Plan and 724 cooperative organisations survived by the end of the fourth year of the Sixth Plan. The members of the cooperative organisations at the end of the Fifth Plan which was, 1,193,765 went up to 1,399,121 at the end of the fourth year of the Sixth Plan. Rs. 38,300,000 worthy of agriculture produce is expected to be sold in the Sixth Plan period.

Expected progress has not been possible while scrutinising capacity of the cooperative organisations in playing important role in the rural areas and in improving the rural economics for agriculture development. Weakness in the management of cooperative organisation, problem of operating capital because of ineffective realisation of capital effecting the capital flow, influential members taking benefits from the cooperative movement, small and less influential members unable to take advantages are the major problems.

Background of Seventh Plan

Cooperative development programme is to be implemented with the aim of developing cooperative movement as the main axis of village economy by generating appropriate environment for a large number of farmers increasing production through the medium of cooperative in the Seventh Plan by giving emphasis on marketing of agriculture implements required for the farmer, processing of agriculture produces and their marketing in the activities for increasing agriculture production.

Appropriate atmosphere will be created for strengthening cooperatives at the rural level, for support to increase the welfare and facilities of cooperative organisations, manage the central office of the cooperative organisations and it has been essential to offer membership to the farmer group of small farmer development projects and other areas in order to develop them in the form of pre-cooperatives.

Objectives

1. To look after the welfare of the small and marginal farmers through the medium of cooperatives by organising them.
2. Necessary basic facilities required for agriculture development will be made available in an organised manner on the basis of local leadership and people's participation.
3. Develop institutional channels at the rural levels with the aim of providing direct benefit to the small farmers and other professional in addition to increasing their production and productivity.

Policies:

1. To arouse consciousness among the people that they themselves organise the cooperative organisations for fulfilling their needs and that they are themselves the owners.
2. Priority will be given to the qualitative rather than quantitative growth.
3. Assuming agriculture development as a rural development cooperative organisations will be run not only for distribution of fertilisers and seeds and disbursement but also for encouraging different economic aspects of the farmers.
4. Necessary support and services will be provided to develop cooperative organisation as local institutions for marketing and processing of agriculture produce.
5. In relation to providing support in order to develop cooperative organisation institutionally at the rural level His Majesty's Government institutions and corporations should give priority to use cooperatives as a channel in supplying agriculture implements, development goods and consumable goods to the people in addition to other factors.
6. The board of directors of the cooperative organisation must be held more responsible in the formulation, execution and follow-up to programme and realisation of loans.
7. A federation of cooperative organisations will be established for providing leadership at the national level by coordinating the activities of all the cooperative organisations and for implementing the cooperative programmes by strengthening these organisations.
8. Necessary arrangements will be made to offer membership of the cooperative organisation to the group of small farmers development project and other farmer groups.

Programme

It is necessary to develop the habit of making the cooperative organisation work in the institutional form within the conception of cooperative movement from the bottom level. Against this background for the institutional development of the cooperative movement various classes such as farmers, small farmers, labourers, craftsmen, skilled hands gather together in their leisure with a specific objective that their cooperation can create opportunities for increasing earnings and employment and programmes should be implemented in creating a feeling among them to this effect. Hence, for strengthening the cooperative programme from the bottom level the following programme will be implemented:-

a. Strengthening Cooperative organisations

- i) While establishing cooperative organisations nine areas in a district will be considered and programme will be given priority on the basis of feasibility studies in the districts where there are no cooperatives. Rules and bye-laws will be formulated for people's participation and increasing people's leadership for running the cooperative organisations.
- ii) The existing cooperative organisations in the rural areas will be strengthened by reorganization and consolidation for their operation for providing services along with the services centres in special and pocket regions where agriculture programme is emphasised.
- iii) Publicity and promotion programme will be implemented for increasing membership of the cooperative organisations. Membership of self-made members, because of handing over of savings, will be saleable.

- iv) In the districts where small farmers development projects are implemented, once completed, these will be converted into cooperative organisations or necessary service oriented programmes will be implemented by giving membership to the existing cooperative groups. Legal provisions will be made in case of offering the membership of the cooperative organisations to the small farmer groups when necessary.
- v) In the areas where small farmers development project has no influence, small and marginal farmers groups will be guided to organise themselves for the economic activities for creating earning and employment opportunities by giving them loans. Not only small farmers but other farmers also will be organised into such groups, Pre-cooperative group (s) into cooperative organisations by encouraging them to be engaged in economic activities.
- vi) To solve the problem of shortage of operating capital effective steps will be taken to develop legal bases to have automatic loan realisation.
- vii) Additional loan facilities will be increased by conducting proper studies on godown facilities in agriculture production programme regions and transaction of consumable goods for increasing the transaction of cooperative organisation.
- viii) Thus the target of the proposed service oriented programme through the cooperative organisation will be as follows:
 - a. To disburse Rs. 435,000,000 agriculture production loans to the farmers who are members.
 - b. To distribute Rs. 620,000,000 worth of agriculture inputs.
 - c. To market Rs. 237,500,000 worth of essential consumer goods.
 - d. To develop the capacity of purchasing 30,000 metric tons and marketing 126,000 metric tons of paddy, wheat, mustard, etc. by the end of the plan period.
 - e. To increase the number of cooperative members and investment remarkably.
 - f. To attain self-sufficiency by bringing remarkable improvement in the management of cooperative organisation.
 - g. During the plan period two cooperative organisation in each development region as an example of self-sufficient institutions will be established according to the cooperative policy.

b. Specialised cooperative organisations

The following programme will be implemented in order to associate the cooperative organisations not only with the programme of increasing agriculture production but with the mobilisation of rural savings and other activities which increase earnings:-

- i) Arrangement will be made to make available rural saving banking services through cooperatives with the coordination of the Nepal Rastra Bank in encouraging the rural people to develop the habit of saving and in investing capital, generated out of the savings mobilisation, in the productive activities in the feasible regions.
- ii) Different processing programmes will be implemented by establishing specialised cooperative organisations on the basis of feasibility for rice milling, oil mills, milk collection and processing, cardamom processing, ginger processing, etc. for encouraging organisations will be associated with foodgrain processing and oil mills, five cooperative organisations will be established for milk collection and processing and two each for cardamom and ginger processing.
- iii) Activities will be carried out for farmers residing in the rural areas and other skilled craftsmen running cottage and small scale industries in their leisure time from farming through cooperatives in the form of one existing cooperative organisations or separate six women cottage industries cooperative programme on the basis of feasibility or by establishing and association. Necessary coordination will be maintained for management, supply of raw materials and marketing of produced goods in consultation with the Women's Service Coordination committee.

c. Cooperative Education and Training

Training programme will be conducted for development of skilled and trained manpower for implementing cooperative programmes, for increasing awareness among cooperative members on the concepts of cooperative movement, for developing the feeling that cooperative organisations will be established according to the needs of the people and they themselves will run the cooperatives for their own benefit.

d. Federation of cooperative organisations

A federation of cooperative organisations of the country will be established at the national level for coordinating them, providing them leadership, for executing the cooperative programmes by strengthening them from the central level.

For the service facilities to be provided to the districts by the cooperative organisation according to the decentralisation policy primarily district cooperative organisation and district cooperative office will be

associated with the proposed district level group for supervision, follow-up and monitoring agriculture programme.

C. Survey

It has been necessary to carry out various activities such as measuring the land in a scientific manner, finding out the exact area of land, supporting the determination of survey policy and its implementation, preparing maps in different scales within the country for different purposes and producing necessary manpower for survey programmes effectively in the Seventh Plan.

Progress of the Sixth Plan

With regards to survey programme specifically in the Plan, survey of nine districts was in progress, that of 5 districts completed and 504,160 hectares were demarcated against the target of continuing survey works in 16 districts, to complete surveys in 12 districts and demarcate 515,260 hectares. The main reason for the survey to continue and to be completed in small number of districts is that the actual area is more than the estimated area in some districts. Against the target of inking 37,500 data cards and establishing 37,500 taping points only 34,099 and 35,557 respectively were accomplished. Against the target of preparing 970 sheets of maps in different scales 1,048 sheets of maps were prepared. Against the target of training 951 trainees 551 trainees were trained. Since all the trainees have not been employed the number had to be reduced.

Background of Seventh Plan

It is extremely necessary to complete survey of all the districts of the country for correct statistics on land required for different development programmes in steering the activities to wares a definite direction. In this context the objective of the survey programme in the Seventh Plan is presented below.

Objectives

1. Emphasis will be given to complete the survey programme for determining the correct area of land and other statistics.
2. To prepare maps of different scales required for implementing administrative, social and economic development projects.
3. To establish control points and bench marks required for all types of survey works scientifically.
4. To be self-sufficient in manpower required for preparing different types of maps within the country.

Policy

1. With regard to determination of areas exactly through scientific survey techniques, the surveys which were started in the Sixth Plan in the districts will be completed and will be increased surveys are to be completed in 65 districts in the Seventh Plan. Surveys of urban areas and rural blocks will be given appropriate priority in the Seventh Plan by taping point survey for demarcation of areas in different districts and the demarcation programme.
2. Activities related to distribution of certificate of land ownership will be made effective by preparing the list of land owners and tillers in the areas where survey is complete.
3. Correct statistics regarding land will be kept ready by classifying the land by demarcation of the areas.
4. programmes for administration, social and economic development projects will be implemented by preparing maps of different scales.
5. programmes will be implemented to attain self-sufficiency by indigenously producing low and middle level technical manpower required for survey programmes.
6. Necessary points such as control points, geo-physical points required for making maps of different scales will be established.

Programme:

Survey programmes which will be implemented in the Seventh Plan are given below: -

a. Demarcation Survey

During the seventh plan survey of 65 districts of the country will be completed for preparing the maps according to demarcated plots by measuring the land units of each land owner or tiller under the project and the correct list of plots will be prepared for assisting the decision making units of land disputes, land tax and land. In addition to this, special programme will be implemented to survey the urban areas and rural blocks. Emphasis will be given to improve and update the old survey maps prepared in FY 1965/66 on plot demarcation and micro films of the maps, ownership certificates, etc. will be preserved. The targets set for the plot demarcation survey and programmes are given below:

Districts where plot demarcations survey will be completed: During the Seventh Plan survey will be completed in 65 districts and will continue in 5 districts.

b. Geodetic Survey

The geodetic survey has an important role in assisting establishment of control points, determination of altitudes, determination of location of stars, planets and direction, identification of the exact situation of control points required for preparing necessary maps for plot demarcation and land surveys. In the Seventh Plan the target is fixed for establishment of 35,000 ting points, inking 35,000 data cares, level 1,500 km., star survey of 1,000 groups, survey of 50 places for first class ting point and establishment of 100 points for magnetic survey.

c. Topographic Survey

Topographic survey has an important role to play in the preparation of maps of different scales and in attaining self sufficiency in map preparation required for different development projects and administrative works. In the Seventh Plan programmes will be implemented to prepare 125 sheets of medium scale maps, 101 sheets of small scale maps (maps for administrative, tourism and other activities), to prepare atlas, update 50 sheets of topographic maps of hilly region in scale of 1 inch equal to 1 mile, to survey 150,000 hectares for preparing large scale topographic map, to prepare 160 sheets of land resources map and to update them, to prepare school atlas, etc.

4. Survey Training

The target is to attain self-sufficiency by producing technicians for survey in the country within the Seventh Plan. In this period, the target is to train 125 Amins, 250 junior trainees, 75 senior trainees, 30 persons in cartographic course, 25 persons in special photogramatic course, 20 persons in special map reproduction and 40 persons in computer course. In addition to this project will be prepared for diploma level course on cadastral survey.

Plot Demarcation Survey Programme

Programmes	Toaal area	1985/86	1986/87	1987/88	1988/89	1989/90
1. Area of plot demarcation survey	500,000	100,000	100,000	100,000	100,000	100,000
2. Distribution of land ownership certificate as soon as survey is complete (percent)	100	100	100	100	100	100
3. Improvement and updating of old maps (location)	4,500	1,500	1,000	1,000	500	500
4. Micro filming of maps	2,500	500	500	500	500	500

Geodetic Survey

Programmes	Unit	Total	1985/86	1986/87	1987/88	1988/89	1989/90
1. Ting Point	point	35,000	7,000	7,000	7,000	7,000	7,000
2. Data inking	pieces	35,000	7,000	7,000	7,000	7,000	7,000
3. Level survey	km.	1,500	3000	300	300	300	300
4. Star survey	star group	1,000	200	200	200	200	200
5. First class ting point survey	location	50	10	10	10	10	10
6. Magnetic survey	point	10	-	-	-	5	5
6. Magnetic Survey	point	10	-	-	-	5	5

Topographic Survey Programme

Programmes	Unit	Total	1985/86	1986/87	1987/88	1988/89	1989/90
1. Medium scale map preparation	sheet	125	25	2525	25	25	25
2. Small scale updated map preparation	Sheet	101	20	20	21	20	20
3. 1 inch equal to 1 mile map updating	sheet	50	10	10	10	10	10
4. Topographi survey fo large scale map	hectare	150,000	30,000	30,000	30,000	30,000	30,000

preparation							
5. Land resource map preparation and updating	sheet	160	100	15	15	15	15
6. School atlas preparation	percent	30	5	5	5	5	10

Survey Training Programme

Programmes		Total	1985/86	1986/87	1987/88	1988/89	1989/90
1. Amin training	person	125	25	25	25	25	25
2 Junior training (Survey)	do	250	50	50	50	50	50
3 Senior training	do	75	15	15	15	15	15
4 Special carto graphic course	do	30	6	6	6	6	6
5. Special photogramatic course	do	25	5	5	5	5	5
6. Special map reproduction course	do	20	4	4	4	4	4
7. Computer course	do	40	8	8	8	8	8

Budget

The following budget allocation is made for implementing the above mentioned programmes:

programme	Budget (Rs. million)
Land reform programme	27.20
cooperative programme	17.70
Survey programme	<u>202.50</u>
Total	247.30

District Level Programme

According to the decentralised land reform, district level programme and budget are given below which is within the total budget.

Programme	Budget (Rs. million)
Cooperative development programme	10,00

Chapter 28 Road Transportation

As a result of top priority given in the initial periodic plans to launching and implementation of projects related to development of transport sector, providing physical infrastructure for all-around development of the country, most parts of the country are now interlinked internally without the compulsion of having to use foreign land for transportation. The achievements made in the field internally without the compulsion of having to foreign land for transportation. The achievements made in the field of road transportation over the last three decades of planned development are certainly encouraging. The length of road in the kingdom by fiscal year 1976/80, the final year of the Fifth Plan, came up to 4,940 kilometer as compared to mere 624 km, is fiscal year 1955/56, the first year of the First Plan period. By the end of fiscal year 1983/84, the fourth year of the Sixth Plan (19979/80-1984/85), a total length of 5,717 km. roads of different kinds have been constructed in the country.

Of the total 5,717-km. roads in fiscal year 19983/84, 2,645 km. (46.27 percent) is black topped, 815 km. (14.26 percent) graveled and 2,257 km. (39.47 percent) fair weather. While analyzing the current situation of roads, it can be observed that black-topped roads have taken crucial position. gradual increase in the length of roads has bolstered not only the linkage of north-south and east-west parts of the Kingdom but also contributed to the formation of necessary infrastructures for socio-economic development of the country.

The following table presents the comparative picture of roads by the final years of the last periodic plans.

Expansion of Roads in the Country, (1955/56-1984/85)

(In Kilometer)

Kinds of Roads	FY 1955/56	FY 1969/70	FY 1974/75	FY 1979/80	FY 1983/84	Estimated FY1984/85
1. Black-top	137	821	1,549	2,044	2,645	2,701
2. Graveled	122	435	667	564	815	895
3. Rough	365	1,474	957	2,332	2,257	2,347
Total	624	2,730	3,173	4,940	5,717	5,943

Source: Department of Roads.

The situation of roads by development regions has also envisaged gradual improvement following the implementation of projects relating to roads development. The length of roads in Eastern, Central, Western, Mid-Western and Far-Western Development Regions by fiscal year 1979/80, the final year of the Fifth Plan, was 1,052 km, 190 km, 679 km and 358 km respectively.

Fourth year of the Sixth Plan (fiscal year 1983/84) has also shown some changes in the situation of road. The length of roads by this period (fiscal year 1983/84) is 1,322 km in Eastern, 2,109 km in Central, 1,097 km in Western, 725 km in Mid-western and 464 in Far-western Development Regions respectively. The situation of roads in accordance with their standard in different development regions is presented below.

TABLE-28.02

Situation of Roads in Development Regions at the End of
Different Periodic Plans, 1955/56-19983/84

Development Region	First Plan 1955/56	Third Plan 1969/70	Fifth Plan 1979/80	Sixth Plan* 1983/84
A. Eastern Region				
1) Black-topped	-	63	447	570
2) Graveled	-	184	140	388
3) Rough trail	48	458	465	364
Total	48	705	1,052	1,322
B. Central Region				
1) Black-topped	137	515	887	429
2) Graveled	116	228	291	1,109
3) Rough trail	197	419	727	571
Total	450	1,162	1,905	2,109
C. Western Region				
1) Black-topped	-	237	607	670
2) Graveled	-	-	39	63
3) Rough trail	120	256	300	364
Total	120	493	946	1,097
D. Mid-Western Region				
1) Black-topped	-	6	103	226

2) Graveled	6	23	94	68
3) Rough trail	-	341	840	431
Total	6	370**	1,037**	725

E. Far-Western Region				
1) Black-topped	-	-	-	58
2) Graveled	-	-	-	74
3) Rough trail				332
Total	-	-	-	464

GRAND TOTAL	624	2,730	4,940	5,717
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Of the total length of 5,717 km. roads by the fourth year (1983/84) of the sixth plan, the highest length of roads on zonal basis is in Bagmati zone, both in quantity and kind. Of the above total length in the kingdom, Bagmati zone has 1,109 km, (19.40 percent). Lumbini zone, with second position, has a length of 792 km roads. Mechi, Koshi, Sagarmatha, Janakpur, Gandaki, Rapti, Bheri, Seti and Mahakali zones have 570, 388, 364, 429, 305, 454, 271, 183 and 281 km. roads respectively. The following table presents the comparative situation of road in different zones.

TABLE - 28.03

in kilometer

Situation of Roads in Different Zones of the Country, 1976/77 - 1983/84

Zone	Fiscal Year 1976/77	Fiscal Year 1979/80	Fiscal Year 1983/84
A. Eastern			
1) Mechi	307	422	570
2) Koshi	307	332	388
3) Sagarmatha	296	298	364
B. Central			
1) Janakpur	395	426	429
2) Bagmati	713	926	1,109
3) Narayani	509	553	571
C. Western			
1) Gandaki	208	323	305*
2) Lumbini	572	623	792
3) Dhawalagiri	-	-	-
D. Mid-Western			
1) Rapti	278	410	454
2) Bheri	213	269	271
3) Karnali	-	-	-
E. Far-Western			
1) Seti	168	175	183
2) Mahakali	73	153	281
Total	4,094	4,940	5,717

- The slash in road length is due to elimination of Pokhara -Kunchha road.

The above table shows that except for Karnali and Dhawalagiri zones, the situation of roads in other zones is improving step by step.

Progress Review of the Sixth Plan

The current Sixth Plan had proposed to construct a number of roads and bridges and launch other related programs with the objectives of consolidating national and regional integrity by linking different parts of the country, bolstering economic and social uplift with the maintenance of regional balance, linking tourist resorts and project sites of national importance and, developing and expanding rural transportation. Programs and projects for the development of roads were incorporated in the Sixth Plan keeping in mind the above policies and working policies.

The Sixth plan had adopted a precautionary policy of achieving the maximum with limited resources in road construction. In the context of availability of limited resources for constructing roads in most in parts of the country, especially the mountainous districts, and also very low density of transport vehicles on existing highways and their feeder roads, policy of constructing fair weather motorable roads which can accommodate one way truck service was emphasized even some such roads declared highway in the beginning. This policy

excluded these roads which seemed essential from technical point of view. In addition policies such as emphasis on early completion of east-west and north-south highways, selection of feeder roads on the basis of economic necessity and according priority to rural roads to provide minimum transport facility were also adopted.

The roads development projects implemented in the past years were as per the declared objective and policies and working policies, formulation of master plan for mule trail construction to develop rural transportation was left out. Likewise the working policies related to suspension bridges and improved Cable Bridge over streams and rivulets on village trails also remained incomplete.

As for the physical progress achieved during the plan, altogether 1,516-kilometer road was constructed by the fourth year of the plan against the plan period. Keeping in view the target set for the final year of the Sixth Plan (fiscal year 1984/85), altogether 1,749-km. road is expected to be constructed during the plan period. The progress as per target would come up to 89.69 percent. The following table presents the target and progress relating to roads construction during the Sixth Plan.

Target and Estimated Progress in Roads Transportation During the Sixth Plan, 1979/80-1984/85

(Length in Kilometer)

Standard of Roads		Sixth Plan Target	Progress of the First Four Year of the Sixth Plan	Estimated-Progress in the Final Year of the Sixth Plan	Estimated Progress of Five Years	Estimated Progress as per Target Percentage
A.	Black topped	672	601	56	657	97.77
B.	Graveled	775	444	80	524	67.61
C.	Rough/Motorable	503	471	97	561	111.53
Total		1950	1516	233	1749	89.69

Preliminary estimation.

On analyzing the process achieved in road sector in the Sixth Plans period, it becomes clear that the implementation level of back-topped road was the best. O the total target of constructing 672 km. back-topped road in the whole plan period,601 km. has already has been constructed in the first four years achieving a progress of 89.44 percent as per target. The progress in this direction, hence, seems to go as per target. The progress of gravel led road seems to fall short of target whereas that of fair weather rough motorable road is expected to exceed the target.

The entire roads project implemented in the Sixth plan with the objective of achieving the above physical targets were categorized under three main programs, namely highways, feeder roads, and main urban and headquarters roads. Accordingly, 562 km. of highways, 797 km. of feeder roads and 157 km. main urban and head-quarters roads were constructed during the first four years of the Sixth plan. The following table presents the achievements made in the first four years of the Sixth Plan in roads construction on the basis of their kind.

TABLE 5

The Target of the Sixth Plan and Progress Achieved in the First Four Years on the Basis of Kind of Roads (1979/80-1984/85)

(length in km.)

Department of Road	Sixth Plan Target	Progress of the first four year of the Sixth Plan	Percentage of progress as per target
A. High way	649	562	86.44
B. Feeder roads	1207	797	67.94
- Feeder roads of high way	636	462	72.64
- Feeder roads linking panchayat roads	118	88	94.07
- Roads to be constructed on the basis of feasibility study	188	136	72.34
- Roads of integrated	265	111	41.89

rural dust projects			
C. Main urban roads and headquarters roads	84	157	167.02
Total	1950	1516	77.74

The maximum progress is achieved in the construction of main urban and headquarters roads as becomes clear on analyzing the achievements made in the last four years of the Sixth Plan.

Evaluation of the Sixth Plan progress in road construction (including only the first four years) shows that a total of 777 km. roads are added during the period. Following is the table giving the net increase in length of roads in each year of the plan period.

TABLE 28.06
**The Net Increase in Length of Roads in the
First Four Years of the Sixth Plan**

(in kilometers)

	Fiscal Year 1980/81	Fiscal Year 1981/82	Fiscal Year 1982/83	Fiscal Year 1983/84	Grand Total
Black topped	108	170	162	161	601
Gravelled	102	53	111	-15	159
Rough/Trail	-157	54	3	25	-75
Total	53	277	276	171	777

Sources: Department of Roads 'Situation of Roads in Nepal,' 1980/81-83/84.

TABLE 28.07
**The Situation of the Basis of Standards of
Roads Various Years is Given Below**

SN	Fiscal Year	Total Length	Black Topped	Gravelled	Rough
1.	1979/80 (the final year of the fifth plan)	4940	2044	564	2332
Sixth Plan					
2.	1980/81	4993	2152	666	2157
3.	1981/82	5270	2322	719	2229
4.	1982/83	5549	2484	830	2232
5.	1983/84	5717	2645	815	2257

Source: Department of Roads Situation of Roads in Nepal, 1980/81-1983/84.

As for projects implementation, blacktopping has been carried out on the remaining 38 km portion of Hetauda-Narayangadh road, 154 km of Butwal-Kohalpur road, and among north-south highways. 40 km of Dharan-Dhankuta road, 61 km of Gorkha-Narayangadh road and 30 km of Mahendra highway (Charili) Kanyam-Illam road. In addition the 73. km Illam-Fidim road has been improved for truck transportation. Likewise the construction of Dadeldhura-Baitadi-Darchula road is expected to proceed as per target. Construction of the 84 m Dadeldhura-Dipayal-Doti road in the Far-Western Development Region is to be completed to suit one-line truck transportation. But Kohalpur-Mahalkali road and Mahendra highway (Kohalpur)-Surkhet road is not likely to be completed as per target.

Feeder roads such Mahendra highway-Sanischare, Mahendra highway-Ggauriganj, Mahendra highway-Shripur, Trishuli-Gandaki, Nepalgunj-Baghada, Nepalganj-Gulariya have remained initial phase. Evaluation the progress during the last four years vindicates that the promotion of panchayat roads to feeder roads and construction of roads under integrated rural development projects are to fall short of target.

Bottlenecks and Problems

The reasons for gap between target and progress in the current plan are attributed to failure to reach agreement on projects such as Kohalpur-Mahakali road on time, failure to carry out feasibility study, lack of timely distribution of contract, shortage of construction materials and equipment negligence of contractors to carry out works on time and the like.

Bridges and Suspension Bridges

Of the 15 motorable bridges including those on Tribhuvan highway and Pathlaiya-Dhalkevar portion of Mahendra highway targeted to be constructed in the current Sixth plan, six bridges have been completed and a maximum of three expected to be completed in the fiscal year 1984/85, the total bridges to be constructed coming up to nine only. The Duhabi bridge (Sunsari), Man bridge (Bardia) and the bridges on Hetauda-Narayangadh portion were completed during the period. As for reconstruction of bridges, the Bishunmati Bridge (nearing completion), the bridge leading to Mahendra Gufa (Kaski) and the bridge on Pathalaiya Dhalkebar portion of Manendra highway were completed. Of the targeted 300 suspension bridge to be constructed during the Sixth Plan, 99 suspension bridge have been constructed in the fourth year (1982/84) of the plan period and an additional 56 are expected to be constructed in the final year (1984/85). Thus the number of suspension bridges constructed in the Sixth Plan is expected to reach 155.

The reasons for not fulfilling the target of motorable bridges are lack of timely designing, problem problems relating to constructs and also low efficiency in Department of Roads to construct bridges. Likewise the bottlenecks facing suspension bridge sector, are lack of timely awarding of constructs, transportation problem of construction materials, shortage of technicians and problem of choosing project site.

Financial Progress

The Sixth Plan had targeted to spend Rs. 3020 million at fixed price for the conduction of roads development programs including bridges. Of the total sum of Rs. 3020 million Rs. 2390 million was allocated for roads (including foot trail, mule trail and motorable road) and Rs. 630 million for bridges and suspension bridges. By the end of the Sixth Plan, in fiscal year 1984/85, the expenditure in the current market price is to reach Rs.3235.5 million. The particulars of expenditures are given in the table below.

Table 28.07

Financial Target and Progress of the Sixth Plan

in million rupees

Subject	Financial Target Fixed Price	1980/81 Real	1981/82 Real	1982/83 Real	1983/84 Real	1984/85 Real	Total Prevailing Price
A. Road	2390.0	472.2	543.4	623.9	639.5	683.3	2962.3
B. Bridge	630.0	54.9	56.6	43.6	50.7	67.4	273.2
Suspension Bridge	450.0	-	-	-	-	-	-
Others	173.0	-	-	-	-	-	-
Total	3020.0	577.1	600.0	667.5	690.2	750.7	3235.5

Source: Ministry of Finance, Budget speeches of fiscal years

Objective, Policies and Programs of the Seventh Plan

More attention has to be paid to development of roads and bridges, which occupy important place in transportation. Although the total length of roads is to reach 6,000 km by the end of the Sixth Plan in fiscal year 1984/85, works to link hilly areas to terai and to eliminate inaccessibility of most of the hilly districts by providing roads transportation have yet to be done. It is more evident in the context of increasing demand by panchayat units and local people. Keeping in mind our past experiences in this field, more alertness is called for in roads construction as well as in rendering the roads constructed in the plan periods economically more used. A study report carried out in 1983 showed that the density of vehicular traffic and some of the important highways was 500 km vehicles per days, while that on some other roads 200 to 300 vehicles per day. Lack of congenial environment to render roads, especially highway, more useful from economic point of view is responsive for low traffic density. On the other hand maintenance of roads is a very expensive task in a country like Nepal Roads which give very low economic benefit are neglected in maintenance, too, and investment in such roads is fruitless. In view of these facts, more alertness is called for Seventh Plan concerning the programmes in road development.

Objectives

Following are the objectives of the Seventh Plan in road development.

1. to consolidate national integrity by linking different regions of the country.
2. to launch economically more productive roads projects, to raise the national growth rate, generate productive employment and fulfil basic requirements of people
3. to bolster tourism besides maintaining regional balance and economic unification by the development of suitable roads.
4. to bolster urbanization.
5. to develop rural transportation system so as to facilitate the people of backward and remote area with secure transportation and easy accessibility, thereby bolstering the development of rural sector.

Policies

1. A long-term policy concerning the construction of east-west and north-south highway on a gradual basis will be adopted. In this connection, highest priority will be accorded to the completion of the last Kohalpur-Mahakali portion of Mahendra highway under construction.
2. Keeping in mind the present situation of highways, feeder roads and others, more emphasis will be laid on construction of new roads as well as maintenance of old ones. Besides special attention will be paid to control and avoidance of traffic accidents growing at an alarming rate.
3. Construction of feeder roads, which can add to rendering existing highways and these under construction more useful, will be launched on a gradual basis after carrying out feasibility study.

5. ads within the districts will be incorporated in district level projects and constructed at local level
6. Attention will be paid to development of transportation in the country in accordance with the declaration of transport and communications decade for Asia and the Pacific
7. Special attention will be paid to the construction of foot trails, mule trails, motorable roads, bridge, culverts and suspension bridges to enhance development of rural transportation. In addition the main foot trails of hilly and remote areas will be promoted to mule trails, and bridges and suspension bridges will be constructed on them on priority basis to incorporate such trails into national transport system.
8. A master plan concerning urban roads to bolster systematic development of urban sector will be formulated and implemented accordingly.
9. Districts, the site of suspension bridges project, will be provided only technical service and local panchyats will be involved in entire construction works of suspension bridges.

Working Policy

The following working policies will be adopted to achieve the above objectives and successful implementation of above policies.

1. A 20-year master plan to bolster systematic development of roads will be formulated and under the master plan certain time-bound projects will be formulated and implemented on a gradual basis. Special emphasis will be given on up-to-date inventory maintenance of feasibility study to seek foreign aid and mobilization of local resources in their launching.
2. Special attention will be paid to regular maintenance and periodic repairs of roads in order to avoid the incurrence of heavy cost likely to ensure from delay of such activities.
3. Priority will be given to the shortest and most straight course while constructing east-west and north-south roads of national importance. Policy to link highways and headquarters with the shortest possible feeder roads will also be adopted.
4. In order to make available roads facility to remote areas as quickly as possible, even roads under highways will be first constructed in the form of seasonal (eight months) fair weather roads and gradually be promoted to permanent fair weather roads by construction bridges and culverts repairs and then, on the basis of traffic density on the road, be promoted to gravelled and black-topped form.
5. While carrying out feasibility study on roads, technical and economic prospects of some other alternative courses will be seen comparatively, and on the basis of such comparative study the most suitable course will be chosen for implementation.
6. Local panchayats will be made available technical assistance from the center in an effort to extend transport facility to remote districts in the shortest time possible and meet the demand of the country for roads in accordance with the decentralized policy of giving active role to local panchayats.
7. To lower the rate of traffic accidents on highways and urban roads, a unit responsible for studying the causes of such accidents and finding out necessary solutions to tackle the problems will be set up under department of roads. In addition concrete steps will be taken to bring about coordination among various agencies related to traffic.
8. In conformity with decentralized act local panchayats will be encouraged to mobilize resources to construct mule trails and motorable roads suited to national transport system and also suspension bridges and other suitable bridges over streams and rivers along such main conjunctions. The center will provide necessary technical cooperation to districts in this regard.
9. In view of increasing traffic density in Kathmandu valley, a master plan concerning development and improvement of urban roads will be formulated and program launched on a gradual basis.
10. Special attention will be paid to timely completion of roads project being constructed by resolving their problems.
11. A high level committee will be constituted to successfully implement and monitor programs to be launched in Nepal in accordance with the declaration of transport and communications decade for Asia and the Pacific.

Priority Order

The following priority order will be maintained in the development of road transport in the Seventh Plan.

1. The Kohalpur-Mahakali portion of Mahandra highways in Mid- and Far-western development regions and north-south highways under construction, which have been included in national priority projects.
2. Works relating to maintenance and repairs of highways and feeder roads.

3. Rural transport media such as mule trails, foot trails, through fares, suspension bridges and other bridges which can bolster national transport system
4. As for new roads projects, roads and bridges bolstering productive sector on the basis of availability of resources and socio-economic requirement.

Physical Target

The Seventh Plan has set a target of constructing 1981 kilometers of roads, Of the total roads to be constructed, 432 km will be black-topped, 734 km gravelled and 815 km rough truckable. Altogether 21 motorable bridges will be constructed during the plan period. Under district level projects, 373 suspension bridges will be constructed. In addition, the Seventh Plan has a target of providing roads facility to Karnali zone in mid-western and Dhaulagiri zone in Western development region.

Classification of Roads

The Fifth Plan had brought improvement in preceding classification of roads in to national and local roads. In this connection the national roads were classified into highways, feeder roads and main urban roads The Sixth Plan had also brought minor changes in the Fifth Plan classification by sub-classifying local roads into motorable roads, mule trails and foot trails and keeping intact the classification of national roads.

The Seventh Plan has made arrangement to classify roads into national and district level and construct highways, feeder roads and main urban roads of national level from the center. Urban district level roads, all motorable roads, mule trails, foot trails and other local trail have been included. The district level roads will be incorporated in district level projects and implemented at local level.

Main Programs:

Projects relating development of transport to be launched in accordance with the objective and policies of the Seventh Plan have been classified under seven headings. They are: a highway construction b. feeder roads construction c. main urban roads d. maintenance and repairs of roads e. equipment for roads construction and maintenance, workshop and training f. feasibility study, designing and survey g. miscellaneous. The descriptions of the above seven headings are as follows:

a. Construction of Highways

Highways play a crucial role among all roads, which are infrastructure for all round development of the country. Keeping this in mind, the past periodic projects had paid special attention to development of highways in particular. High priority as accorded to construction of roads in this connection. As a result highways linking different north-south and east-west parts of the country such as major portions of Mahendra highway and some north-south highways have already been constructed. Despite impressive progress in highway construction in the past decades, attempts to fill further requirements of the country should be continued on the same pace. Keeping this fact in view, the proposed north-south and east-west highways in mid-mountain areas will be constructed as fair weather roads with one way structures in the initial phase and later will be promoted gradually into standard forms on the basis of growth in traffic density. Due attention will be paid to bringing the existing highways into maximum use during the plan period. The proposed highway level roads projects have been classified into three heading: a. the remaining portion of Mahendra highway b. north-south highways cc. east-west highways of mid-mountain areas. Altogether 17 road projects have been included under these three projects. Of the total roads to be constructed, 257 km will be blacktopped, 299 km gravelled and 500 km soiler or rough truckable. The details of these roads are given below.

The remaining Portion of Mahendra Highway

The total length of Mahendra Highway, which will link different parts of the country and assume the status of A2 portion Asian highway, is estimated to be 1034 km,. Of the estimated total length, 893 km has already been constructed and of this 786 km has been black-topped. This highway is being constructed by various sectors. By the fourth year of the Sixth Plan all portions of eastern, central and western development regions including parts of 204-km. Kohalpur-Mahakali portion have been completed. A 25-km portion of this highway in mid-western development region has been completed. The entire works on remaining 204-km portion of this highway will be completed during the Seventh Plan. Under the program laid out for construction of the remaining portion of Mahendra highway, two projects have been included.

1. Butwal -Kohalpur

This road being constructed with foreign aid will be 251 km in length. The entire works on roads construction is expected to be completed in fiscal year 1984/85, the final year of Sixth Plan. The remaining works of a bridge on this highway is targeted to be completed in the first year of the Seventh Plan.

2. Kohalpur-Mahakali

Kohalpur-Mahakali road as the last portion of Mahendra highway will contribute significantly to national unification as well as all-round development of Mid-western and Far-western Development Region. The

estimated amended length of this road is 204 kilometers. This project was launched during the Fourth Plan with local technicians and other resources and by the fourth Plan with local technicians and other resources and by the fourth year of the Sixth Plan altogether 76 km-25 km black topped, 25 gravelled and 26 km rough-roads were constructed. The Seventh Plan has targeted to complete the entire remaining portions of this road at black-topped level.

North-South Highways

In view of the fact that linking different parts of terai by Mahendra highway only cannot speed up the pace of national development to the extent desired, a need to integrate the economy of the Himalayan and mountain areas with that of terai areas is realized. These highways were proposed to be launched in the form of roads for development. Different road projects were included under this program in the Fifth Plan also. Highway projects launched during the Fifth Plan but lying incomplete were included in the Sixth Plan. There is a target of constructing altogether 755 km roads under north-south highways construction program during the Seventh Plan of the total length of roads to be constructed under this program, 89 km will be black-topped, 299 km gravelled and 367 km soiled. The accounts of projects under north-south highways program are given below separately. The accounts of projects under north-south highways program are given below separately:

a). **Mechi Highway:** This highway in Mechi zone of Eastern Nepal starts from Charili on Mahendra Highway and reaches Taplejung via Kanyam, Ilam and Fidim. The highway estimated to be 215 km in length is divided into three portions and construction is being launched in accordance with the division. The three portions of the highway which are among national priority projects are Mahendra highway (Charali) Ilam road, Ilam-Fidim road and Fidim-Taplejung road.

1. **Mahendra Highway-Ilam:** The 47 km remaining part of this first portion of Mechi highway is targeted to be black-topped in the Seventh Plan.
 2. **Ilam-Fidim:** The total length of Ilam-Fidim road which is middle portion of Mechi highway is 69 km. Construction of this road in rough form has been completed in the first four years of the Sixth Plan. This road is targeted to be gravelled during the Seventh Plan.
 3. **Fidim-Taplejung:** This last portion of Mechi highway is estimated to be 80 km long. Major structures of this road will be completed along with graveling 30 km. and constructing 50 km. in rough form.
- b). **Koshi Highway:** Koshi zone in the eastern development region is one of the important zones of the country. The idea of this highway is conceived to link the Himalayan, hilly and terai areas of this zone. Construction of this road is also being launched portionwise. Dharan-Dhankuta portion of this highway has been completed. The remaining two portions of this highway are 1. Dhankuta-Hile and, 2. Hile-Khandbari.
1. **Dhankuta-Hile:** This 17-km.-portion from Dhankuta, the headquarters of eastern development region, to Hile was gravelled during the Sixth Plan. This entire road is targeted to be black-topped during the Seventh Plan under Koshi hill integrated rural development program.
 2. **Hile-Khandbari:** At a preliminary estimate, the total length of this last portion of Koshi highway is expected to be 67 km. Steps towards construction of this road will be taken in coordination with Arun-3 hydroelectricity project to be launched at the Numkhjola confluence as former is expected to bolster the latter.
- c). **Sagarmatha Highway:** The total length of Sagarmatha (north-south) highway which starts from Mirchैया on Mahendra highway and reaches Salleri, the headquarters of Solukhumbu, via Udayapur, Khotang and Okhaldhunga is estimated to be 200 km. Feasibility study on Katari or Gaighat to Solu Salleri portion of this highway will be carried out in the Seventh Plan along with survey of other suitable alternatives and cost estimates calculated accordingly. As for construction of this portion of the highway, 20 km of truckable road with structure will be constructed in important places.
- d). **Rapti Highway:** There is a policy of developing the north-south roads being constructed Rapti zone of mid-western development region in the form of Rapti highway. In accordance with this policy, this highway is divided into three portions: Amelia-Tulsipur portion of Mahendra highway itself, Tulsipur-Salyan and Salyan-Chaurjahari-Musikot.
1. **Amelia-Tulsipur:** This road in Dang district linked Amelia with Tulsipur and a length of 41 km. It is in rough condition at present. 16 km portion of this road will be gravelled during the Seventh Plan
 2. **Tulsipur-Salyan:** This road lying in Dang and Salyan districts is being constructed under Rapti integrated rural development project. This road will be broadened along with construction of necessary structures during the Seventh Plan.
 3. **Salyan-Chaurjahari-Musikot:** Detail survey designing and cost estimates of this road project which will link Salyan and Rukum districts will be carried out during the Seventh Plan.

- e. **Karnali Highway:** With a long to linking Bheri and Karnali zones in the mid-western development region in the form of Nepalgunj-Jumla highway, this highway proposed for construction on a gradual basis during the fourth plan. The Nepalgunj-Kohalpur and Kohalpur-Surkhet portion of this highway have already been constructed and transport service provided through them. The Seventh Plan has targeted to implement the following objectives pertaining to i) Kohalpur-Surkhet and, ii) Surkhet-Dailekh-Jmla portions of this highway. Karnali zone will receive transport facility on carrying out these objectives.
1. **Kohalpur-Surkhet:** This road linking Bange Simal of Surkhet valley in mid-western development region with Kohalpur on Mahendra highway will be 92 km long. Under this project, 13 km black-topped, 16 km gravelled and 63 km rough roads have been completed in the first four years of the Sixth Plan. The Seventh Plan had targeted to gravel the entire remaining portion of this road along with constructing the entire bridges.
 2. **Surkhet:** The total length of this highway linking Surkhet, the center of Mid-western Development Region with Jumla, the headquarters of Karnali zone will be 200 km. Detailed survey and designing of this road will be carried out during the Seventh Plan along with constructing 100 km fair weather truckable road.
 3. **Dhangadi-Darchula Road:** The road which forms the north-south in the Far-western Development Region will link Dhangadi with Dandeldhura and its length is estimated to be 196 km. With the completion of the road the inaccessible districts of Mahakali zone will get minimum transportation facilities. The Dangadhi-Darchula road is being constructed in three sections: i) Dhangadi-Dandeldhura road ii) Dandeldhura-Baitadi road iii) Baitadi-Darchula road.
 1. **Dhangadhi-Dandeldhura:** The road which will link Kailali and Dandeldhura is estimated to have 3 total length of 140 km as the terai section of the road has already been blacktopped, the Seventh Plan envisages blacktopping the remaining hilly Section of 112 km.
 2. **Dandeldhura-Baitadi:** About 56 km of jeepable track was completed mobilizing people's labour contribution during the Fifth Plan. The Sixth Plan had given top priority to this project as it complements the Mahakali Integrated Rural Development Project. As a result, 86 km portion of this road is to be gravelled during the Seventh Plan
 4. **Baitadi-Darchula:** It is estimated that the length of this north-south road will be 110 km. This road will make the remote Darchula district of Mahakali zone into accessible one. It will also help intensify development activities in the district. During the Seventh Plan the entire length of 110 km. of this road will be constructed as a fair weather road for truck vehicle with structures in major places.
- g. **Mid-Hill East West way:** Mid-Hill East-West Highway has been conceived and the policy has been adopted to construct it gradually in order to avoid limiting east-west highway network in terai only; to linked all the five development regions located in hill areas: integrated fragmented economic and social activities of the hill and activate hill economy.

Demarcation Survey of the highway was carried out tentatively at Phidim of Mechi zone in the east and Dandeldhura of Mahakali zone in the Far-western Development Region. The major section of this highway will be Phidim -Terhathum 60km, Terhathum Dhankuta 60 km; Terhathum-Dhankuta 60 km. Dhankuta-Kathmandu 370 km; Kathmandu-Pokhara 200 km; Pokhara-Surkhet 400; and Surkhet-Ridikot (Doti) - Dandeldhura 352 km. Thus the total length of this road is envisaged to be 1,424 km. The construction of this highway will not only provide road transportation network to the hilly districts but also make important contribution to unify all the five development centers and help significantly to strengthen national integration.

In consonance with the policy of gradually constructing various sections of the Mid-hill East West Highway, the Seventh Plan envisages to undertake the following projects

1. **Basantapur-Terhathum Road:** The total length of the road linking Bansantapur of Dhankuta to the district headquarters of Terhathum is estimated to be 13 km. The road will be constructed under the Koshi Hill Area Development Project and will form a part of the Mid-hill East West Highway. The Seventh Plan has targeted to complete one way track for truck transportation.
2. **Pokhara-Baglung:** This road will start from Pokhara of Western Development Region and terminate at Baglung, the headquarters blacktopped. It is envisaged that the fair weather track will be laid out for 65 km. road during the Seventh Plan.
3. **Dandeldhura-Dipayal-Doti:** The 84 km. road will start from Dandeldhura of Mahakali zone and reach Dipayal, the center of the Far Western Development Region and Silghadhi Doti, the district headquarters of Doti district. One way track was laid down to Dipayal by the fourth year of the Sixth Plan, fiscal year 1983/84. The Seventh Plan envisages to complete the graveling work on the remaining section of this road.

The physical targets of various projects under the highway project are present below.

Target of Highway Construction by Level of Roads during the Sixth Plan

Roads	Length	Status	Blacktopped	Gravelled	Fair weaver	Total
A. Remaining sections of the Mahendra highway						
i. Kohalpur-Mahakali	204	Current	168	-	-	168
ii. Butwal-Kohalpur	251	Current	-	-	-	-
B. North-South highways Mechi						
i. Mahendra highway (Charali) Kanyam-Ilam	78	Current	47	-	-	47
ii. Ilam-Phidim	69	Current	-	68	-	47
Koshi highways						
i. Dhankuta-Hile	17	New	17	-	-	17
ii. Hile-Khandbari	67	New	-	-	19	19
Sagarmatha highways						
i. Appropriate alternative	200	New	-	-	20	20
Rapti highways						
i. Amelia-Tulsipur	41	Current	-	26	-	26
ii. Tulsipur-Salyan	61	Current	-	-	-	-
iii. Salyan-Chourjhari-Musikot						
Nepalgunj-Jumla highway						
i. Kohalpur-Surkhet	92	Current	-	63	-	63
ii. Surkhet-Dailekh-Jumla	200	New	-	-	200	200
Dhangadhi-Dandeldhura-Baitadi-Darchula road						
i. Dandeldhura-Baitadi	86	New	-	86	-	86
ii. Baitadi-Darchula	110	Current	-	-	100	100
iii. Dhangadhi (Godaavari)-Dandeldhura	140	New	112	-	-	112
C. Mid-Hill East-West highway						
i. Dandeldhura-Dipayal-Doti	84	Current	-	-	68	68
ii. Pokhara-Baglung	65	New	-	-	65	65
Total	1,845		344	274	547	1,165

- h. **Construction of Feeder Roads:** Construction of feeder roads was initiated in the previous plan along with new road project in order to render existing highways more useful and activate economic and social activities on and around the road areas.

As in the Fifth Plan, the construction of roads was classified in four categories during the Sixth Plan: i) Feeder roads of the highways, ii) upgrading panchayat roads into feeder roads, and iv) feeder roads to be constructed on the basis of feasibility studies. The Sixth Plan has target to undertake 33 projects in addition to the feeder roads to be decided on the basis of feasibility studies. Altogether 979 km road was completed during the four year of the Plan under different projects and various one track jeep roads were converted into truckable roads. The Seventh Plan has formulated program with a view to complete various projects now under construction. Details of feeder roads are given below:

1. Mahendra Highway-Sindhuli

This 37 km road passes through Mohattari, Dhanusha and Sindhuli districts of Janakpur zone and links the Sindhuli district headquarter Sindhulimadi with Mahendra Highway. During the first four years of the

Sixth Plan, a fair weather road construction was completed on this project. The Seventh Plan envisages to upgrade this road to gravelled level with all necessary structures.

2. Dumbre-Beshi Shahar:

This 42-km road will start from Dumre in Tanahun district on the Prithivi Highway and reach Beshi Shahar, the headquarters of Lamjung district. The road construction was initiated with people's labour contribution during the Fifth Plan and single-track road was laid out during the first four year of the Sixth Plan. The target for the Seventh Plan is to gravel the entire length of the road and enable the flow of traffic throughout the year.

3. Lumbini-Taulihawa

The total length of this road, linking Taulihawa the headquarters of Kapilbastu district and Lumbini, is estimated to be 47 km. Under this project, fair weather roads has been constructed during the four-year of the Sixth Plan. This road has become a basic infrastructure for the development of Tilaurakot, which is an integral part of Lumbini project. There, the Plan envisages to gravel 25 km. of this road.

4. Trisuli-Dhunchu-Somdang

This road, which is estimated to be 105 km starts from Trishuli of Nuwakot district and passes through the headquarter of Rasuwa district, and ends in Somdang. By the end of the fiscal year 1983/84 three bridges and three culverts were completed and 13 km was gravelled. During the Seventh Plan the target is to construct a fair weather truckable road in the remaining section of this road. Special emphasis has been given to construct this road in view of this zinc and lead industries located in the Ganesh Himal.

5. Mahendra Highway-Taulihawa

This road, which forms a feeder road of Butwal-Kohalpur part of Mahendra Highway, link Taulihawa, the headquarters of Kapilbastu district with Mahendra Highway. It forms a part of the canal road of the Bana Ganga project and is estimated to be 24 km long. Under this project, this road is to be gravelled during the Seventh Plan.

6. Mahendra Highway-Pattarkot-Sandikhark

This road, linking Sandhikhark the headquarter of Arghakhachi district, Lumbini zone, with Mahendra Highway, is 72 km in length. The target of the Sixth Plan was to construct a 28-km truckable and upgrade the existing 20 km road to truckable road. By the end of the terminal year of the Sixth Plan i.e. fiscal year 1984/85, a 72-km fair weather road was completed along with gravelling of 11 km. During the Seventh Plan, the target is to construct the remaining 61-km of fair weather road and bridge culverts retaining wall, and other necessary structures and widen the road to enable the traffic throughout the year.

7. Tansen-Ridhi-Tamghas

The Tansen-Redhi-Tamghas is on of the panchayat roads initiated by the local panchayats under the World Food Program and people's participation during the Fifth Plan. This road, connects Tansen, the headquarters of Palpa district, with Tamghas of Gulmi district via Ridhi. It is estimated to be of 75 km long. A 75 km fair weather road has been completed during the first four years of the Sixth Plan i.e. by the fiscal year 1983/84. During the Seventh Plan, the target is to construct bridges, culverts and the retaining walls and other necessary structures on the road, together with the construction of the fair-weather road enable the traffic throughout the year. This road will facilitate transportation between Palpa ad Gulmi districts and also benefit the people of the nearby area.

8. Khodpe-Bajhang

This road, linking Khodpe of Baitadi district, Mahakali zone, and Chainpur the headquarter of Bajhang district of Seti zone and directly benefit the people of this region. Detailed survey and feasibility studies of the 50-km road have been completed during the first four-year of the Sixth Plan. The Seventh Plan envisages to construct 60 km fair weather road in this priority project.

9. Busti-Khimiti-Ramechhap

This road, linking Busti of Dolakha and Ramechhap in Janakpur zone, is envisaged to be 55 km long. During the Seventh Plan, the target is to construct a single-track fair-weather road on the basis of feasibility study of this road.

10. Malekhu-Dhading

This road, connecting Malekhu of the Prithvi Highway with the headquarters of Dhading district, is 20 km long. The construction of the road was initiated with labor contribution by the people. The Sixth Plan had envisaged to upgrade this road too a single-track road to suit truck transportation. The target for the Seventh Plan is to gravel this road.

11. Fikal-Pashupati Nagar

This road, linking Fikal of Ilam district with Pashupati Nagar, is 11 km long. About three kilometers of this road has been blacktopped. The remaining part of the road is envisaged to be blacktopped under the feeder road project, financed through the credit of the Asian Development Bank.

12. Nepalgunj-Gularia

This road, linking the district headquarters of Bane and Bardiya, is 38 km in length. The gravelling and blacktopping of this road were envisaged by the Fifth Plan respectively. However, only 16 km portion was completed during this period due to various reasons. The construction of the bridge across the Man river along this road has been completed and the construction of bridge over the Bhadra river has already been started. When completed, this will not only ease the social problems experienced by the people in the district but also greatly help cotton farming and other development works of this area. The Seventh Plan envisages to construct 22 km gravelled road in this project.

13. Feeder Road of Karnali-Mangalo Area

As the Kohalpur-Mahakali section of the Mahendra Highway passes through Chisapani, this road has been included in the project to provide access to Mahendra Highway to the people linking in southern stream of the Karnali river 60 km gravelled road will be constructed under the project.

TABLE-28.09

Feeder Road Construction Targets for the Seventh Plan

SN	Projects	Total Length	Status	Black Topped	Graveled	Fair Weather	Total
1	Mahendra Highway-Sindhuli	38	Current	-	38	-	38
2	Dumre-Benshi Shahar	42	Current	-	35	-	35
3	Lumbini-Taulihawa	25	Current	-	20	-	20
4	Trishuli-Dhunchhe-Somdang	105	Current	-0	-	67	67
5	Mahendra Highway-Taulihawa (Canal Road)	15	New	-	24	-	24
6	Mahendra Highway-Pattharkot-sandhi Kharka	72	Current	-	61	-	61
7	Tansen-Ridi-Tamghas	75	Current	-	30	-	30
8	Khodpe-Bajhang	110	New	-	-	60	60
9	Busti-Ramechhap	55	New	-	-	53	53
10	Fikal-Pashupati Nagar	11	New	8	-	-	8
11	Nepalgunj-Gulariya	38	Current	-	22	-	22
12	Malekhu-Dhading	20	Current	-	20	-	20
13	Roads in the Kanali down stream area	60	New	-	60	-	60
	Total	675		8	310	180	498

B. Road under the IRDPS and Other Projects

The integrated Rural Development Projects (IRDPS) launched with the assistance of friendly nations and international agencies to uplift the living condition of the people in rural areas have included transport roads projects that helped directly or indirectly in rural development. Altogether 99 km of different kinds of roads were completed during the first four years of the Sixth Plan. Some roads projects are at the last stage of their construction.

Under the sagarmatha IRD Project, various gravelled roads were completed including: 1. Mahendra Highway-Siraha; 2. Mahendra Highway-Vidyanagar; 3. Mahendra Highway-Bhagawanpur-Lahan; 4. Mahendra highway (Phulbari)-Katari; 5. Gaighat-Kalyanpur. Similarly Hile-Dhankuta was completed under the Koshi Hill Area Development Project. Necessary structural construction and improvement were carried out in Tulsipur-Salyan, Ghorahi-Piuthan and Chakchake-Rolpa-Liwang roads under the Rapti Rural Development Project.

During the Seventh Plan, the remaining works under the IRD projects will be completed and roads construction will be carried out under the cash crops project. It is envisaged that a total of 128 km will be constructed through the various projects under this program, Of the total length of the proposed roads, a length of 70 km will be gravelled and the remaining 58-km will be fair weather road.

C. Major Urban Roads

In view of the growing density of population and the vehicular traffic in Kathmandu valley, the urban road construction in Kathmandu valley has been included under central level project in order to provide organized transportation in the capital city which is rapidly developing to a cosmopolitan city. During the first four years of the Sixth Plan, the graveled and fair weather urban road construction in Kathmandu valley was 36 km and 37 km respectively. During the Seventh Plan period, the target for urban road construction in Kathmandu valley is 80 km of black topped including surface improvement and upgrading, 80 km of gravelled, 80 km of gravelled road and 30 km of fair weather roads with a combined total of 190 km.

D. Roads Repair and Maintenance

Reconstruction, repair and maintenance of completed roads are needed to save them from the damage of heavy rain, floods, landslides and also from the damage resulting from traffic density. In this context, the Seventh Plan has also maintained the provision for reconstruction, repair and maintenance of roads. The roads requiring maintenance during the Plan period are Mahendra highway, Dharan-Dhankuta road, Muglin-Naubise

and other sections of the Prithivi highway, Arniko highway, Lamosanghu Jiri road, Tribhuvan Highway and other major roads. Reconstruction and necessary repair-maintenance of these roads will be carried out from the assistance of friendly nations and credit support of the international agencies.

E. Road Construction, Maintenance Equipment, Workshop Establishment and Training

As construction, maintenance and repair of ongoing highways, feeder roads and other roads are constantly required, the Seventh Plan, as in the Sixth Plan, has made provision like roller, dodger, truck, tipper, etc. for road construction and maintenance along with necessary spare parts. In addition to this, training will be provided to the operators and mechanics of the Roads Department for the smooth handling of the existing and new machinery and equipment use in roads construction and repair-maintenance works. Concerning workshop equipment and workshop, two heavy equipment division will be set up, one each in Nepalgunj and Godavari of Kailali district. Further more, in view of the growing repair-maintenance works, necessary workshop building equipment will be provided for the 13 sub-divisions and 23 servicing depots in various parts of the country.

F. Feasibility Study, Design and Survey Works

The Seventh Plan target is to conduct feasibility studies and detailed survey works on the highways included in the Sixth Plan and those that are deemed important from the transit and foreign trade point of view under the central level program. Some of the major roads proposed for the feasibility studies are 1) Sindhuli-Kvre 2) Ridhi-Dhorpatan and other roads, which are important from national viewpoint.

G. Miscellaneous

Under this heading, the programs included are traffic survey and research, land acquisition and compensation, construction and repair of mule track in Darchula Tinkerbyas and other stray works.

Traffic Survey and Research

Tariff Survey and Research are important in order to reduce and control traffic accidents on various roads in the Kingdom. Therefore, Traffic survey and research will be conducted on various roads during the Seventh Plan

L a n d A c q u i s i t i o n a n d C o m p e n s a t i o n

Construction of highways and feeder roads claims private land of individuals. Therefore acquisition of such land and payment of compensation thereof will be continued during the Seventh Plan also.

D a r c h u l a T i n k e r M u l e T r a c k

The mule track linking Darchula and Tinker in the Far-western Development Region is one of the national priority projects. The mule track construction was initiated by the Ministry of Panchayat and Local Development during the Sixth Plan. The remaining work will be completed during the Seventh Plan.

B r i d g e a n d S u s p e n s i o n B r i d g e s

In the context of Nepal, it is but natural that bridge, suspension bridge and other means of crossing rivers assume great importance while formulating transportation development program. Therefore top priority was given to the construction of bridge and suspension bridges in the previous plans. An analysis of our achievements in bridge construction during the past years indicates that more efforts are needed in this regard and a separate bridge construction unit is required within the concerned department in order to implement bridge construction.

On the one hand, there has been an unprecedented growth in the demand for the construction of motorable bridges in various parts of the Kingdom due to the problems created by the numerous rivers especially during the rainy season. On the other hand, various projects included in the Plan have remained incomplete. Several bridges, launched during the Sixth Plan, could not be completed due to the lack of increased capability in bridge designing at the Roads Department.

Keeping in mind the capability of the Roads Department and limited resources available, the target of the Seventh Plan has been fixed to construct 23 bridges. Construction work on Jamara river (Kailali), Bhada bridge (Bardia), Sirsia bridge (Parsa), Keshlaya bridge (Morang), Bakraha bridge (Morang), Red bridge (Jaleshwar) will be completed during the Plan period. Concerning reconstruction of bridges, the red bridge on Shankhamul and Dhobikhola rivers, and other bridges in Babar Mahal, Siphel and Handigaon will be reconstructed. Similarly construction of bridges on the Bishnumati river across Bhimsen Than, Shobha Bhagati and Dallu will be completed. Five bridges on the road from Naubise to Raxual section will also be reconstructed.

Necessary feasibility study and survey for the bridge construction will be continued during the Seventh Plan also. The bridge over Mohana River (Kailala) will be designed and constructed under the feeder road project within the Plan period, Besides, study will be conducted to construct a motorable bridge around Teku between Kathmandu and Lalitpur.

Backlog projects from the Sixth plan are also targeted for completion on priority basis.

S u s p e n s i o n B r i d g e s

As Suspension bridges are one important means of rural transportation system, the center should provide technical back-up for the successful completion of suspension bridge programs being undertaken by local panchayat. In this background, steps will be taken to strengthen suspension bridge division at the center. In the context of Decentralization Act and Regulations the role of central level agencies will be re-oriented to provide necessary technical backing to the rural transportation program rather than involve directly in construction works.

The Seventh Plan also envisages for the development of rural transport system (1) preparation of directory manual for the training of technical personnel of the districts engaged in the construction suspension bridges, and (2) research and studies to develop cable crossing of rivers and streams in the rural hilly areas.

Financial Targets

The total financial outlay set-aside for the development roads and bridges formulated for implementation during the Seventh Plan is Rs. 37730 million. The following table shows the details of program and expenditure.

TABLE 10
Financial Target for the Roads and Bridges during
the Seventh Plan

Program	In million rupees Expenditure
A. Roads Development:	
A.1 Central Level	2,987
i) Highway Construction	1,780
ii) Feeder Roads Construction	600
iii) Major Urban Roads	69
iv) Roads under the IRDPs and Maintenance	105
v) Highway Reconstruction and Maintenance	300
vi) Equipment for Roads Construction and Maintenance Establishment and Training	73
vii) Feasibility Study, Surveys and Designs	25
viii) Miscellaneous	35
A.2 District Level	394.5
i) Current Road Projects	
ii) Roads to be constructed on the basis of Feasibility Studies	
iii) Miscellaneous	
Total	3381.5
B. Bridges 149.4	
i) New Bridge Construction	
ii) Reconstruction of Bridges	
iii) Feasibility Study and Survey Design Backlog Projects from the Sixth Plan	
C. Suspension Bridges 199.1	
C.1 Central Level 5	
i) Training Program	
ii) National Highway Development Master plan	
iii) Suspension Bridge Master plan	
iv) Study and Research on Cable Crossing	
v) Directory of Suspension Bridges Construction and Maintenance	
C.2 District Level 194.1	
i) Current Suspension Bridges	
ii) Suspension Bridges to be Undertaken after Feasibility Studies	
iii) Miscellaneous	
Grand Total (A+B+C)	3,730

In consonance with the Decentralization plan, centrally administered major projects in the districts have been included within the district level plan. In this context, the policy regarding the district level roads development has been formulated to complete backlog projects, initiated in the districts from the Sixth Plan on priority basis, and construct other view road projects on the basis of feasibility studies. Guided by the above policies, the programs of district level roads development for the Seventh Plan area: 1) complete on-going projects, 2) carry out construction of new road project on the basis of feasibility study, and 3) undertake repair and maintenance of completed projects.

The fiscal outlay set-aside for the district level road development program for the Seventh Plan is Rs. 394.50 million.

District Level Plan for Suspension Bridges

Though a small country, Nepal has numerous rivers and streams due to the diverse geographical structures. The major system of Nepal comprises of the Koshi, Gandaki and Karnali rivers with their several large tributaries. A large area of Nepal consists of hills and high mountains in Himalayan region. The absence of bridges and suspension bridges in most of the rivers and streams has created problems in transportation across different places and villages. This problem becomes especially that bridge and suspension bridges are essential to provide transportation facilities in the hilly and remote districts, which have numerous rivers and streams. In view of the limited available resources under our disposal, it will still require a long time to provide motor road transportation network in all parts of the country. In this context the construction of bridge and suspension bridges on major rivers along the main foot tracks in the hilly and remote regions will also greatly facilitate the movement of common people in rural areas. Keeping this fact in mind, the construction of bridges and suspension bridges as an integral part of rural transportation was accorded top priority since the Fifth Plan. The Sixth Plan emphasized the suspension bridge construction as one of the basic needs of the people.

The achievements made in the suspension bridge construction during the past periodic plans reveal that only 10 projects were completed during the Fourth Plan while the figure for the Fifth Plan was 61. The target for suspension bridge construction for the Fifth Plan was set at maximum and minimum targets were 91 and 145 percent respectively. During the first four years of the Sixth Plan, the Suspension Bridges Division had completed 98 suspension bridges. Thus during the first four years of the Sixth Plan, 33 percent of the target has been fulfilled. The regional distribution of the 98 suspension bridges constructed by the Suspension Bridge Division is: Eastern Development Region 15 and Far Western Region 8. The annual progress recorded during the first four years of the Sixth Plan was: fiscal year 1980/81:30; F.Y.1981/82:26; F.Y.1983/84:16. The suspension bridges completed by the Suspension Bridge Division during the first four years of the Sixth Plan are follows:

Suspension Bridges Constructed in the First Four Years of the Sixth Plan by the Suspension Bridge Division

Region	Zones	Bridges	District
Eastern	Development Region		
	Mechi	Rani Lalep	Taplejung
		Sawa Khola	Panchthar
		Phema Khola	" "
		Nawan Khola	" "
		Mawi Khola	Ilam
	Koshi	Kartike Ghat	Sankhusabha
		Pikuwa Khola	Bhojpur
		Raighat	Terhathum
		Pinguwa Khola	" "
		Telia Khola	Dhankuta
		Leguwa Khola	" "
		Leguwa Ghat	" "
		Nibuwa Banchara	" "
		Kokaha Khola	" "
	Sagarmatha	Bimire	Okhaldhunga

CHAPTER 30

TELECOMMUNICATIONS

Like transportation, telecommunication has also been regarded as one of the basic infrastructure for all-round development of the country. Trunk call microwave trunk call system, local telephone exchange, telex, teleprinter, etc. are some of the important modern telecommunication media. The setting up of different telecommunication media has made exchange of news, both within the country and abroad, possible. It has also bolstered up the development of economic, social, political and administrative sectors of the country. The development of industry, trade, business, has direct bearings upon the development of telecommunication service. In a mountainous country like Nepal with limited facility of road and air transportation, telecommunication occupies a crucial position in the all-around development of the country. Keeping in view the importance of modern telecommunication media, special attention has been paid to the development of this sector since the country began to adopt planned development policy.

The beginning of modern telecommunication service in Nepal is said to date back from 1913. Before the dawn of democracy in 1950, trunk telephone service was provided to some of the important places of the country to establish contact among them. Telephone lines this facility. Besides this, a 25 line automatic telephone system was operated in the capital and trunk call service provided to six districts.

In fiscal year 1955/56 or before the beginning of the first 350 lines of local telephone were distributed for use and trunk telephone service was expanded by joining Kathmandu-Dhulikhel and Palpa-Bhairahawa telephone lines. Trunk call service was also expanded by setting up trunk call centers in 28 districts of the kingdom.

After the adoption of planned development policy, telecommunication department was established in 1959 during the first plan period with a view to developing and expanding various sectors of telecommunications.

By the end of the Third Plan (fiscal year 1969/70) local telephone exchange were set up in Kathmandu, Patan and Biratnagar with the distribution of 6000 lines and trunk call service was provided through 70 call centers. Likewise, trunk telephone facility was made available in seven places including Kathmandu, Dhulikhel, Palpa, Birgunj, Dhankuta, Nuwakot and Bhairahawa. In international telecommunication, radio telephone and teleprinter services were established between Kathmandu-Delhi and Kathmandu-Raxaul.

The telecommunication sector envisaged further development by the end of the Fourth Plan, that is fiscal year 1974/75. With the growth of local telephone exchanges, the number of telephone lines reached 8920 and the number of trunk call centers also increased from 70 to 73. Similarly, trunk telephone service was provided to 11 places as compared to mere 7 places before and trunk service was established between Kathmandu-Bhairahawa and Kathmandu-Nepalgunj. A 60-line telex exchange was set up and made available for use in Kathmandu. In international field, telecommunication links were established between Kathmandu-Lucknow and also with other cities of India. Apart from this, telecommunication link was established between Kathmandu-Dhaka and Kathmandu-Rawalpindi.

The number of telephone lines in the kingdom came up to 13,670 by the end of the Fifth Plan in the fiscal year 1979/80. Eighty different places of kingdom were provided with trunk call facility. Though trunk telephone service was limited to only 11 places, micro-wave service, which is one of the ultra modern media of telecommunication, was provided to 11 districts of the eastern, central and western development regions. International telecommunication was expanded by establishing radio links with Hong Kong and Japan in addition to that with India, Pakistan and Bangladesh. Telex exchange lines were increased to 95.

That telecommunication sector envisaged more improvement by the fourth year of the Sixth Plan (fiscal year 1983/84) in comparison to achievements made during the Fifth Plan is manifest from the table below. The number of telephone lines is seen to have reached 20,580 with the increase in telephone exchanges. Of the 82 trunk call centers operating till this year, 40 are operated with solar energy. International trunk service is made available through telephone and microwave telecommunication system also. Microwave telecommunication service has been provided through 204 channels with the increase of 84 channels, which were hitherto 120. As regards international trunk system, the number of countries, which can be directly contacted, has increased with the establishment of an earth-satellite center. By fiscal year 1984/85 the channels through earth-satellite center is expected to reach 30.

The manual telex exchange system has been replaced by a 512- line capacity automatic telex exchange and service provided through it from this year. In the same way, to improve the standard of telecommunication service between the Kingdom and India as well as Bangladesh, a coaxial link with 60 channels has been established between Birgunj and Raxaul and a microwave U.H.F. link with 12 channels between Bhadrapur and Atari (Bangladesh). The following table presents the situation of telecommunication service in particular years of the past few decades.

Following is the table presenting the situation of telecommunication by development Regions till the end of the fourth year of the Sixth Plan (fiscal year 1984/85).

Of the total 14 local telephone exchanges operated in the fiscal year 1983/84, 6 are in Eastern Development Region, 11 in Central Development Region, 4 in Western Development Region, 2 in Mid-western Development Region and one Far-western Development Region. Likewise, of the total 20580 in operation, 3200 are in Eastern Development Region, 15280 in Central Development Region, 1200 in Western Development Region, 700 in Mid-Western Development Region and 200 in Far-Western Development Region. Telex exchange service are confined to Central Development Region Trunk call service is provided to all development regions. But microwave telecommunication service is made available to Eastern, Central, Western and Mid-Western Development Regions.

The Achievements of the Sixth Plan

The Sixth Plan had also launched various projects under various programs for the development of telecommunication sector. Under the program launched with a view to setting-up and expanding local telephone exchanges in urban as well as commercially and administratively important areas, there was target of setting-up 10 telephone exchanges in ten towns with total lines distribution of 23450. With the increase of 23450 lines, the total telephone lines by the end of the 6th plan (fiscal year 1984/85) was expected to reach 37120 with an estimated telephone density of 0.238, that is, an estimated 238 lines for one lakh people. In the first four-year of the plan period, that is, by the end of the fiscal year 1983/84, telephone exchanges were set up in four additional towns and 6700 line distributed. Taking into consideration the Sixth Plan target of distributing 7200 lines in fiscal year 1984/85 in this direction, a total of 13900 lines are expected to be distributed during the plan period. Keeping in view the telephone lines distributed until fiscal year 1984/85, the number of telephone line per one lakh population comes

TABLE-30.01

The Situation of Telecommunication in the Past Decades

Topic	1955/56	1969/70	1974/75	1979/80	1983/84	Estimated situation of 1985/86
1. Local telephone exchange	350	6000	9820	13880	20580	27780
2. Trunk call center						
a. Ordinary	28	70	73	80	42	42
b. Solar energy based	-	-	-	-	40	40
3. Trunk telephone service (in terms of places)	7	7	11	11	37	37
4. Microwave telecommunication service						
a. District	-	-	-	11	16	16
b. Channel	-	-	-	120	204	269
5. Telex exchange service channel						
a. Manual line	-	-	60	95	-	-
b. Automatic	-	-	-	-	512	512
6. International telecommunication services (direct contact countries)	1	2	3	5	5	5

Source: Nepal Telecommunication Corporation.

Note: Single channel V.H.F. service is also included to trunk telephone service

- a) Only those districts, which are provided trunk service through multi-channel radio link; only international channel included.

TABLE - 30.02

The Situation of Telecommunication By Development Regions 1984/85

SN	Topic	Eastern	Central	Western	Mid-western	Far-western	Total
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1.	Local telephone exchange						
1.1	Exchange number	6	11	4	2	1	24
	a) Automatic	1	4	-	-	-	5
	b) Manual	5	7	4	2	1	19
1.2	Telephone line	3200	15280	1200	700	200	20580
	a) Automatic	2000	14000	-	-	-	16000
	b) Manual	1200	1280	1200	700	200	4580
2.	Microwave telecommunication service						
2.1	U.H.F./S.H.F. Service						
	a) Channel (no.)	80	51	37	36	-	204
	b) Place	7	5	4	2	-	18
	c) District	6	5	3	2	-	16
2.2	V.H.F. Service						
	a) Place	2	3	4	5	5	13
	b) District	2	3	3	1	2	11
3.	Trunk call center	18	14	20	19	11	82
	a) Ordinary	9	9	12	8	4	42
	b) Solar energy	9	5	8	11	7	40
4.	Telex exchange (no.)	-	1	-	-	-	1
5.	Tele-communication satellite center	-	1	-	-	-	1

Source: Nepal Telecommunication Corporation

to 129. As the number of lines, both manual and automatic is expected to reach 27,300 by the end of fiscal year 1985/86, the ratio of telephone and population is to undergo some improvement. Of the targeted 40 solar energy trunk call centers for the promotion of trunk call facility, 39 centers have already been set up and the progress is seen as per target.

Under international trunk call service development, the works on microwave (U.H.F.) telecommunication project initiated in the Fifth Plan to link Kathmandu-Bharatpur, Kathmandu-Nepalgunj, Nepalgunj-Surkhet, Bhairahawa-Butwal, Biratnagar-Dhankuta and Kathmandu-Banepa (V.H.F. link) were completed as per target. Of the targeted five new links between Rajkot-Tulsipur-Ghorahi, Chamire-Dhangadhi-Mahendranagar, Bhairahawa-Parasi, very high frequency (V.H.F.) links were established and made operational between Nepalgunj-Tulsipur-Ghorahi, Nepalgunj-Dhangadi-Mahendranagar, Bharatpur-Illam, Bhairahawa-Krishnanagar and Bhairahawa-Taulihawa

In subscriber trunk dialing (STD) service project, initial works on setting up were launched in accordance with the goal of providing such service in Kathmandu valley, Birgunj and Biratnagar as well as in Pokhara, Bhairahawa, Nepalgunj, Hetauda, Janakpur and Dharan.

With the objective of providing efficient and reliable international telecommunication service in view of Nepal's increasing international relations diversification of international trade, tourist and other industries as well as the people's growing need, the Sixth Plan had set programs to set up earth satellite center, manual and semi-automatic trunk exchange system and Nepal-India and Nepal-Bangladesh trunk service under Asian Telephone Network for developing and expanding international trunk system of country. Accordingly, setting up of a standard 'B' earth-satellite center along with installation necessary telephone and telegraph interface apparatus as well as a 512 line automatic telex exchange were carried out in fiscal year 1982/83.

The earth-satellite center with a maximum capacity of 60 channel and working through a communication earth-satellite (Intelsat-5) situated above the Indian Ocean was started with two telephone channels with London, 2 telephone and 12 telex channels with Hong Kong, 2 telephone, 3 telex and 1 telegrapher channels with Japan, 1 telephone and 1 telex and 1 telegrapher channels with India.

With the setting up of earth-satellite center and automatic telex exchange, an operator in Kathmandu can directly dial the telephone numbers of most countries across the globe the telex service has become completely automatic and a telex subscriber can make contact an international telephone numbers directly.

Under Asian telecom net work project, Kathmandu-Birgunj-Raxaul (India) 60 channel coaxial line and Nepal (Bhadrapur)-Bangladesh (Ataria) 12 channel V.H.F. microwave links were setup. Under miscellaneous heading, 732 medium and low-grade telecommunication technicians have been trained. 12 channel V.H.F. microwave links were set up. Under miscellaneous heading, in the first four year years of the plan period as per target. Under godown and office building construction program, the construction of the central office has been initiated. Meanwhile, the office building in Butwal was expanded and a godown was constructed in Birgunj. The works on feasibility study has been started although works relating to frequency management and monitoring could not be started. Under telecommunication operation and maintenance, telephones and other telecommunication devices were repaired and maintained.

Financial Progress

Sixth Plan had targeted to spend Rs. 320 million for launching different projects proposed for the development of telecommunications project. Amount totaling Rs. 283.8 million in the prevailing market price is seen to have been spent during the first four years 1980-84 of the plan period. In view of the budgetary estimates of Rs. 192.8 million for the final year (fiscal year 1984/85) of the plan, the total expenditure during the Sixth Plan comes up to Rs. 476.6 million in the prevailing market price. The financial progress of the Sixth Plan is given in the table below:

Problems and Bottlenecks During the Sixth Plan

Nepal Telecommunication Corporation faced various bottlenecks while implementing the programs and projects launched during the Sixth Plan. Apart from problems relating to awarding of contract and arising from lack of coordination, unprecedented increase in the price of telecommunication apparatus in the world market also brought about financial problem, setting up and expansion of local telephone exchange as well a subscriber trunk dialing service project were severely affected from price hike. The corporation was deprived of financial gain from price hike. The corporation was deprived of financial gain from its investment for failure of getting timely delivery of Rs. 80 million worth apparatus as a result of price hike. Special attention has been paid to avoid such situation in the Seventh Plan.

Objective, Policies and Programs of the Seventh Plan

The above account statistics indicate the fact that various telecommunication media are being developed in the country. In the broad context of development challenges facing various sectors of national economy, these achievements alone are not cause for satisfaction. Most of the rural areas in the kingdom are deprived of modern telecommunication facility even today. There is more to be done to fulfill the growing demand of urban areas for local telephone service.

A need to improve the standard of telephone service is also felt. The east-west microwave system, which assumes the backbone role of internal trunk telecommunication system, is yet to be expanded inn various important towns of the country. The objectives, policies, working pollicies and programs of the Seventh Plan are formulated keeping in view the above facts.

TABLE - 30.03
Financial Target Progress of the Sixth Plan Relating to Telecommunications Services
1980/81-1984/85

in million rupees

Program	Financial target (at fixed price)	Progress of first four years (at prevailing market price)	Estimates of fiscal year 1984/85 (at prevailing market price)	Total estimates of the five years (at prevailing market price)
1. Setting up and expansion of local telephone	180.514	184.865	169.995	354.860
2. Microwave telecommunication system	19.600	12.759	3.743	16.502
3. Subscriber trunk dialing	23.445	-	-	-
4. Improvement of trunk call	-	1.223	-	1.223
5. Earth station 'B' and semiautomatic telex setting up	78.553	83.038	19.100	102.138
6. Asian telecom network	1.600	1.866	-	1.866
7. Miscellaneous	16.288	-	-	-

Total	320.000	283.751	192.838	476.585
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Objectives

Telecommunication development program will be conducted in the Seventh Plan with a view to achieving the following objectives.

1. to expand local telephone exchange service and reliable trunk service in different urban and other important areas of the country with a view to assisting the productive sector especially the development of industry, commerce, tourism and other economic sectors; and
2. to develop and expand telecommunication media to integrate various parts of the kingdom and maintain regional balance.

Policies

The following will be adopted in the Seventh Plan to achieve the above objectives.

1. Appropriate trunk telecommunication media will be steadily developed to render international trunk system more reliable. In this context, subscriber trunk dialing (S.T.D.) service will be provided by expanding microwave trunk network and the expansion of telex service will be continued;
2. Local telephone exchange service will be expanded in all five development centers, industrial and commercial centers as well as in some other towns of national importance. In addition to this necessary arrangements will be made to provide telephone service to the people.
3. Trunk and telephone facility will be expanded in district and zonal headquarters all over the kingdom;
4. Suitable Programs will be systematically launched in keeping with the declaration of transport and communication decade (1885/86) for the development of Asia and the Pacific;
5. Production of medium and low grade technical manpower necessary for the operation of telecommunications service will be continued through telecommunications training center;
6. While selecting different kinds of media such as telephone, telegraph telex etc. for telecommunication service, the view of selecting less expensive media with appropriate technology in accordance with recent advancement in telecommunication technology will be continued. The necessities of different agencies providing telecommunication service will be coordinated as far as possible while selecting telecommunication technology; and
7. Concrete steps relating to improvement in organization and management will be taken to repair and maintain different telecommunication media and enhance the standard of service.

Working Policies

Following working policies will be adopted to enhance the effectiveness of policies adopted in connection with achieving the above objective relating to development of telecommunication.

1. The existing manual telephone exchanges in the country will be converted into up-to-date automatic exchanges step by step;
2. Special attention will be paid towards setting up of public booths and public call office (P.C.O.) to make local telephone as well as trunk service easy of access for general public;
3. International telecommunications service will be made more reliable and accessible by increasing the channels of standard 'B' earth-satellite center.
4. In connection with extending trunk and telephone facilities to more people, more reliable telecommunication systems will be systematically set up in different headquarters all over the kingdom;
5. The capacity of the existing international telecommunication media will be increased with a view to fulfilling the growing demand for international trunk communications service;
6. Frequency, management and monitoring activities will be more effectively conducted to standardize and regularize telecommunications service used or likely to be used by government and non-government agencies and;
7. A telecommunication technology selection committee representing various agencies engaged in providing telecommunication service will be constituted with a view to bringing about coordination in their necessities at its best. Selection of telecommunication technology will be done on the recommendation of such committee

Priority Order

The priority of projects to be launched during the Seventh Plan with a view to achieving the objectives of telecommunication sector is as follows;

1. Projects launched during the last Sixth Plan but lying incomplete;

2. Projects relating to expansion and setting up of local telephone exchanges and those relating to microwave telecommunications system to bolster international trunk service; and
3. Projects relating to earth-satellite station and telex exchanges to make international telecommunication service swift and more reliable.

Physical Target

A maximum of 40,920 additional telephone lines will be distributed to different towns of the country from the existing local telephone exchanges or from those to be set up by the end of the Seventh Plan. The situation of local telephone lines by the end of Seventh Plan (fiscal year 1989/90) will be as follows:

Kind of telecommunication	Situation at the end of Fifth Plan (FY 1979/80)	Net increase in the Sixth Plan	Estimated situation by the Sixth Plan (FY 1984/85)	Target of the Seventh Plan	Situation expected by the end of the Seventh Plan (FY 1989/90)
a) automatic	10,000	14,000	24,000	44,500	68,500
b) manual	3,880	(-100)	3,780	(-3580)	200
Total	13,880	13,900	27,780	40,920	68,700

Local telephone service will be provided to 14 towns and other important places including Dipayal, Doti, and the headquarters of Far Western development region. Apart from this seven-microwave link are to be set up with a view to linking different parts of the Kingdom through the medium telecommunication.

Telecommunication Program

The projects relating to telecommunications development will be launched under the following five important program. These programs will boost telephone services and telephone and trunk service will be made available in district headquarters also. Besides the programs will also contribute to the expansion in the capacity of international trunk telecommunication service.

The programs are as follows:

- a) setting up and expansion of local telephone exchanges;
 - b) setting up and expansion of international trunk system;
 - c) international telecommunication service;
 - d) development of trunk telecommunication service in different headquarters; and
 - e) miscellaneous
- a) Setting up and Expansion of Local Telephone Exchanges

The task of providing local telephone exchange service to various important urban areas of the Kingdom was started since the beginning of the planned development system. The demand for local telephone service has been increasing rapidly with the gradual development of national economy and development and expansion of industry and trade as well as expansion of urban and other residential areas. In this context local telephone exchange program has been launched on priority basis since the beginning of the Sixth Plan period. As a result of this the total number of telephone lines distributed by the end of the fourth year of the Sixth Plan (fiscal year 1983/84) reached 20,580 and it is expected to reach 27,780 by the fiscal year 1985/86.

The Seventh Plan has set a target of distributing a maximum of 40,920 lines by setting up and expanding local telephone exchanges. Although a total of 44,500 automatic telephone lines will be distributed during the Seventh Plan, the actual increase in telephone line will come to 40,920 because 3,580 out of 3,780 manual lines now operating will be removed and converted into automatic form. In this way total number of telephone lines operating by the end of the Seventh Plan is expected to reach 68,700 at its maximum.

Following are the projects proposed for implementation during the Seventh Plan:

1. Kathmandu Telephone Exchange Project

Kathmandu is one of the most important towns from commercial, industrial, administrative and other point of views besides being the capital of the kingdom. In the context of expansion of Kathmandu Town Panchayat area, an excessive pressure on telephone service has been experienced here since the last plan period. Keeping in view the increasing demand for telephone service, the number of telephone exchanges has also been increased here. There are three telephone exchanges operating here including Kathmandu 1 and 2 and Naxal sub-urban exchange and the total number of lines distributed is 11,000. If an additional 5,000 lines are distributed as per target by the end of Sixth Plan (FY 1985/86), the total number of lines here is expected to reach 16,000. Although the highest number of telephone lines is in Kathmandu quantitatively, in the context of increasing demand it also felt to be low. So the Seventh Plan has set a target of setting up two additional exchanges and

distributing 17,000 to fulfill the increasing demand. In this way Kathmandu is expected to be facilitated with telephone service of 33,000 lines by the end of Seventh Plan.

2. Patan Telephone Exchange Project

Patan can be regarded as another important town of the kingdom. Situated in Kathmandu valley this town is interlinked with Kathmandu through roads. As a result of development of industry and trade and rapid growth in population, the demand for telephone is increasing there. An automatic analogue system telephone exchange has been set keeping in view the demand of local people for such telephone system. Telephone service of 2,000 lines can be made available through the system. There is no possibility of providing telephone service of more than 2,000 lines by the end of fiscal year 1984/85.

A 5,000-line digital exchange is targeted to be set up under this project during the Seventh Plan. In this way Patan will be facilitated with telephone service of a maximum of 7,000 lines by fiscal year 1989/90 which marks the end of Seventh Plan.

3. Bhaktapur Telephone Exchange

Bhaktapur, an important historical town in Kathmandu valley, is currently being provided with some telephone lines from Kathmandu exchange. The setting up of a 1000-line digital automatic exchange is expected to be completed here during the Seventh Plan.

4. Banepa Telephone Exchange

The town of Banepa which is situated in Kavre district has a 200-line manual telephone service so far. The Seventh Plan has set a target of setting up a 500-line automatic exchange in this town.

5. Bharatpur Telephone Exchange

Bharatpur, a town in Chitwan district of central development region, has been developing as an important commercial center. An increase in the demand for telephone service is also being felt there. A 200-line manual exchange has been set up in this town. Under this project, the Seventh Plan is to convert the manual exchange to digital automatic exchange and distribute a maximum of 2,000-lines.

6. Hetauda Telephone Exchange

Hetauda in Makawanpur district is growing as an industrial town. Telephone service of 400-lines is available in the town through a manual telephone exchange will be set up here during the Seventh Plan.

7. Janakpur Telephone Exchange

Janakpur is headquarters of Dhanusha district as well as one of the most important religious and industrial towns of the Kingdom. Telephone service is being provided here through a 400-lines manual exchange. A digital automatic telephone exchange with a maximum capacity of 1,000-lines is targeted to be set up during the Seventh Plan.

8. Dhankuta Telephone Exchange

Dhankuta, the center of Eastern Development Region, is being provided telephone service through a 200-line manual exchange. A 1,000-line digital automatic exchange is to be set up here during the Seventh Plan.

9. Dharan Telephone Exchange

Growing as an important industrial area of Sunsari district, Dharan is being provided telephone service through a 500-line manual exchange. A maximum of 1,000 lines will be distributed here by setting up a digital automatic telephone exchange during the Seventh Plan.

10. Bhadrapur Telephone Exchange

An important commercial center of Jhapa district, Bhadrapur is being provided telephone service through a 200-line manual telephone exchange. The Seventh Plan set a target of setting up an automatic digital exchange with a maximum capacity of 1,000-lines here.

11. Rajbiraj Telephone Exchange Project

Rajbiraj, the headquarters of Saptari district in the Eastern Development Region, is an important town from administrative and commercial point of view. Telephone service is being provided here through a 200-lines expected by the end of the fiscal year 1985/86 because the target of increasing the capacity of the exchange by 200 additional lines is not likely to be completed during the Sixth Plan period. During the Seventh Plan the existing manual exchange will be converted into digital form and a maximum of 1,000-lines will be distributed.

12. Pokhara Telephone Exchange

Pokhara is the center of Western Development Region noted for tourism. Telephone service is being provided here through a 400-lines manual exchange. There is a target of setting up an automatic digital exchange with a maximum capacity of 2,000-lines during the Seventh Plan.

13. Butwal Telephone Exchange

The headquarters of Lumbini zone, Butwal is being provided telephone service through a 200 line manual exchange. There is a target of setting up an automatic digital exchange with a maximum capacity of 1,000 lines during the Seventh Plan here.

14. Tansen Telephone Exchange

Tansen, an important town of Palpa district is facilitated with a 200-line manual exchange now. There is a target of setting up an automatic digital exchange now. There is a target of setting up an automatic digital exchange with a maximum capacity of 1,000-lines here during the Seventh Plan.

15. Nepalgunj Telephone Exchange

An industrial and commercial town of Mid-Western Development Region, Nepalgunj is facilitated with a 500-line manual exchange telephone system so far. There is a target of setting up an automatic digital exchange with a maximum capacity of 1,000-lines here during the Seventh Plan.

16. Dhangadhi Telephone Exchange

Dhangadhi, the district headquarters of Kailali and also zonal headquarters is developing an important town in the Far-Western Development Region. If the program of setting up a 200-line manual exchange proceeds as per target, telephone service will be made available in the town. There is target of setting up an automatic digital telephone exchange with a maximum capacity of 2000 lines in the Seventh Plan.

17. Mahendranagar Telephone Exchange Project

A 200-line manual exchange system is being operated in Mahendranagar, the headquarters of Mahakali zone. No possibility of distributing a maximum of 2,000 lines by the end of fiscal year 1984/85 is seen. There is a target of distributing a maximum of 2,000-lines by converting the existing manual system into automatic digital system during the Seventh Plan.

18. Dipayal (Doti) Telephone Exchange Project

Dipayal, the center of Far-Western Development Region, is an important town from the administrative viewpoint. The increase in the number of offices here has triggered the demand for local telephone exchange. So, a 250-line automatic digital exchange is targeted to be set up here during the Seventh Plan.

19. Local Telephone Exchange Projects for Other Towns and Areas

In accordance with the policy of providing telephone services in different town panchayats and other important places of the country, automatic digital exchange with 250-lines capacity will be set up in five places of eastern Development Region including Rangeli, Damak, Lahan, Siraha and Illam. Likewise there is a program of providing telephone service in Jaleswar, Kalaiya, Malagawa and Gaur of Central Development Region through 250-line automatic digital exchanges each and in Trishuli through a 20-line manual exchange. There is a target of providing telephone service of 250 lines each in Taulihawa and Krishanagar by setting of automatic digital exchanges. Similarly Ghorahi and Tulsipur of Mid-Western Region will also be provided telephone service by setting up 250-line digital exchanges.

Setting up and Expansion of International Trunk Telecommunication

Microwave telecommunications system is one of the most important media for providing trunk telephone and telegraph service from one part of the kingdom to another or from one part of the kingdom to another or from one development region to another. The policy of setting up east-west microwave links with a view to linking different parts of the kingdom through trunk service has been adopted since the Fourth Plan period. As microwave telecommunications system is more reliable and trustworthy due attention has been paid to its development. The works on setting up of main microwave links between 1) Kathmandu-Phulchoki-Malangawwa-Janakpur-Siraha-Rajbiraj-Biratnagar-Damak-Bhadrapur as well as Biratnagar-Dharan. 2) Kathmandu-Phulchoki-Birgunj and 3) Kathmandu-Gorkha-Pokhara were started during the Fourth plan and completed during the Fifth Plan.

Similarly, six microwave links were established and made available for service between Kathmandu-Bharatpur, Kathmandu-Bhairahawa, Kathmandu-Nepalgunj, Nepalgunj-Surkhet, Bhairahawa-Butwal and Biratnagar-Dhankuta during the first four years of the Sixth Plan. The setting up of very high frequency single channel link between Kathmandu and Banepa was also completed. In addition to this, Nepalgunj-Tulsipur-Ghorahi, Nepalgunj-Dhangadhi-Mahendranagar, Bhadrapur-Illam, Bhairahawa-Krishanagar and Bhairahawa-Taulihawa V.H.F. radio link systems were set up.

The Seventh Plan has set target of setting up seven up seven main links to develop digital microwave telecommunication system and three links to develop long distance subscriber connection under this project.

Of the digital microwave links targeted to be set up during the plan period 1) Kathmandu-Nagarkot-Rajbiraj-Biratnagar 2) Kathmandu-Nagarkot-Janakpur 3) Nepalgunj-Chamere-Dhangadhi 4) Nepalgunj-Chamere-Surkhet 5) Nepalgunj-Mahendranagar 6) Biratnagar-Dhankuta and 7) Biratnagar-Bhadrapur-Illam are important ones. After the setting up these links, 1,804-channel service will be made available. Likewise service equivalent to 600 channels will be provided for long distance subscriber connection through microwave link.

The total capacity of these links will be equivalent as much as to 960 channels. Apart from this, the entire remaining works on subscriber trunk dialing (S.T.D.) project launched during the Sixth Plan will be completed and made available for service.

Development of Telecommunications Service in Headquarters

In Nepal, a predominantly agricultural country, the rural sector will continue to play an important role in national economy. As modern telecommunication service can make solid contribution to the development of rural sector in the same manner it does to development of other sector, a policy of providing telephone service to rural communities by easy means has been adopted. In keeping with this policy, the Seventh Plan has targeted to make available 200 public call offices (P.C.O.) and subscriber connection for rural areas of Bhadrapur, Biratnagar, Rajbiraj, Janakpur, Birgunj, Pokhara, Bharatpur, Nepalgunj, Dhangadhi and Bhairahawaa as well as for these under Kathmandu valley by setting up multi axis system and single channel U. H. F. link. There is also a target of setting up long distance subscriber and P. C. O. in 28 different places of hilly and remote districts.

International Telecommunication Service

As a result of increasing foreign trade and international contact the demand for international telecommunication is increasing in Nepal. Development of earth-satellite communication medium has contributed to making international trunk service more reliable and easy of access. But in the context of fast-growing demands for this service, a need to expand the capacity of earth-satellite center and automatic telex service is being felt. Apart from this there is also a target of making available 150 teleprinter apparatus necessary for the purpose.

Miscellaneous

The following projects are included under miscellaneous heading for the development telecommunication.

1. Frequency Management and Radio Monitoring Project

The use of radio frequency has been increasing rapidly with the setting up and expansion of radio telecommunication system in government and non-government sectors since the last decade. At a time when the use of frequency has been increasing, the ministry of communication is handicapped by not having a device to examine whether it is used properly or misused. If frequency is misused, it can affect communication service as well as law and order situation of the country. Regulation of frequency usage by scientific and technical means is felt necessary. So, the I.T.U. section of Ministry of Communication responsible for frequency management and radio monitoring tasks will be improved and necessary laws concerning this are also to be formulated.

2. Telecommunication Building Construction Project

Physical facility such as building is necessary for raising the standard of works and services relating to telecommunication development.

i) Earth-satellite Center Expansion Project

The policy of employing earth-satellite medium was adopted so as to render faster, more precise and high standard international trunk telecommunication service. The setting up of a "B" standard earth-satellite station has a capacity of 60 channels. However, there is a necessity of making arrangements for additional channels through a compounded F.D.M. system as the INERSAT strictly observes the rule of allowing to use a maximum of 35 channels. Currently the earth station has been using 18 channels through the INTERSAT and there is a target of using 18 more channels by fiscal year 1984/85. It means altogether 30 channels will be in use by the end of fiscal year 1984/85. But since these channels cannot fulfill the increasing demand for international telecommunication service, there is a target of increasing 24 more channels and using 54 channels in all during the Seventh Plan. The system can be used to increase the channels to maximum of 250 by diverse means.

ii) Automatic Telex Exchange Expansion

Although a 512-line automatic telex exchange was set up during the Sixth Plan, only 392 lines could be made available for customers through it. In the context of increasing demand for telex service triggered by expansion of international trade and tourism, additional 196 lines will be increased under this project during the Seventh Plan. With a view to providing the service through Nepal Telecommunication Corporation in a systematic way on regional basis construction of office buildings, godowns and personnel quarters will be conducted in the Seventh Plan also.

iii) Telecommunication Service and Operation Maintenance

As a result of implementation of projects for the development of telecommunication during the last plan period telecommunication service has been expanded in different parts of the kingdom. The quantity of telecommunication media and apparatus has increased impressively but the installed apparatus may fall short of efficiency if they are not repaired and renovated. The Seventh Plan has, therefore, integrated program for repairing and maintaining different communication media as well as improving telecommunication management and institutionalized maintenance and repair works.

Financial Target

A total of 123.6829 million has been targeted to be invested in different projects proposed for telecommunication development during the Seventh Plan. Of the total sum to be invested a sum of Rs 505.6 million will be borne through the internal resources of the corporation, as provisioned by His Majesty's Government.

The details of investment to be made in telecommunication development sector during the Seventh Plan are presented below.

**Investment to be Made in Telecommunication
Sector During the Seventh Plan
1985-1990**

Program	Expenditure in million rupees
a) Setting up and expansion of local telephone exchange	286.47
b) Microwave telecommunication system	99.77
c) Earth-satellite station and automatic trunk exchange expansion	17.22
d) Rural telecommunication	99.14
e) Miscellaneous	
i) Frequency management and monitoring arrangement	3.00
ii) Repair, maintenance and management concerning telecommunication service	
iii) Telecommunication building construction	
Total	505.60

CHAPTER 31
POSTAL SERVICE

Postal service through various communication media has rendered substantial contribution in the process of development in Nepal. In the initial stage, postal service was limited within simple transportation of mail-letters. Post officers are now involved in money order and other economic service such as savings banking, etc. These service have contributed in the support of economic, social and trade sectors of the economy.

Postal service started in 1878 A. D. in Nepal. There were forty three postal office in three years from its inception. Extensive expansion of postal service started in 1956, only after the advent of planned development. At the beginning of the First Plan, i.e., 1956/57, there were 124 post office. At the beginning of the Fourth Plan, there were 706 post offices, and reach 1,358 there were altogether 1,821 post office in the country. The growth of post office is illustrated in the following table:

TABLE 31.01
**Number of Post Office in the Period
1956/57-1984/85**

Post Office	Beginning of the First plan 1956/57	End of the Third Plan	End of the Fourth Plan	End of the Fifth Plan	End of the Fourth year of the Sixth Plan	Final year of the Sixth Plan (Expected)
1. General Post Office	1	1	1	1	1	1
2. District Post Office	-	14	74	74	74	74
3. Sub-post Office	-	90	254	286	367	397
4. Additional Post Office	123	153	678	997	1379	1419
5. Others	-	448	-	-	-	-
Total	124	706	1007	1358	1821	1891

N.B. Regional balance could be observed in establishment of post office in accordance with the policy of regional balance in the expansion of post office. The following table shows post offices according to Development Regions at the end of the Fifth Plan, i.e. 1979/85 respectively.

TABLE 31.02
**Post Services Available According
To Development Regions (1984/85)**

Development Regions	District Post Offices		Sub District Post Office		Additional Post Office		Money Order		Savings Banks	
a. Eastern Region	16	16	74	90	241	318	14	35	6	16
b. Central Region	19	19	87	106	293	393	14	42	6	19
c. Western Region	16	16	71	86	223	305	16	33	6	16
d. Mid-western Region	15	15	31	45	109	198	19	32	7	15
e. Far-western Region	9	9	24	40	131	165	-	27	-	9
Total:	75	755	286	367	997	1379	63	169	25	75

The situation of post offices in different districts in Nepal has been improving. Post office according to districts at the end of fourth year of the Sixth Plan, i.e. 1983/84 are given below:

TABLE 30.03
Post Office According to Districts in 1983/84

Zone/District	District Post Office	Sub District Post Office	Additional Post Office	Total No. of Post Offices	Money Order	Savings Banks
1. Mechi Zone:	4	28	88	120	9	4
1.1 Jhapa	1	10	22	33	4	1
1.2 Illam	1	7	22	30	2	1
1.3 Panchthar	1	7	23	31	1	1
1.4 Taplejung	1	4	21	26	2	1
2. Koshi Zone	6	37	126	169	13	6
2.1 Morang	1	8	21	30	3	1
2.1 Bhojpur	1	6	21	31	2	1
2.3 Sunsari	1	8	21	30	2	1
2.4 Dhankuta	1	8	18	27	2	0
2.5 Sankhuwasabha	1	4	19	24	3	1
2.6 Tehrathum	1	3	23	27	1	1
3. Sagarmatha Zone	6	25	104	135	13	6
3.1 Solukhumbu	1	3	16	20	1	1
3.2 Okhaldhunga	1	3	17	21	2	1
3.3 Khotang	1	4	23	28	2	1
3.4 Udayapur	1	4	13	18	2	1
3.5 Saptari	1	9	19	26	3	1
3.6 Siraha	1	5	16	22	3	1
4. Janakpur	6	24	126	166	14	6
4.1 Ramechhap	1	3	16	20	1	1
4.2 Dolakha	1	6	21	28	2	1
4.3 Dhanusha	1	6	20	27	4	1
4.4 Mahottari	1	6	17	24	3	1
4.5 Sarlahi	1	6	24	31	2	1
4.6 Sindhuli	1	6	26	33	2	1
5. Bagmati	8	49	158	215	15	8
5.1 Kathmandu	1	15	24	40	2	1
5.2 Lalitpur	1	6	17	24	1	1
5.3 Bhaktapur	1	1	12	14	1	1
5.4 Nuwakot	1	6	23	30	1	1
5.5 Sindhupalchok	1	7	25	33	1	1
5.6 Kavrepalanchok	1	7	24	32	2	1
5.7 Rasuwa	1	2	13	16	2	1
5.8 Dhading	1	5	20	26	3	1
6. Narayani	1	23	109	130	13	5
6.1 Makawanpur	1	5	27	33	3	1
6.2 Bara	1	4	19	24	2	1

6.3 Rautahat	1	3	21	28	2	1
6.4 Parsa	1	3	20	24	2	1
6.5 Chitwan	1	8	22	21	4	1
7. Gandaki	6	28	124	158	11	6
7.1 Gorkha	1	8	19	28	2	1
7.2 Tanahun	1	7	23	31	3	1
7.3 Kaski	1	4	30	35	3	1
7.4 Syanja	1	3	25	29	1	1
7.5 Manang	1	1	8	10	1	1
7.6 Lamjung	1	5	19	25	1	1
8. Lumbini Zone	6	39	107	152	14	6
8.1 Palpa	1	6	19	26	1	1
8.2 Rupandehi	1	5	18	24	2	1
8.3 Gulmi	1	10	20	31	4	1
8.4 Arghakhanchi	1	6	14	21	1	1
8.5 Kapilbastu	1	6	15	22	4	1
8.6 Nawalparasi	1	6	21	28	2	1
9. Dhaulagari Zone	4	19	74	97	8	4
9.1 Baglung	1	6	27	34	2	1
9.2 Myagdi	1	5	19	32	2	1
9.3 Parbat	1	4	19	24	2	1
9.4 Mustang	1	4	9	14	2	1
10. Rapti Zone	5	18	82	105	14	5
10.1 Dang	1	7	19	27	5	1
10.2 Salyan	1	2	16	19	1	1
10.3 Pyuthan	1	2	17	20	3	1
10.4 Rukum	1	3	16	20	3	1
10.5 Rolpa	1	4	14	19	3	1
11. Karnali Zone	5	12	50	67	8	5
11.1 Humla	1	2	9	12	1	1
11.2 Jumla	1	2	11	14	1	1
11.3 Mugu	1	3	10	14	2	1
11.4 Kalikot	1	3	12	16	3	1
11.5 Dolpa	1	2	8	11	1	1
12. Bheri Zone	5	15	66	86	10	5
12.1 Banke	1	4	12	17	1	1
12.2 Bardiya	1	2	14	17	2	1
12.3 Surkhet	1	2	14	19	2	1
12.4 Dailekh	1	2	14	18	3	1
12.5 Jajarkot	1	2	12	15	2	1
13. Seti Zone	5	22	69	96	15	5
13.1 Bajhang	1	5	12	18	3	1
13.2 Bajura	1	3	7	11	2	1

13.3 Achham	1	4	15	20	3	1
13.4 Doti	1	5	18	24	3	1
13.5 Kailali	1	5	17	23	4	1
14. Mahakali	4	18	96	118	12	4
14.1 Darchula	1	5	26	32	3	1
14.2 Baitadi	1	6	27	34	4	1
14.3 Dadeldhura	1	3	31	35	2	1
14.4 Kanchanpur	1	4	12	17	3	1
Total	75	376	1379	1821	169	75

Source: Department of Postal Services:

In order to extend the access of more people to postal services, attention has been accorded to increase the number of post offices since earlier plans. This has brought about favorable proportion of such offices to population. Before the advent of planned development in 1956/57 there has one post office for every 68,548 population. At the end of the Third Plan, there was one post office for every 15,643 population. By the end of the Fifth Plan in 1979.80, there was one post office for 10530 population. It stood at one post office for every 9,238 population in 1983.84 the end of the fourth year of the Sixth Plan. In term of areawise coverage, one post office covered 102.71 square kilometer in 1979/80 and 80.82 square kilometer in 1983/84 respectively.

Progress of the Sixth Plan

Several projects under 1) establishment of post office, 2) development and improvement in mail delivery, 3) economic services, 4) construction and extension of post office buildings and 5) miscellaneous programs for strengthening postal services in the Sixth Plan. Considering the progress in the first four years of the Plan the physical target in postal development are likely to be activated in the Sixth Plan period. Achievements under various related programs in the Sixth Plan are as follows:

Against the target of establishing 480 post offices, including 80 sub-post offices and 400 additional post offices were completed, including 81 sub-post office and 320 additional post offices. In view of the expected achievement in the establishment of 30 sub-post offices and 40 additional post offices in 1984/85- the last year of the Sixth Plan, 471 post offices, which makes 98.00 percent of planned target, are expected to be established with in Sixth Plan period. Similarly, regarding mail service improvement and expansion, the Sixth Plan envisaged the establishment of 30 postal lines with 24 postal lines already established during the first four years, the said target is expected to be fulfilled by the Plan period.

As part of support for mail delivery four delivery vans, four scooter vans and 650 cycles were procured in the first four years of the Plan period against the target of six mail vans, 11 mail scooter vans and 500 cycles for mailmen respectively. It is expected that 100 cycles will be procured to the final year.

Regarding construction and expansion programs of post office buildings 85 buildings (75.89 percent) buildings are completed in the first four years of the Plan against the target of constructing 112 buildings. In view of the expected construction of 23 such units, it is expected that 108 buildings would have been constructed by the end of the Plan period thus making 96.43 percent in achievement of planned target. New construction of eleven post office buildings, expansion of 10 postal offices buildings, 45 aid-buildings and 19 carry-over building projects from the Fifth Plan have been completed in the first four years of the Sixth Plan.

Regarding economic services, the Sixth Plan envisaged money order services through 100 post offices, saving banking services through 50 post offices and cash on delivery through 14 post offices. Against these targets, money order services have been provided through 109 post offices and savings banking service through 50 post offices. In view of the target of money order service through. 25 post offices additionally in the final year, i.e. 1984/85, the achievement is expected to surpass the target in this project. However, no cash on delivery service is made available through any post office. So its related achievement is nil.

Against the target of extending postal training to 600 postal employees under miscellaneous programs, 480 persons received training in the first four years of the Plan period. In view of expected training of 120 persons in 1984/85, the planned target in postal training is expected to be achieved in the Sixth Plan period. The targets of establishing additional 2500 post boxes and 1500 mail boxes under the postal strengthening project are likely to achieved. But the establishment of central postgrage stams emporium is not likely to be completed.

While the Sixth Plan envisaged the target of extending postal service at the rate of one post office for every 8,711 population, it is likely that there will be one post office per 8,987 population by 1984/85, the end of the Plan period. Presently, there is one post office per 8,926 population by the end of the fourth year of the Sixth Plan, i.e. 1983/84. Against the target of availing of postal service at the rate of one post office per 77.83 square kilometer on average, one post office per 80.82 square kilometre has been accomplished by 1983/84.

The following table gives the achievements of different projects regarding postal services:

TABLE 31.04
Principal Post Programs and Achievement
in the First Four Years of the Sixth Plan
Period (1980/81-1984/85)

Program/ Year	Target of the Sixth Plan	1980/81	1981/82	1982/83	1983/84	Cumulative in four years	Expected achievement in 1984/85	Expected Achievement in the five year
1	2	3	4	5	6	7	8	9
1. Establishment of Post Offices:	480	96	96	100	109	401	70	471
a) Sub-Post Offices	80	16	20	16	29	81	30	111
b) Additional Post Office	400	80	80	80	80	320	40	360
2. Improvement in Mail Delivery:								
a) Establishment of Postal lines	30	6	6	6	6	24	6	30
3. Construction and Expansion Post Offices	112	11	16	20	38	85	36	111
a) New Buildings	31	-	4	6	1	11	14	25
b) Building Expansion	10	-	4	4	2	10	-	-
c) Building by Contribution	50	-	-	10	35	45	20	65
d) Present on-going Buildings	21	11	8	-	-	19	2	21
4. Economic Services:								
a) Money Order Service	100	20	23	23	43	109	20	129
b) Savings Bank service	50	10	10	20	20	50	-	50
c) Cash on Delivery	14	-	-	-	-	-	-	-
5. Miscellaneous:								
a) Mgmt. of Training	600	120	120	120	120	120	120	500
b) Post Box	2500	10	15	17	18	60	180	240
c) Mail Box	1500	48	303	322	301	974	-	974
d) Central Postage Emporium: to be completed	-	-	-	-	-	-	-	Completed

Source: Department of Postal Services.

Financial Achievement:

The sixth Plan envisaged a total expenditure of Rs. 30 million in different programs for post services development. Out of this, an expenditure of Rs. 20.267 million at market price has been actually incurred at the end of 1983/84. Details of expenditures according to programs and years is given below:

Problems in the implementation of various projects in postal services are mainly related i) delays in creating staffs positions and land acquisition, ii) the necessity to make repeated tender calls, and iii) frequent incidence of contractors, leaving construction works incomplete.

TABLE 31.05
**Expenditures in the Expansion of
 Postal Service (1980/81-1983/84)**
 (At current market price)

in million rupees

Name of the Projects	Target of the Plan (At constant Prices)	Expenditure in the First four	Expected Expenditure 1984/85 diturein	Total Expense in Five years of the Plan (A current market price)
1. Establishment of Post Office	4.400	2.626	0.676	3.232
a) Sub-post office	(1.900)	(1.111)	0.(373)	(1.484)
b) Additional Post Office	2.500	1.515	0.230	1.748
2. Mail Service Improvement	2.480	1.519	0.230	1.784
3. Constructional and Expansion of Post Office Buildings	14.200	8.365	3.900	12.265
4. Economic Services	1.786	1.453	0.200	1.656
5. Miscellaneous	70.134	6.304	1.447	7.781
Total	30.000	20.267	6.290	26.557

Source: Department of Postal Services

Objectives, Policies and Programs of the Seventh Plan:

The basic objective of postal services in the Seventh Plan is to render postal services efficient and reliable with regional balance. The efforts will have to be directed at helping support development process by extending to village levels traditional ordinary and registered mail services as well as different economic services related to general peoples.

Policies

The following policies will be pursued in order to achieve various objectives related to the development of postal services:

1. Special emphasis will be given to qualitative improvement in postal services with increased confidentiality and regularity. Postal units will be increased in order to improve the ratio between post offices and population. The aim is to establish at least one postal unit in every 'Ilaka' (region) of all districts. Establishment of post office will be done on the basis of regional balance.
2. The strategy of introducing gradual modernization and mechanization in post office to improve the standard of postal services will be adopted.
3. Efforts will be continued to gradually extend economic services, such as savings bank and money order services, such as savings bank and money order services, to different rural areas of the country. Necessary measures will be adopted to render them more effective.
4. Special attention will be given to fast collection and delivery of mail within the country. Besides this, policy of direct mail service with foreign countries will be continued.
5. Efforts will be continued to extend physical facilities, e.g. post office buildings, that have direct and indirect effects on postal services.
6. Necessary improvements in organizational structure of existing postal services will be introduced. This is in view of postal service being different from general administrative service. Also, training of lower and medium level manpower will be undertaken within the country.
7. People's participation will be mobilized in the development and extension of postal service.

Working Policies

The followings are the working policies to be adopted in order to achieve aforementioned objective implementation of related policies:

1. More attention will be given to better management of public post offices and semi-government additional post offices. Additionally arrangement for commission agents will be made easy availability of postal stamps especially in rural areas with inadequate services available in the post offices.

2. Regarding establishment of sub-post office, the first priority will be given to establishing sub-post office in each of the country. Only then, arrangement will be made for additional establishment of such sub-post offices where such facilities is already available. Similarly, priority in establishing additional post offices will be given to panchayats where services are not available.
3. Air services and motor vehicles will be utilized for transport of postal goods within minimum possible periods across districts in the country. Where air and motor vehicle transportation facilities are not available in rural and hilly regions, shortest possible postal lines for walking postmen will be established.
4. Steps will, be undertaken in order to strengthen regional offices for better supervision in order to make postal services more effective.
5. The policy of increasing the number of mail boxes and post boxes into principal business centers (towns) for fast and efficient mail system, particularly for business activities, will be continued. Attention will be given to better arrangement of mail boxes and mail collection in urban areas.
6. Priority will be given, on being constructed of post offices building, to accommodate government post offices such as district post offices and sub post offices in the government's own building. In such task peoples participation will be mobilized.
7. Mechanization in the general post office and other important post offices will be undertaken special attention will be given to strengthening of the general post office and bringing its service to international standard.
8. Emphasis will be given to strengthen the philatelic unit to generate more revenue. Promotion of postal stamps that reflecting the country will be also be undertaken.

Physical Target

In order to fulfil special objectives, the Seventh Plan has envisaged the establishment of 649 post offices, consisting of 175 sub post offices and 474 additional post offices. It is expected that the total number of post offices will increase to 2,540 in 1989/90 units from the level of 1981 units in 1984/85 the last year of the Sixth Plan. With the population projected for 1989/90 at 1,90,27,000 it is expected that there will be on average one post office for every 7,491 people by that period. There would be one post office in every 57.95 square kilometer area.

Postal Development Program

In order to achieve the physical objectives of the Seventh Plan, different projects will be launched under five programs such as a) establishment of post offices, b) expansion and improvement of postal delivery, c) construction and expansion of postal buildings, d) economic services and e) miscellaneous.

a) Program for the establishment of post offices:

In view of existing ration between the population and post offices, it is essential to bring about improvement in the quantitative situation of post offices. The number of post offices has to be increased for increase access for more people to post offices. Thus, the following projects will be implement to establish public and semi-public post offices.

1. Sub-post Office:

Sub post office comes nest to district post office among public post offices. The sub post office is involved in the transportation of mail between district and additional post offices as well as sale and distribution of postal stamps, envelopes, airogramme ad other postal goods in the process of registration and delivery of mail. Additional post offices receive stamps through it. It offers internal money order service. These district post offices are established on the basis of nine 'Ilakas' (regions) of the district and the extra workloads in different places. Generally, additional post offices are upgraded to sub post offices.

It is estimated that there would be 397 sub post offices established by 1984/85 the last year of the Sixth Plan. It is envisaged that 175 sub-post offices will be established additionally during the Seventh Plan period. Thus it is expected that there would be 572 sub post offices by the end of the Seventh Plan period, i.e. 1989/90. They would be established on the basis of Development of Regions with 35, 35, 35, 35, 45 and 25 units in the Eastern Region, Central Region, Western Region, Mid-western Region, and Far-western Region respectively.

2. Additional Post Office

Additional post office is the lowest level post office and is operated on semi-public basis. An additional post office consists of one agent and one delivery agent as well as a carrying agent according to need. Generally it covers 6,000 population within one mile of its distance in mail transportation and distribution. Additionally, such an additional post office offers sale of stamp aerogrammes, money order, carrying insurance order and registration of mail. It is generally operated on the basis of peoples' participation and is open for two top three hours a day.

It is envisaged that 474 additional post offices would be established during the Seventh Plan period. As a consequence, the number of additional post offices in the country would reach 1863 by 1989/90 in the country.

b) Expansion and improvement of mail delivery:

Improvement and expansion of mail delivery routes, serving as postal lines, and the related means for transportation are important for fast delivery of mail. Included under this program are:

- i) expansion of postal lines and ii) the system for the means for mail delivery.

1. Expansion of postal lines

Postal lines are the route postmen use for the delivery of mail. It is essential that they are short and direct routes. Existing direct route across villages, districts and zones will be used for postal lines for fast mail delivery.

There are 62 postal lines in various parts of the country, especially, in the hills and mountain areas. Altogether, twenty four postal lines were added during the first four years of the Sixth Plan, making altogether 86 postal lines by 1984/85. It is envisaged that 30 additional postal lines will be established, with 6 postal lines in each Development Region during the Seventh Plan Period.

2. Mail delivery system:

Mail service has been in operation through airlines and vehicles, whether they are feasible, for fast delivery of mail. Postmen are allowed bicycles within town and village Panchayats. Besides this, mail vans and scooters are also used for efficient distribution and necessary supervision of mail. Therefore, it is envisaged that there will be expanded use of bicycles, scooters and vans in the distribution of mail during the Seventh Plan too.

C) Construction of new post office buildings:

The majority of post offices in Nepal do not have their own buildings. About 80 percent of post offices are housed in rented buildings for their daily work. Because rented houses are normally not suitable for post offices, policy has adopted to let post offices have their own buildings gradually. Improvement in facilities of post office buildings has been possible because of this. Arrangement of counters, sorting halls, store and office rooms is made in newly constructed post office buildings. Post office buildings to be constructed during the Seventh Plan period also follow suit. The follow projects will be undertaken in this respect.

i) Construction of new post office buildings:

It is envisaged that additional twelve post offices will have their own buildings completed during the Seventh Plan period. Among them are two units in Eastern Region, three in Central Region, two in Western Region, three in Mid-western and two in Far-western Region.

ii) Ongoing construction of post offices:

Post office buildings whose construction started but not completed during the Sixth Plan come under this. Regarding this, it is envisaged that twelve incomplete post office buildings will be completed during the Seventh Plan period. Among there are one in Eastern Region, two in Central Region, three in Western Region, two in Mid-western Region and four in Far-western Region.

iii) Expansion of post office buildings:

Expansion of post office buildings in view of expanding services and workload as well as increasing number of staff has started since the inception of planned development. This will be continued during the Seventh Plan too. During this Plan period it is envisaged that addition of stories, room etc. will be completed in ten post offices in different districts in the country. Two post office buildings will be expanded in each development region.

iv) Post office building construction with contribution

In view of the need to bring about large increase in the construction of post office buildings at the people's level's with some subsidy (contribution) from the government. Altogether such construction work in 35 post offices have been completed by the end of the four years of the Plan period. It is expected it will reach 65 units by the end of the period. Thus, because the progress achieved in this field with people's participation has been encouraging, construction of post office building with supplementary government contribution is incorporated in the Seventh Plan too with the objective of constructing additionally such post office buildings. There will be ten in Eastern Region, twelve in Central Region, ten in Western Region, nine in Mid-western Region and nine in Far-western Region

a. Economic Services

Postal services have not been limited with simple transportation and distribution of letters and goods but have also included economic services such as money order and savings bank that render direct assistance to national development. These economic services are mainly limited to district headquarters and business centers. Policy has been adopted to extend this gradually to the village level too. Presently, these services are available only through district post offices and some sub-post offices. Therefore, i) Money Order Service and ii) Savings Deposit Service are included under economic services in the Seventh Plan.

1. Money Order Services:

Money order service plays an important role in a country like Nepal with large population in lower and medium-level-income groups and limited banking facilities. Therefore, this service has been continued since the Fifth Plan to facilitate transfer of small amounts of money through post offices from one district to another for the general people. There is an arrangement for the transfer of up to one thousand rupees between Nepal and India and across different districts of the country. This service was available in 63 district post offices during the Fifth Plan period and, additionally 109 district post offices provided this service by the end of the four years of the Sixth Plan. This service is now available in all the districts of the country but only through limited number of district post offices.

In view of the money order service operating with neighboring country, India, there is the need to expand internal money order service to more places. But, considering the geographical situation and limited resources and manpower, it is but natural that it should take still some time to extend this service to rural areas in the country. The objective is to extend this service to rural areas without banking facilities although it is presently limited mostly in district headquarters.

It is envisaged that money order service will be made available additionally through public post offices of which there will be 30, 30, 35, 40 and 15 in Eastern Region, Central Region, Western Region, Mid-western Region, Mid-western Region and Far-western Region respectively

2. Postal Savings Bank Service:

This service, offered by the post office, has an important role in inculcating the habit of saving on the part of people in lower level income groups. Postal savings bank service is very useful service, particularly for the general people in making small savings. Under this service, the minimum deposit accepted is Rs. 5 and the maximum at Rs. 30,000. Interest offered is as the one offered by other banks. Started during the Fifth Plan period, this service is gradually extended to different districts of the country. This service will be expanded during the Seventh Plan too.

E) Miscellaneous:

Several other factors are important for the development of postal services. The upgrading of the standard of training of postal staff, use of modern equipment and improvement in the collection and distribution of mail have important roles in increasing the efficiency of postal staff. Therefore, projects related to i) postal training management, ii) postal strengthening iii) establishment of the sorting center and iv) postal master plan have been included in the Seventh Plan.

1. Postal training management:

Postal training management project has been implemented with a view to improve the efficiency to postal staff. Indeed, the qualitative improvement of postal service depends on this kind training activities. Training activities with the development of suitable curriculum in order to produce lower and medium level manpower for postal service are undertaken through this center. This center has been involved in the training of staff of non-official level. This Seventh Plan has envisaged the training of officer-level staff too through this center in various fields and the training of 750 staff during the Plan period.

2. Strengthening of the postal system:

There has been significant quantitative increase in the development of postal service in Nepal. However, in view of the limitations in the physical facilities of most of the existing post offices, there is the need for the project, strengthening the postal system. Capital and non-durable goods are regularly required for the efficient functioning of the postal service. Therefore, institutional reforms regarding Central Stamps Emporium, Stock ledger/Central Money order office, etc., together with essential supplies of capital goods and non-durable goods such as lac, jute thread and sealing stamper are envisaged in the Seventh Plan. Besides these, strengthening of the Central Post Office on the basis of mechanized technology will be also undertaken.

2. Establishment of the sorting center

Arrangement of the sorting of mail at the proper place enables economical and fast distribution of mail. A sorting center will be established during the Seventh Plan period in Chitawan district as this district stands at the central point for surface mail delivery in the country.

3. Study and formulation of the Master Plan

Studies for the qualitative improvement and planned development of postal service will be continued in the Seventh Plan too. Beside this, formulation of a master plan for the postal service is also envisaged.

Financial Investment:

The following table shows investment in various programs under postal service.

Table-31.06

Investment for the Development for Postal Service in the Seventh Plan

Programs	Investment (in Million rupees)
1. Establishment of post office	8.283
2. Development and improvement of postal delivery	2.871
3. Construction and expansion of post office buildings	9.100
4. Economic service	2.870
5. Miscellaneous	8.976
Total	32.100

TABLE-31.07

Programs for the Development of Postal Services During the Seventh Plan

(1985/86-1989/90)

Names of the Projects	Districts	Status	Physical Targets	Expenditures in Million rupees
Establishment of Post Offices			649	8.283
1. Sub post offices	Different districts	New	175	
2. Additional post offices	Different districts		474	
Development and Improvement of Postal Delivery		New		2.871
1. Expansion of postal lines	Different districts		30	
2. Postal Delivery System	Different districts		Different means of transportation	
Construction and Expansion of Post Offices		New	84	9.100
1. New postal buildings			12	
2. Existing buildings			12	
3. Expansion of postal buildings			10	
4. Buildings by contributions			50	
Economic Service		New		2.870
1. Money order service			150	
2. Saving bank service			50	
Miscellaneous		New		8.976
1. Strengthening of post office				
2. Postal training center			750	
3. Establishment of sorting center			To be completed at one place.	
4. Studies and formulation of master				

plan				
Total				32.100

CHAPTER 32

INDUSTRY

Background

Prospects for overall economic development will be brighter only if the present structure of the economy, with predominate dependence on traditional agriculture, can be gradually transformed through the process of industrialization. A desired rate of growth can only be maintained in the national economy only if different economic activities can be expanded and diversified as sustenance of desired rate of growth can only be maintained in the national economy only if different economic activities can be expanded and diversified as sustenance of desired rate of growth is not possible through increase in agricultural production dependent on limited arable land. On the one hand, the impact of past development endeavors on the growing population has been limited whereas, on the other hand, it has not been possible to accelerate, in pace with growing expectations, the process of development through industrialization. If the trend of inordinate dependence on imports continues, it is likely that a situation will be created whereby the economy will always be characterized by negative effects. The size and growth of the economy will always be limited and efforts to strengthen the economy through increase investment will yield only marginal results. In this context, industrial development can play a highly meaningful role in replacing unemployment, substitution of imports through increased domestic production and in bringing about a change in the balance of payments situation in favour of the country. In addition, industrial development can contribute to greater revenue surplus and to higher internal savings.

Thus, the importance of industrial development in generation of employment, increase in income, development and extension of traditional skills and technologies, realizing the potentials of latent entrepreneur capabilities and in the utilization of resources and facilities not fully utilized hereto need hardly any elaboration. In short, the economy can reap significant positive benefits through proper development of the industrial sector.

Delays in the expansion of transport networks and power generation and distribution system, limited size of internal market and the landlocked situation of the country still continue to act as the major impediments in industrial development. Supply of raw-material for expansion of industrial development has been hindered mainly by the lack of significant increase in agricultural production, decreasing forestry products and by the lack of development and commercial promotion of production of mines and quarries. As it has not been possible, as yet, to bring about the desired positive changes in the transit system, the prices of both imports to and exports from Nepal are relatively high, thereby rendering Nepalese goods relatively costly in the competitive external markets. The balance of payments situation shows signs of worsening every year mainly because goods and construction materials have to be imported in increasing volume even at higher prices to sustain the pace of development whereas, the other hand, Nepalese exports have, by and large, stagnated over the year because of their relative costs. This situation calls for sustained efforts on industrial development only through which the economy can be self-sufficient in production of different commodities and thus substitute imports and for efforts to reduce production and transit cost to significantly boost exports.

Despite the significant role that the private sector can play in the process of industrial development, it has to be accepted that the potentials of the private sector in establishment and operation of large industries has not been encouraging. This trend has a limiting effect on the process of industrialization, which still has to depend on the government sector only.

Recent indications show that investments of the private sector has somewhat shifted towards industrial ventures from real estates and commerce. But, even then, this shift in investment seems to be concentrated in industries which promise very quick returns and which have a high propensity to use imported raw-materials. Industries of this type, while providing certain benefits in the short terms, seem to have had only limited role to play in terms of long-term contributions to the process of industrial development, signs of improvement in the process of industrialization can be attributed mainly to the increasing demands of industrial products in the country, extension and expansion of services from financial institutions, gradual expansion of the improvements in transport, power and other facilities, commodity development and to the efforts on skill and entrepreneur development.

Comparison of the results of industrial censuses of 1976/77 and 1981/82 show that the number of industrial units increased from 3528 to 4903, an increase by 72.8 percent. Likewise, number of person employed has also increased by 64 percent, from 50, 120, to 81,050. The total value of the products of these industries has also increased from Rs. 3940 million to Rs. 5920 million.

Review of the Sixth Plan

Through the progress during the plan period in the industrial sector seems to be generally satisfactory, it cannot be denied that there have been many shortfalls in the specified goals. Despite the goal to promote 168 industries, it seems that only 57 industries have been promoted even if the estimated for fiscal year 1984/85 is

taken into consideration. The goal to establish mineral-based industries under joint-investment program has not yielded any result. Likewise, hand-over of public sector industries to the private sector has lagged behind.

The contribution of the industrial sector to the gross domestic product still does not show a consistent increase (annex 1). The contribution of this sector to gross domestic product still hovers around 43 percent, as was the case in fiscal year 1979/80.

In the industrial production front, the picture is, on the whole, satisfactory. Industrial production in the first year of the plan period increased only 0.4 percent in comparison to the last year of Fifth Plan, whereas in the ensuing years production increased respectively by 10.5 percent, 18.4 percent and 10.9 percent in the second, third and fourth year of the plan. The average rate of increase in industrial production during the four-year period has been estimated at 10.9 percent. These trend shows that the targeted rate of growth of industrial production will be achieved.

Capacity utilization of the public sector industries, during the period 1980/81 to 1984/85, show an increasing trend. The average capacity utilization has increased from 56.6 percent in 1980/81 to 66.55 percent in 1984/85. Capacity utilization of Hetauda Textile Factory has increased from 28.75 percent to 68 percent, Janakpur Cigarette Factory from 58 percent to 90 percent, Birgunj Sugar Factory from 44.90 percent to 73.3 percent, Harisiddhi Brick and Tile Factory from 50.0 percent to 72.5 percent and the capacity utilization of Himal Cement Company increased from 70.7 percent to 83.3 percent.

Sixth Plan has specified the objective of self-sufficiency in the production of some basis construction materials. Conforming to this objective, especial emphasis was accorded to the production of cement, which however, has not yielded desired result. It seems unlikely that cement production will see significant increased during the Sixth Plan period because: i) Hetauda Cement Factory, which is under construction will produce in small quantities as it is still under trial production, ii) there have been long delays in expansion of production capacity of Himal Cement Factory and iii) there has been hardly any progress in matters relating to establishment of Udayapur Cement Factory. However, there are strong indicators to suggest that the country is approaching total self-sufficiency in the production of goods and commodities like biscuit, confectionery, laundry soap, vegetable ghee, wheat-flour, polythene pope, cigarette, matches, rubber slipper, noodles, beers, soft-beverages, alcoholic beverages, sugar, corrugated-sheet and paints. But production of textiles, however, has lagged far behind, though there has been some progress in matters related to the establishment of the Cotton-yarn Mill in Butwal, construction s yet to start. Dependence on imports for writing and printing papers still does not show any signs of change. Regarding production of paper, Bhrikuti Paper Factory is not likely to come into production and even the construction works of the Nepalgunj paper Mill has not yet started. Hence, there is not likelihood of increase in paper production during the plan period. It is, moreover, likely that the country will have to depend, still to some extent, on import of sugar as the progress on the establishment of a sugar mill in the government sector has not crossed preliminary stage.

On the policy-level, there has been some significant progress in the direction of formulating a set of concrete and mutually reinforce policies to encourage industrial development. Implementation of Industrial Enterprise Act, 1981; Foreign Investment and Technology Act, 1982 and the promulgation of 1983 ordinance show signs that the process of industrial development can be organized and directed towards set goals and objectives. The solidarity Ministerial Conference and he Investment Promotion Conference organized during the plan period have made significant contributions to create an environment conducive to the promotion of foreign investments.

Progress achieved by N.I.D.C., the only institution involved in extending loans to the private sector for industrial investment, is also not that encouraging. During the Sixth Plan period it was estimated that this corporation will be extend financial assistance to the private sector to the tune of Rs. 502.7 million where as corporation has invested only Rs. 204.3 million during the period covering 1980/81 to 1983/84. Including the estimated investment of Rs.80 million in fiscal year 1984/85, the corporation could have invested a total amount of Rs. 284.3 million which comes to about 56.5 percent of the target specified by the Sixth Plan. Short-fall in loan investment during the first four years with yearly investment amounting on an average to only Rs. 51 million or 40.6 percent of the targeted amount has been the main reason for this rather unsatisfactory performance.

The fact that implementation of Industrial Enterprises Act, 2038, implementation of the new trade policy introduced in 2039 to promote industrial development and the promulgation of the ordinance of 2040 contributed significantly in boosting-up the export of goods and commodities like leather, carpet and ready-made garments is born out by the increase in export of manufactured goods experience in fiscal years 1983/84 and 1984/85. Furthermore, this trend goes on the suggest that the target for exports specified by the tow-year special economic program will also be achieved.

The production performances of public sector industries, based on actual production figures for the last four years and on projections for 1984/85, present a mixed picture compared to the target specified in the Sixth Plan. Banswari Leather & Shoe Factory was to produce 6.85 lakh pair of shoes, process 1750 mmetric ton of

sole-leather and to produce 3.7 million square foot of uppers and inside leather whereas the actual production is estimated at 3.93 lakh pairs of shoes and 8,439 metric ton of sole-leather has been processed. Birgunj Sugar Factory has targeted production of 60.5 thousand metric tons of sugar and 5.3 million liters of alcohol. Actual production is estimated at 56,750 tones of sugar and 50,574 liter of alcohol. Likewise, Janakpur Cigarette Factory was to produce 12,467 million sticks of cigarette whereas the actual productions estimated at 14,010 million sticks. Harisiddhi Bricks, 3 million roof-tiles and 1.155 million of floor-tiles. Bhaktapur Brick Factory is estimated to have produce 75.3 million of brick whereas the original target was to produce 10 million bricks.

Hetauda Textile Factory as to produce 38.2 million metrs of textile but it is estimated that the Factory will produce only 26.4 million meters during the plan period. Agriculture Tools Factory is estimated to produce agricultural tools and implements equivalent to an amount of Rs.36.6 million whereas the original target was to produce and implements worth Rs. 45.0 million. In the same way, Agricultural Lime Industry was estimated to produce 10 thousand tons of agricultural lime, 55 thousand tons of chemical lime-stone and 9 thousand tons of miscellaneous construction materials but it has produced an estimated 2.3 thousand metric tons of agricultural lime, 28.4 thousand metric tons of chemical lime-stones and 5.2 metric tons of miscellaneous construction materials.

Regarding projects under construction and/or under expansion, works on increasing the production capacity of Himal Cement Factory from 160 metric tons to 400 metric tons daily are still under-way. Delays in completing the construction of Hetauda Cement Factory which has a production capacity of 750 metric tons per day suggest that the Factory will not be able to produce cement commercially during the plan period through it undertake trial-production in the last four-months of fiscal year 1984/85. Construction works of Bhrikuti Paper Factory with a daily production capacity of 10 tons is expected to be completed by the end of the plan period and, likewise, Nepal Orind Magnetite Industry and Ganesh Himal Lead Industry are also still in construction phase.

In the area of industrial estates, Small industrial Estate in Bhaktapur, Prime-mover Industries Project in Surkhet and Butwal Industrial Estates are still under-construction and preliminary works on the establishment of Industrial estates in Dhankuta, Dhangadi and Rajbiraj have been completed.

On the development of industrial raw-materials, Tobacco Development Company was to produce 18 thousand metric tons of tobacco through its extension and promotion services and the Cotton Development Board was to produce 2.3 thousand metric tons of cotton and 5.4 metric tons of cotton-seed under its extension and promotion program and cultivation of cotton was to be undertaken in 7.8 thousand hectares. It is estimated that 27 thousand metric ton of tobacco has been produced whereas cotton cultivation was undertaken in 2.1 thousand hectares and 2.16 thousand metric ton of cotton and 4.32 thousand metric ton of cotton-seed was produced.

Signs of positive changes are indicated in the process of industrial development, in utilization of production, capacity employment generation and in exports during the Sixth Plan period. However, intensified efforts are needed to further consolidate the effects of these positive changes to the economy as a whole. However, it can not be denied that certain fundamental aspects of industrial development and its potential contributions to the economy have not received their due and timely consideration. The need to focus due attention and to develop and following aspects are very cogent:

1. Management, on a well-coordinated and timely basis of delivery of facilities and services provided to entrepreneurs for industrial development by different acts and regulations has not been effectively developed.
2. Efforts to increase productivity of raw-materials produced with in the country, ensure adequate and timely supply of imported raw-materials, provide necessary loans, foreign exchange and other financial assistance and increase the productivity of local labour have not resulted in success to the desire extent.
3. There has been hardly any success in increasing the size of the limited internal market through development of agricultural sector which could increase the income of the majority of population engaged in agriculture.
4. Transport and power facilities, which could provide an added impetus to the process of industrialization, have not been developed in different parts (especially in central and other mountainous) of the country.
5. There have been no concrete result of efforts to simplify and make more economic the cumbersome and costly system of transit.
6. Effective measure have not been developed to protect industries from the competing with goods that flow in the country because of the open border.
7. Development of manpower, expertise and management capabilities have not yet been undertaken in a planned manner.

Though there were indications of positive change in the last tow years of the plan period, mainly because of implementation and promulgation of certain acts and ordinance, it is not likely that an atmosphere congenial to

the healthy growth of industrialization process can be effected without bringing-in significant changes in the points mentioned above.

In addition to these measures that had to be taken at the government level, the Sixth Plan had also accorded priority to the need to expand the role of the private sector in industrial development. Financial institutions have a cordial role to play in expanding the involvement of the private sector in industrial development. Financial institutions have a cordial role to play in expanding the involvement of the private sector in industrial development. Looked at from this point of view, the present practice of extending credits to 'priority sector' from the commercial banks seems to have facilitated the development of cottage industries. But N.I.D.C. which was established with the basic object of extending assistance in the establishment of medium and large-scale industries, has not been able to achieve desired results. However, it has to be admitted that there has been no increase in the capital base of N.I.D.C. commensurate to the needs brought about by the increased attraction of the private sector to industrial ventures and by the increase in project size and outlays.

Increase in production of agricultural, forestry and mineral sectors is essential to establish industrial sector as the leading sector of the economy. Growth in these sectors will lead to an improvement in the purchasing capacity of the mass and it is the increase in the purchasing power of the mass that leads to an increase in the demand for industrial products and in the production of raw materials. Thus, increase in production from agricultural and other sectors are the pre-requisites without which there can be no industrial development. The fact that a balanced and well-coordinated development of other productive sectors of the economy will greatly facilitate the development of industrial sector is yet to be translated into meaningful practice.

The following objectives, policies and programs have been identified and developed, on the basis of the achievements and experiences of the Sixth Plan, for implementation in the Seventh plan.

Objective

1. From among the non-agricultural sectors, to increase the contribution of the industrial sector to gross domestic production.
2. To expand and expansion and development of cottage industry as a means to increase productive employment opportunities.
3. To emphasize the expansion and development of cottage industry as a means to increase productive employment opportunities.
4. To increase both the production and productivity of certain industrial products to promote exports and to substitute imports.

Policy

1. Industries which have a direct linkage with domestically produced raw-materials and which can contribute positively to the gross domestic product will be promoted and optimum utilization of production capacity of already established industries will be stressed.
2. System of incentives and other related provisions related to the increased participation of individual entrepreneurs and to attract foreign investments will be reviewed on a regular basis to incorporate necessary changes, if needed.
3. Industrial estates presently run in the government sector will gradually be handed-over to the private sector.
4. Priority will be accorded to promote industries, except for those related to defense production, in the private sector.
5. Necessary protection, but no monopoly rights, will be granted to industries involved in production of goods substitution imports used in daily consumption and of construction materials. However, due care will also be taken that protections do not result in adverse effects on the consumers.

Working Policy

1. A long-term plan for the development of industrial sector will be formulated and implemented in coordination with the sectoral needs and priorities of other sectors such as agriculture, forest and mining to main overall sectoral consistency and complimentary.
2. Necessary improvements in areas such as strengthening, management and financial resources will be undertaken to facilitate capacity utilization and to achieve greater productivity in industries both in the private and public sectors.
3. Internal competition and other appropriate measure will be undertaken to discourage monopoly practiced which generally affect the consumer adverse.
4. Programs directed as productions of goods to meet the basic needs of the people such as food grains, clothes, construction materials, medicine, teaching materials and at production of small agricultural tools and implements and both small machines to be used in factories to substitute import and to direct the economy towards self-sufficiency will be implemented on a priority basis.

5. The policy to create employment opportunities through expansion of industries will be followed and implemented. Necessary training will be provided to improve the qualitative standard and productivity of the extent layout force.
6. Industries which can substitute imports and this contribute towards self-sufficiency of the economy in the first two and the last three years of Seventh Plan will be identified and promoted on a priority basis.
7. Conforming to the priorities already stated, a list of industries to be promoted in the private sector and their promotion program will be developed. If the private sector does not come forward to the desired extent, as has been the case in the past, then efforts will be made to promote highly essential industries from among those in the priority list either directly in the public sector or in collaboration with the private sector. But even then, an outlook to hand-over these industries to the private sector will be maintained.
8. Shares of industries which are operating well at present will be sold and distributed through Security Exchange Center to develop industrial finance markets. Interest of the general public will thus be mobilized towards industrial financing and investment from the private sector gradually promoted.
9. Processes involved in issuing licenses, financial assistance and other services necessary for industrial promotion will be simplified and made less time-consuming and a one-window system will be developed.
10. The present policy and process of industrial financing, import customs and duties and valuation practices, price control policy, labor policy, sales tax and excise duty will all be reviewed to incorporate timely changes.
11. A special program to promote foreign investment will be developed and implemented and a system to provide government guarantee to foreign investment and to avoid double taxation will be developed. On the basis of adaptability and economic justification, a system to encourage imports of latest appropriate techniques will also be developed.
12. Effort will be made to develop institutional mechanism in the private sector to mobilize and employ members of the national labor force in employment opportunities created in the private sector.
13. One the main reason which has hindered operation of industries in their materials and semi-processed goods. Hence, efforts will be made to implement effective programs to ensure regular and adequate supply of these inputs after an evaluation of present institutional and private arrangements.
14. A detailed study on the capital base and resource needs of N.I.D.C. will be undertaken and appropriate steps, as suggested by the study, will be initiated.
15. Especial efforts will be made expand the market and promote exports of industrial products like noodles, soap, vegetable ghee, cigarette, polythene pipe and plastic goods which already show signs of meeting total internal demands.
16. Appropriate policy measures will be devised to protect domestic industries from external competition and to accelerate the pace of industrialization. However, protection measures will be devised taking into consideration the need to move towards self-sufficiency and the need to protect consumer interests.
17. To further intensify efforts on different activities such as industrial planning, promotion, research, consultancy services, engineering services, entrepreneur development and increase in productivity, Industrial Services Center will be strengthened and transformed to a high-level National Productivity Council so that these activities are run in a campaign-like basis.
18. The pace of implementation of Small Industry Development Project presently operating in Bagmati and Gandaki Zone will be further improved. Such programs will be implemented in other districts as well in addition to intensifying the implemented in other districts as well in addition to intensifying the implementation efforts of such components under integrated rural development projects.
19. To promote exports and to increase foreign-exchange earnings, productivity or following products of small and cottage industries will be raised in addition to their standardization
 - i) Woolen carpets
 - ii) Paper and metal handicrafts
 - iii) Ready-made garments
 - iv) Leather and leather products.
20. To promote the development of cottage and small-scale industries, a policy will be followed to discourage the establishment of certain industries except at the level of small and cottage industries.
21. A system whereby information on licenses provided for new industrial ventures and their salient features and an up-to-date registration data can be published and provided to the general public and potential investors will be developed.
22. To further facilitate the process of handling-over the industries in the public sector to the private sector, a set of criteria guiding the handing over process will be changed to private ownership.

23. Shares and land-ownership of industrial estates presently operating will be sold to industries only. Participation of the private sector will be sought and encouraged in developing land and in construction of sheds - in view industrial estates. To this effect, new system of management of industrial estates will be developed.

Program

The following programs will be implemented in the government sector during the Seventh Plan period.

1. Industries Operating in the Public Sector

a) Bansbari Leather & Shoe Factory:

This industry, established in 1965, to collect hides and skins available in the country and process them to produce leather shoes and other leather products in addition to producing canvas foot-wears and thus to lead the country towards gradual self-sufficiency in the production of these goods, is to implement four programs during the plan period, these programs include modernization of shoe-production department to produce 2.70 lakh pair of shoes, modernization of leather processing department to process 1.35 lakh raw hides and skins, wet blue-tan and process 1.50 lakh hides and skins and to produce a lakh pair of canvas shoes in addition to implementing an anti-pollution processing program.

b) Birgunj Sugar Factory:

This factory, established in fiscal year 1964/65 with the aim to produce sugar domestically and to ensure regular supply of this daily consumption item has an annual production capacity of 15 thousand metric tons and has a target to produce 66 thousand metric tons of sugar during the plan period. This factory will also produce 40 lakh liter of alcohol and spirit by processing molasses, by-product of sugar.

c) Janakpur Cigarette Factory:

Established in 1964/65 with the aim of cigarettes and the utilization of domestically produced tobacco this factory has an annual production capacity of 3005 million sticks of cigarette and plans to produce a total of 17,000 million sticks during the plan period.

d) Brick and Tile Factory, Harisiddhi:

Established in 1965 to ensure the supply of high quality bricks and tiles, this factory has an annual production capacity of 25 million bricks and is to produce 125 million bricks and 2.5 million roofing-tiles during the five year period covered by the plan.

e) Bhaktapur Brick Factory:

This factory has an annual production capacity of 20 million bricks and plans to produce 90 million bricks in the next five years.

f) Hetauda Textile Factory:

Established in fiscal year 1979/80 with an annual production capacity of 10 million meters of textile, this factory has a plan to produce 37.5 million meters of textile.

2. Expansion of Industries already on Operation

a) Himal Cement Factory Pvt. Ltd.

Established with the aim of meeting even a limited extent of the domestic demand of an essential construction material like cement, this factory has a daily production capacity of 160 metric ton and is expected to produce 4.58 lakh tons of cement during the plan period. Under its expansion program, it is expected that civil-works and installation of machinery will be completed in the first year of the plan period and that the factory will start to produce 400 metric tons of cement daily.

b) Hetauda Cement Factory Lt.

A target to produce and supply 1.09 million metric tons of cement during the plan period has been fixed by this factory which is expected to meet a significant portion of the domestic demand for cement. A study to explore the possibility of expansion of its production will be commissioned and necessary steps to expand its production capacity will be initiated on the basis of this report.

c) Pilot and Demonstration Foundry Project:

This project, which uses iron and steel scraps going waste in the country and has a casting capacity of 600 metric tons per year will be transformed to an industrial company and will cast 2.2 thousand metric tons of iron and steel, establish a machining unit, construct a godown and operate a cupola-furnace during the plan period.

3. Industries under Construction and Expected to go into Production During The Plan Period.

a) Nepal Orind Magnesite Private Ltd.:

Established with the aim of exploring and utilizing magnesite in Sindhupalanchok and Dolakha districts, this company has an annual production capacity of 50 thousand metric tons of magnesia, 10 thousand metric tons of chalk-powder and 20 thousand metric tons of refractory bricks. During the plan period, ropeway

construction and installation of machinery of production of dead-burnt magnesite will be completed in addition to development of magnesite deposits and production of 7.6 thousand metric tons of chalk-powder.

b) Nepal Metal Company:

This company, established with the aim to process the lead and zinc ore deposits unidentified in the Ganesh Himal region, will construct roads to the mines in addition to construction of ropeway track, ropeway, pipeline transportation and building. The company also plans to produce 46.5 thousand metric tons of lead and zinc concentrated areas after completing works on the establishment of a processing factory, development of 2.7 thousand meters of mineral deposits and Somadang Hydel Project which is expected to generate 50 K.W. of electricity.

c) Bhrikuti Paper Factory:

This factory, with a production capacity of 10 metric ton per day and under-construction at Gaidakot in Nawalparasi district, is expected to produce 15 thousand metric tons of paper during the plan period. It is also expected that the production capacity of this factory will be increased to 30 metric ton daily to make this establishment more viable economically.

d) Lumbini Sugar Mill:

This mill, under-construction at Sunawal in Nawalparasi district, has an annual production capacity of 10 thousand metric ton and is expected to produce 10 thousand metric tons of sugar and 1.35 million liter of alcohol during the plan period after completion of its construction works.

e) Nepal Paper Factory:

Established with the aim of manufacturing paper domestically to substitute import and to promote export, if possible, this factory established at Nepalgunj has a daily production capacity of 30 metric ton and is expected to manufacture 5.4 thousand metric tons of paper during the plan period after completion of its construction works.

f) Butwal Cotton Thread Industry:

This industry was established with an aim to facilitate supply of cotton thread domestically to Hetauda Textile Factory and to some cottage and small-scale industries and has an annual production capacity of 2.7 thousand metric ton of cotton and mixed threads. After the completion of its construction works, this industry is expected to produce 4.9 thousand metric tons of threads of different counts.

4. Preliminary Works on Establishment of these industries

a) Udayapur Cement Factory:

Steps towards the establishment of this industry will be initiated after a detailed review of the progress to-date on the basis of the feasibility study is undertaken.

b) Integrated Textile Industry:

Preliminary works on the establishment of a separate and modern integrated textile industry will be undertaken.

5. Industrial Estate:

a) Dharan Industrial Estate:

This estate has a plan to acquire 5 hectare of land and to construct ten sheds, 750 meters of boundary wall, 2 kilometer of road, water-tank of 20,000 gallon capacity and 20 culverts in addition to level some of the lands, install a 250 K.V.A. transformer and to extend electricity line to 2 kilometer. This Estate was established in 1972 with the objective of developing industrial infrastructures to promote private industries.

b) Patan Industrial Estate:

This Estate, which was established in 1963, has a plan to construct an industrial building in addition to black-topping road to a distance of 1.3 kilometer.

c) Pokhara Industrial Estate:

Established in 1974 with an aim to promote private sector industries and to supply consumer and other goods, this Estate is expected to construct six industrial and two utility buildings, 2400 meter of black-top and 1000 meter of gravel roads, one under-ground and one over-head water tanks, 80 meter of boundary wall, 600 meters of drainage, water distribution lines of 2240 meter in addition to the installation of one transformer and 3.3 kilometer of L.T. lines.

d) Butwal Industrial Estate:

This Estate, established in 1975, has plans to acquire and level 15 hectare of land, fence 1500 meter of boundary, construct 800 meter of boundary wall, 2.75 kilometer of black-topped and 3 kilometer of gravelled roads, 600 meter of main sewerage and 1500 meter of surface drains, 42 culverts, 1 water tank, 10 industrial sheds and construct 15 utility sheds in addition to install one water distribution pump, three

transformers and three kilometer of L.T. lines, switch-gears, 250 steel tubular poles and install one generator during the plan period.

e) Nepalgunj Industrial Estate:

Established in 1973 with a view to develop industrial infrastructure s to attract and promote private industries, this Estate is expected to acquire 100 ropanies of land, construct 10 industrial and 5 utility sheds and one administrative building, 2538 meters of surface drainage, 30 culverts, one under-ground and one overhead water tanks and construct 1205 meters of black-topped road in addition to laying of 1500 meters of water-pope, extension of electric lines by 1419 meters and boring a four inch water supply system during the plan period.

f) Dhankuta Industrial Estate:

Construction of 4 industrial sheds and nine other sheds, 1250 meter of gravelled road, 400 meter of drains, 15 culverts, an overhead tank of 50,000 liters and another underground water tank in addition to the installation of a water-pump of 25 h.p., laying 300 meters of pipes, and extension of electricity line by 4.64 kilometer are the activities planned for this Estate which was started in 1984.

g) Dhangadi Industrial Estate:

Acquisition of 15 hectares and development of 34 ropanies of land, construction 470 meters of drainage, 3 culverts and 8 industrial sheds and 8 office and utility buildings and distrubution of electricity and water lines are the activities envisaged for implementation during the plan period n this Estate which was started in 1984.

h) Rajbiraj Industrial Estate:

Also started in 1984, this Estate has plans to acquire 23 bighas of land and to develop it, construct 2.3 km of road, 5 culverts, 300 meter of main sewer drains and 1.2 km of surface drain, 2 water-tanks and construct 18 industrial and seven administrative and utility sheds in addition to fence 1.5 km of boundary, develop 2 km of water-supply system and extend electricity distribution lines by 2 km.

i) Small Industrial Estate, Bhaktapur:

Established in the Sixth Plan with the aim of promotion small and cottage industries in Bhaktapur, activities such as acquisition of 50 ropanies of land, construction of one administrative building and some access roads and works related to the development of water supply and electricity distribution are planned for the Seventh Plan period.

j) Prime-mover Industries Projects, Surkhet:

Established in 1981, this project plans to construct 0.25 km. of gravel of road, 500 meter of drains, culverts, 4 administrative and utility buildings, 15 industrial sheds and 250 meters of Gabon-wall inn addition to developing water and electricity distribution system.

k) Panchkhaal Industrial Estate:

This is a new insustrial estate to be started from fiscal year 1985/86 and activities such as acquisition and development of 94 ropinies of land, construction of 1039 meters of access road, 1475 meters of drains, 2 culverts, 2 water tanks, 1 power-house, 1 administrative building, 5 utility sheds and 8 industrial sheds in addition to development of 1410 meters of water supply system and 1.8 kilometer of L.T. lines during plan period.

l) Ghorahi Industrial Estate:

Proposed to be established in fiscal year 1985/86, activities such as a detailed feasibility study of the Estate, acquisition and development of 300 ropanis of land, preparation of a master-plan of the Estate construction of 900 meters of road and surface-drainage and laying of 1800 meters of pipes of different size for water distribution are planned for implementation during the plan period.

6. Industrial Finance and Credit Program

a) Nepal Industrial Development Corporation:

To promote industrial development and to attract private and foreign investment to the industrial sector, this corporation is expected to mobilize investment to the tune of Rs. 2012.2 million in addition to promoting certain industries and investing Rs. 700 million in equity and share capital of different industries. His Majesty's Government will invest Rs. 250 million to increase the capital base of this corporation.

b) Security Exchange Center:

Established with the aim of facilitating sales and purchases of shares, bonds and debentures of companies to simplify exchange of capital and to make it more liquid, this Center plans to promote 10 industries as public companies, provide under-writing facility to five industries, increase the number of shareholders in public-companies to 16000 undertake market development efforts in main commercial centers of the five development regions, promote and develop sales mediums, index 15 companies, and change shares and

debentures worth Rs. 1500 million. This center is also expected to have its own office building during the plan period.

7. Raw material Development Program

a) Tobacco Development Company:

Established in 1971 to promote cultivation of high grade tobacco and to supply the same to domestic cigarette industries, this company has aimed at production and purchase of 12,871 metric tons of raw tobacco, redrying packing and sales of 11,584 metric tons of tobacco, construction of 8 staff quarters, one generator house and one over head water tank, procurement and installation of 2 generators and training 2100 farmers on tobacco-curing.

8. Survey, Studies and Promotion Program

a) Industrial Services Center:

Established in 1974 to identify feasible industries and to provide industrial and professional consultancy services, this Center is expected to promote 113 industries, undertake 100 feasibility studies and study 34 industries, provide management services to 30 industrial establishments including some sick-industries, provide entrepreneurial training to 100 persons and management training to 600 persons, undertake 25 productivity evaluation and undertake 25 programs on information dissemination as productivity.

b) Small Business promotion Project:

This project was established with the objective of providing consultancy services on relevant technical, financial and marketing aspects to small undertakings to enable these undertakings to increase their effectiveness, skill and productivity and to provide necessary training to small entrepreneurs. This project is presently run with external assistance and the present bilateral arrangement terminates the project in July 1986. Thus, the project is expected to provide consultancy training to 3 persons, prepare 1 reference manual, evaluate related projects in 4 districts and provide training to 22 persons on management and technical training to 9 persons during the first year of the plan.

c) Industrial Data and Monitoring Project:

This project will be implemented with a view to collect and provide timely and reliable data on industrial ventures evaluate and monitor the performance of industrial undertaking so as to control misuse of facilities and services and to undertake comprehensive studies on a planned way of industrial operating in the country. During the plan period, this project is expected to collect and provide detailed information and data on operating industrial in a timely and scientific way and gradually undertake publication of such data information and to evaluate and monitor, on a regular basis, the performance of industries which are operating under government licenses and which have received certain facilities and services.

d) Nepal Institute of Standards:

This Institute was established in 1976 to improve and maintain it at a high level the quality and to standardize the products of domestic industries. The institute, during the plan period, will undertake activities directed at standardization and standards promotion, implementation and inspection of specific standards, and at the construction and operation of laboratory. Thus, this institute will specify standards to 500 commodities, devise rules and regulations on standardization to guard the interests of the consumers, run training programs on skill development, provide technical and consultancy services, provide standards specification to 30 commodities and ensure adherence, and will inspect and analyze for exportable commodities.

e) Leather Industries Coordination Unit:

This unit will be established essential to identify and develop policies for the healthy growth of leather industries, engender a congenial atmosphere for their sustained development, develop skills and techniques, promote exports and to identify potential regional and sources of investment for the development of these industries. Programs identified for implementation during the plan period are: a) enhancement of the knowledge and skills of cobblers b) study of problems related to tannery-pollution and development of necessary remedial measures c) provision of technical assistance for the expansion and modernization of Banswari Leather Shoe Factory d) further development of manpower related to leather works, and e) collection and coordination of relevant information on leather industries.

f) Textile Development Board

This board is proposed to be established to undertake functions as provision of high education, development of techniques and management, training, development of manpower, and research and development in an institutionalized way to foster the development, both from long and short-term considerations, of textile industries in the government and private sector, This Board will also be entrusted with the responsibility of providing unified and integrated service to the textile industries in the private sector. A Textile Development

Center will be established as the Secretariat of this Board to implement the above-mentioned program in the first year of the plan period.

g) Industrial Management and Feasibility Study:

Activities such as feasibility studies of 40 industries including 20 sick industrial management services and studies are proposed to be undertaken under this project during the Plan period.

Expenditure:

Following is the level of expenditure likely to be incurred in the implementation of the programs already mentioned.

Allocation of Expenditure

Program	in million rupees Expenditure:
1. Public-sector Industries	1452.600
2. Industrial Estate	100.300
3. Industrial Finance and Credit	250.000
4. Development of Raw materials	108.200
5. Survey, Studies and Promotion	105.200
Total	2018.300

The proposed expenditure are for the programs to be undertaken in the government sector only. In addition to this level of expenditures, an investment outlay to the tune of Rs. 4004 million will be required to promote the targeted number of 159 of which two are being proposed in the (public sector) industries to be promoted in the private sector. Out of this total outlay, an amount of Rs. 2850.8 million has to be mobilized to meet the capital needs of these industries. An amount of Rs. 700 million from N.I.D.C., Rs. 1108 million from commercial banks and the rest of Rs. 994.8 million is proposed to be invested from external agencies to meet this capital needs.

Expected Progress and Achievements

It is expected that 70 percent of the industries proposed under industrial promotion program (annex 5) will complete their establishment phase and be able to operate on a commercial basis. Consequently, it is estimated that the industrial sector will generate employment to 95,255 persons, of which 80,458 persons will receive employment at the cottage and small-scale industry level with 14,797 persons being employed at industries of bigger scales.

The present capacity utilization of established industries is estimated at 50 percent. It is estimated that the capacity utilization of industries to be promoted and improvements in capacity utilization of industries presently operating will raise the overall capacity utilization of industries to 70 percent in the Seventh Plan period resulting in an increase by Rs. 6980 million in the production of industrial goods in the last year of the plan year of the plan period. Likewise, with value-added estimated to increase by Rs. 1396 million (Twenty percent of the increase in production), industrial production is estimated to grow at 12.7 percent per annum during the plan period.

Production

	in million rupees At 70 percent
Cottage and Small-scale Industries Bigger Scale	2022.7
Bigger Scale	4957.5
Total	6980.2

If gross domestic product continues to grow at the present rate in the Sixth Plan period and if the estimated rate of growth of 4.5 percent is attained in the Seventh Plan, then the contribution of the industrial sector to the gross domestic product will reach 6 percent in the last year of the plan. This will have positive effects on the balance of trade as well. It is estimated that exports will increase by Rs. 3579 million if the estimated increase of Rs. 6980 million in industrial production materializes. However, as increase in production of this order is likely to need an import component of Rs. 3845 million, net increase in export is estimated as Rs. 814 million and net substitution of imports at Rs.2291.

Trade Position

	in million rupees At 70 percent capacity utilization	
Production	Exports	Imports

Cottage and Small-scale Industries	667.5	1355.2
Bigger-scales	2733.5	2224.0
Total	3401.0	3579.0

The total number of industries to be promote during the plan period is estimated at 15,559 (annex 5). At the level of bigger-scale industries, 28 foot-related, 14 clothes and garments, 10 housing and construction materials related, 10 education materials related and 15 light-engineering industries and 23 export-oriented industries to a total of 123 industries are expected to be promoted. Likewise, at the level of cottage and small-scale industries, a total of 7,500 industries are to be promoted. In addition to these, 36 industries at the bigger scale and 3500 production-related and 7500 service-related cottage and small-scale industries will also be promoted.

Appendix-1
Industry Sector
Annual Changes
(in percentage)

Fiscal Year	1979/80	1980/81	1981/82	1982/83	1983/84	Four years' average
1. Gross Domestic Product (At 1974/75 prices)	2.3	8.3	3.8	-1.4	7.4	4.5
2. Industrial Production (1974/75 = 100)	5.7	10.5	11.5	18.4	13.2	10.9
3. Contribution of manufacturing sector to G.D.P.)*						
- Total	4.3	4.1	4.2	N.A.	N.A.	
- Modern	2.8	2.8	2.9	N.A.	N.A.	
- Cottage	1.5	1.3	1.3	N.A.	N.A.	

Production of Public Sector Industries in The Sixth Plan Period

Industry	Unit	Production in Fiscal Years					Estimated
		1980/81	1981/82	1982/83	1983/84	1984/85	
1. Bansbari Leather Shoes Factory	Pairs shoes	88,884	77,666	79,559	66,674	80,000	
	Leather sq. ft.	17,43,361	15,28,728	15,25,895	19,41,446	17,00,000	
2. Birgunj Sugar Factory	M.T.	6,734	12,818	-	-	11,000	
3. Birgunj	Lakh Liter	-	2,73,817	-	-	3,00,000	
4. Janakpur Distillery	Crore Numbers	175	262	304	390	270	
5. Brick and Tile Factory Harisiddhi	Lakh pieces	123	140	190	168	250	
	Thousand pieces	681	907	719	739	900	
6. Bhaktapur Brick Factory	Brick Lakh	101	123	178	150	200	
7. Hetauda Textile Industry	Thousand Meter	3,162	4,700	5,314	5,728	7,500	
8. Himal Cement Company	M.T.	33,942	33,968	36,959	38,247	40,000	
9. Agriculture Tools Factory	M.T.	86	153	368	550	-	
10. Agriculture Lime Industry	A. Lime M.T.	-	373	521.25	454.45	1,000	
	Chem. Lime in M.T.	3,000	5,400	7,000	7,000	6,000	
	Cons. Materials M.T.	-	-	670	1,132	3,300	

Production of Public-Sector Industries in The Sixth Plan Period

Industry	Yearly Production Capacity	Fiscal Years					Average Capacity Utilization (%)
		1980/81	1981/82	1982/83	1983/84	1984/85	
1. Bansbari Leather Shoes Factory	9 lakh pari of shoes	98.76	86.30	88.40	74.08	88.89	87.33
	Leather processing 18 lakh sq.ft.	96.85	84.93	84.77	107.86	94.44	93.77
2. Birgunj Sugar Factory	15 thousand M.T.	44.89	85.45	95.49	79.15	73.33	75.67
3. Birgunj Distillery	12 thousand liters of spirit	-	22.82	-	-	25.00	9.57
4. Janakpur Cigarette Factory	3000 million sticks of cigarette	58.33	87.33	101.33	130.00	90.00	93.40
5. Brick and Tile Factory Harisiddhi	25 million bricks	49.20	56.00	76.00	67.20	100.00	69.68
6. Bhaktapur Brick Factory	20 million bricks	50.50	61.50	89.50	75.00	100.00	75.30
7. Hetauda Textile Industry	11 million meters	28.75	72.73	48.34	52.07	68.18	48.00
8. Himal Cement Company	48 thousand M.T. of cement	70.71	70.77	77.00	79.68	83.33	76.30
9. Agriculture Tools Factory	450 M.T. of agricultural tools	19.11	34.00	81.78	122.22		
10. Agriculture Lime Industry	600 M.T. agricultural lime	-	6.22	8.69	7.57	16.67	7.83
	600 M.T. of chemical lime	50.00	90.00	116.67	116.67	100.0	94.67

**Loan Distribution by N.I.D.C. During
The Sixth Plan period**

in million rupees

	1980/81	1981/82	1982/83	1983/84	1984/85 (Estimated)	Total
Loan	45.890	30.806	53.390	41.413	65.000	236.499
Share Investment	0.210	4.319	18.621	9/700	15.000	47.850
Total	46.100	35.125	72.011	51.113	80.000	284.349

Source: N.I.D.C.

**Priority To be Promoted In The
Private Sector**

Industry	Proposed Number	Investment in (million)	Capacity
1. Higher Level			
a. Food and Food Materials			
Sugar Mill	1	102.9	100 Ton/day
Scheme Milk Powder	1	39.6	574 M.T. Powder
Soya Milk	1	68.0	12000 Lt. per day
Baby Food	1	22.6	600 Ton
Biscuit and Confectionary	1	3.4	420 M.T.
Juice sider, Brandy	1	1.6	80 Ton
Modernization of rice	20	16.0	42000 Ton
Tea Processing Mill	2	30.0	-
Total	28	284.0	
b. Textile and Wearing Materials			
Integrated Textile Mill	2	1000.0	3 Crore meter Cloth & 1600 Ton thread
Textile Mill	3	75.0	67.5 lakh meter
Decentralized Powerloom ¹	-	78.85	7.5 lakh meter
Spinning Mill	4	880.3	11200 Ton
Cloth Processing	4	56.0	230 Lakh meter
Thread processing (starch and dye)	4	20.0	22000 Ton thread
Towel	4	10.4	600000 Meter
Tapestry	3	12	30 Lakh Meter
Wool-processing (Blanket)	20	2.0	123000 Blanket and 22153 Woolen thread
Acrylic yarn	1	25.0	300 Ton yarn
Leather yarn	4	23.2	600000 pairs shoes
Canvas Shoes	1	15.9	10 Lakh pair shoes
Cotton Carpet	1	2.0	350000 Meter
Total	35	2200.63	
c) Domestic and Construction Materials			
Builders Hardware	1	0.6	36000 dozen tower bolt and hinges
G.L.S.Bulb	2	21.0	36 Lakh pcs.
Electric Materials	1	6.0	15 Lakh pcs.
Plywood	1	8.8	2.75 Lakh sq. meter
Mini-cement Plant	1	20.0	40 Ton per day
Industrial Lime	2	3.9	1500 M.T.
Stone Industry	2	35.0	2,00,000 M.T.

Total	10	95.3	
d) Health Materials			
Medicine	1	3.5	2 Crore piece tablet
	2		100000 piece capsules
Bath soap	1	3.0	600 M.T.
Total	2	26.5	
e) Educational Materials			
Offset Printing Press	1	8.0	1.5 Crore impression
Stationary Materials	5	3.2	35 thousand pieces Exercise book 10 thousand pcs registry copy, 50 thousand piece Index file
Writing Material	1	2.0	20 thousand gross ball point pen and pen 25 thousand liter ink.
Pencil	1	3.2	200 gross per day
Printing ink	1	1.3	40/4 Ton print, duplicating ink
Paper	1	175.0	45000 Ton papers
Total	10	192.7	
f) Light Engineering Material			
Nut hinges, bolts, screws	1	2.5	900 Ton
Hand tool	3	2.6	108 M.T.
Fan and electric motor	1	13.8	450 thousand piece fan
Energy meter	1	5.5	40 thousand piece fan
Power caparetor and condensation/Transformer	1	1.2	6 thousand K.V.A.
Water meter	1	1.2	6 thousand pieces water meter
Small electric motor	1	1.2	2400 piece motors and pump
Bathroom Materials Alloy and Electroplating	1	1.6	60 M.T. fitting
G.I. Pipe Fittings	1	2.5	600 M.T.
Fittings of Pumpset used in irrigation	1	6.3	2 thousand piece pump set
Cycle Fitting	1	15.0	20 thousand piece cycle
Water turbine	1	12.0	100 Number
Automatic loom and parts	1	5.0	200 Number
g) Export Promotion Industry			
Starch and Glucose	1	20.6	5000 Ton Starch 2250 Ton Glucose
Herbs processing	1	15.0	150 Ton
Mushroom production	1	1.4	5 M.T.
Malt	1	32.5	4 Thousand Ton
Readymade Garments	15	12.0	12 Lakh piece

Leather processing			
Jute carpet	1	49.5	Leather 6400 Ton
Industrial globes and apron	1	1.0	50000 pair globe 25000 Apron
Computer Software	1	4.5	-
Total	23	145.9	
2. Cottage Level			
Different industries, cottage and small scale industry program	7500	450.0	

**Other Industries
To be Promoted In the Private Sector**

Industry	Proposed Number	Investment (in million)	Capacity
1.Higher Level			
Vegetable Ghee Industry	1	68.3	9000 M.T.
Steel Furniture	1	1.0	1500 piece
Synthetic Determent	1	4.0	300 M.T.
Radio Revivers and Voltage Stabilizer	1	16.1	45000 piece Radio 100 piece stablizer
Wet Cell Battery	1	7.6	4500 piece
Sodium Sylikate	2	2.8	3000 M.T.
Scientific Glass Ware	1	10	6.5 M.T.
Body Building of Bus and trucks	1	1.0	50 Bus
Bleaching Power	1	6.0	3000 M.T.
Reclamation of Used Oil	1	2.3	180 K. Liter
Carcus Utilization Plant	1	10.0	1000 M.T.
Distribution Welding and Transforms	1	8.9	600 pieces or 5000 K.V.A.
Wooden Parket	1	7.2	1614000 sq. ft.,
Furniture Industry (Wooden)	1	3.1	35000 C. ft.
Camel Black	1	1.9	150 M.T.
Mico Celuar Sh33t	1	1.4	150 M.T.
Sugarcane Wax	1	2.0	100 M.T. Wax
Tyre and Tube	1	454.7	60000 Cycle Tube 40000 Cycle Tyre 10000 Motor Tyer
Castic Soda	1	16.5	3000 M.T.
Sodium Sulphide	1	1.0	450 M.T.
Letter Press	3	2.5	3.14 Crore Impression
Electric Are Furnish	1	163.7	20000 M.T.
Paper Wax Map	1	5.2	500 gross per day
Welding Electrodes	1	4.2	450 Ton
Fertilizer Blending Plant	1	9.0	24000 Ton
Lamp Bulb	1	5.0	36000 Ton
Auto Lift Spring	1	80.0	36000 Ton
Cometic Processing Material	1	1.0	30 Ton
Noodle	1	11.6	50000 packet per day
Tea Processing/Blending	1	820.6	9000 Ton

Dyestuff	1	4.3	100 M.T.
Urea Fertilizer	1	-	Preliminary Work
Total	36	1723.00	
2. At Cottage and Small-scale Industry Level			
	34000	132.0	
Production-oriented services oriented	7500	450.0	

Industrial Products to have Attained
Self-Sufficiency

1. Self-sufficient Products

- a) Flour
- b) Processed Fruit
- c) Biscuit
- d) Confectionary
- e) Beer
- f) Alcohol (except high quality)
- g) Soft Drink
- h) Cigarette, Bidi (except high quality)
- i) Noodle
- j) Animal and Poultry Feed
- k) Hosiary good
- l) Washing Soap
- m) Matches
- n) Wooden and Steel Furniture
- o) Polythene Pipe
- p) Plastic Bag
- q) Plastic Slipper
- r) Carbon Paper
- s) Envelope and General File
- t) Dry Cell Battery (v-20 Size)
- u) Iron Rod
- v) Marble-chips

2. Product likely to achieve self-sufficiency:

- a) Vegetable Ghee
- b) Tooth Paste
- c) Paint
- d) Agriculture Tools
- e) Electric Conductor
- f) General electric wire
- g) Aluminum utensils
- h) Plastic utensils

On current demand and capacity basis only.

Note:

"1" It is estimated that half of these industries will be at cottage level.

"2" Project area and other detailed descriptions are being researched.

Chapter - 33 COTTAGE INDUSTRY

Taking into consideration the scarcity of capital, technology, skilled manpower and the limited internal market in addition to the lack of infrastructural and power facilities, it is not likely that reliance on only large and medium scale industries will lead to industrial development. On the other hand, development of cottage industry is likely to make significant contributions to the economy as this industry can generate employment in the rural sector, meet the needs of local markets and utilize locally available raw materials to a great extent. In addition, development of cottage industry and also generate foreign exchange earnings lead to self-sufficiency in production of certain goods and commodities and thereby substitute imports and lead to an improvement in the economic conditions of the rural mass and help improve the present balance of payments situation

Development of cottage industry takes a priority in light of the problems related with the establishment of big industries both in the private and the public sector. The private is not likely to take a lead in the establishment of big industries. In the public sector, the time involved in mobilization of resources and excessive delays in construction do not make the establishment of big industries a very attractive proposition. In addition, transfer of technology for such industries is generally full with complications. That cottage industry can be developed through the mobilization of domestic resources itself makes it obvious that industrial development and expansion of an economy like ours is possible through the development of cottage industry. Moreover, given the direct positive effects in increasing the income of the rural mass, this industry has the potential to bring about positive changes in the whole of economy. Development of proper institutional support to the units scattered all over the country, therefore, is likely to yield benefits both from a short-term and a long-term consideration.

Cottage Industry in the Sixth Plan

It has been accepted that there have been some concrete achievements during the sixth Plan in policy developments and program-action related to cottage industry. Changes in the rule and regulation pertaining to the establishment of cottage brought about by the implementation of the Industrial Enterprises Act, 1981 B.S. has resulted in significant expansion and diversification of facilities for establishing and operating cottage industries, especially in terms of raw-materials and other inputs. In all, 13,360 cottage industries were registered during the Sixth Plan period. Of this total registered units, only 584 (or 4.4 percent) units were dependents on imported raw material. Average per unit production of these units were dependents on imported raw material. Average per unit production of these units is estimated at Rs. 2 million per annum with a total yearly production estimated at Rs. 1170 million. Value-added per unit industry is estimated at 8 million with total value-added from all the unit being estimated at Rs 467 million per year. Given the low initial capital investment, value-added component of these industries can be increase to another 40 percent. These consideration lead to the conclusion that cottage industries have made significant contributions gross domestic product, per capita income and in generation of employment.

During the Sixth Plan period, intensive industry program was implemented in twenty district. Under this program nine districts in Bagmati and Gandaki Zone where cottage and small industry program and integrated village development program were underway with the assistance of World Bank were also covered.

For the development and expansion of cottage industry, Sixth Plan has specified a target of training 13,170 persons under the general program whereas 15,780 persons were to be trained under the intensive program. Thus, the total number of persons to be trained in different technical and vocational fields was set at 28,950 persons. The actual number of persons trained under general program has been 15,256 while those trained under the intensive program number 11,514 to bring the total number of trainees to 27, 140 persons (Table)

Industrial survey twenty district, eight feasibility studies, implementation of three pilot projects technical assistance to 3,000 industrial units, formulation and distribution of 3,300 industrial schemes and management assistance to five industries were the program to be undertaken for industrial development and promotion during the plan period. In all, thirty-three districts were covered by industrial surveys, ten feasibility studies were completed and three pilot projects were implemented in addition to the development and distribution of 9,719 schemes. Technical assistance was extended to 2,827 industrial units whereas promotional assistance was extended to 74 industries and 188 promotional services were made available.

In the area of handicrafts promotion, 300 new designs were to be developed, 60 models prepared research in 15 areas related to handicraft to handicrafts were to be undertaken and fifteen exhibitions organized during the Sixth Plan. . 973 different designs have been developed and 00 models prepared whereas research in only for areas were completed and only 12 exhibitions were organized during this period.

A targeted figure of Rs. 120 million was to be distributed as loans for the development of cottage and small industries in the private sector. This program was implemented in three districts of Kathmandu valley and six district of Gandaki Zone with loan assistance from the World Bank. Loans amounting to Rs. 66.9 million

were approved for 1413 industrial units and an amount of s. 46.4 million was already disbursed by the end of the fourth year of the Plan. Units thus operating have generated employment to a total of amount 13,678 persons commercial and development banks have also extended loans amount to Rs. 30.3 million to these areas under intensive banking program.

During the plan period, raw materials and implements worth Rs. 141.4 million were made available to different industries and goods worth Rs. 24.2 million were procured from entrepreneurs engaged in cottage industry. The original target of the plan was to supply raw-materials and other implements worth Rs. 60 million and to procure Rs. 90 million worth of goods from entrepreneurs. Likewise, goods worth Rs. 170 million were to be produced from different production units operating within the Department of Cottage Industry whereas the actual production of different goods has been valued at Rs. 186.9 million.

The following objectives, policies and programs have been identified by the Seventh Plan for the development and promotion of cottage industry.

Objectives

1. To create employment opportunities to check the problems of unemployment and under-employment both in the rural and urban areas and to increase direct incomes in the rural areas.
2. To develop this sector as an important source of foreign exchange earnings through improvements in productivity and quality of the products.
3. To increase production as this level to meet internal demand and to substitute imports.

Policies

1. Industries to be operated as cottage and small-scale industries will be identified and such industrial establishments will be promoted cottage and small-scale industry level only.
2. Raw materials, capital and training for promoting skills will be provided through well-coordinated institutional set-up for establishment of such industries.
3. Policies directed at the promotion and expansion of cottage industries more timely and relevant.
4. Cottage industry will be developed as a medium to realize the potential benefits that can accrue to the economy from greater participation of the women-folk.
5. In promoting cottage industries, priority will be determined on the basis of a set of criteria like utilization of domestically produced raw materials, value-added and employment generated.
6. Private sector will be encouraged to mobilize the existing techniques and skills, resources and facilities to establish and operate cottage industries and pilot-projects will be operated in areas where the private-sector does not evince any interest.

Work policies

1. In the process of expanding the coverage of intensive cottage industry program to other parts of country as well, small industry development project will also be implemented to cover additional districts.
2. Coverage of intensive banking program will be extended and programs will be developed and implemented through commercial
3. Appropriate curriculum and other bases will be developed to make skill development training program implemented through Cottage Industry Department and Cottage Industry Development board more meaningful in the context of the needs of specific districts.
4. Services of cottage industry Handicrafts Sale Emporium will be further expanded to ensure regular supply of raw-materials.
5. Production of exportable products of cottage industry will be further expanded and such products will be standardized by coordinating efforts on production and market-development through agencies involved in export promotion.
6. Supply of adequate credit-facilities, implements and skills will be given especial emphasis to promote tourism-oriented industries based on traditional skills and technologies and using local raw-materials.
7. Instead of specifying independent targets for each of the different services, e.g. promotion, consultancy, financial assistance, registration and licensing, supply of raw-materials, designs and market development service required for the promotion and operation of cottage industries, a new process whereby targets are specified in a unified and coordinated manner will be developed and implemented.
8. Industrial villages based on local resources, raw materials and skills will be established and operated in districts which are still relatively less-developed.
9. Cottage Industry Development Board will implement short-term training program such as skill-development and entrepreneur-development in districts where intensive programs are already underway. However, in district and areas not covered under the intensive program, Department of Cottage Industry will be involved in running training courses.

10. A new project will be formulated and implemented to develop middle level manpower and to fully utilize the infrastructural bases that have already been developed within the Department of Cottage Industry.

Program

Programs for the development of cottage industry in the Seventh Plan have been categorized under three headings namely, general, intensive and promotional.

A. General

All activities and programs to be implemented through Department of Cottage Industry will be implemented under general program. Activity components such as technical training, industrial services, handicrafts promotion, ready-made garments and hand-made paper project, training for prison inmates, industrial data project and the operation of four regional centers will be included within this program. Program goals different activity components are specified as follows:

- 1) Department of Cottage Industry will organize training programs to create additional manpower at the entrepreneur, artism and mechanical worker's level and to enhance the existing level of knowledge and skills of such manpower. In all, 1340 persons will be trained for a period of two years on general technical subjects, 345 persons will receive advanced training, 210 persons will be trained on hand-made paper, 410 on ready made garments, 4,600 persons will be covered under mobile training and 275 prison-inmates will be trained on vocational subjects.
- 2) For the development and expansion of handicrafts industry 360 designs will be developed out of which 120 models will be prepared and 240 designs will be distributed. In addition, fifteen-research project will be undertaken and ten exhibitions will be organized.
- 3) Likewise, industrial surveys in fifteen new district will be undertaken, reports on thirty district already covered under industrial survey will be published, 500 schemes distributed, technical assistance to 380 industries will be extended, four pilot-projects implemented, five feasibility studies and research on five topics undertaken and 20 pairs and exhibitions will be organized to develop and cottage industries. Under the production program, goods and commodities worth Rs. 12.5 million will also be produced.
- 4) Ten statistical profiles will be prepared and 500 industrial units will be observed and checked, 35 seminars and twenty refresher training course will be organized under industrial statistics and administration.

B. Intensive Program

Intensive program for industrial expansion and development will be implemented through Cottage and Small industries Development Board. This program will cover projects like cottage and small-scale project run under the World Bank assistance and Integrated Rural Development Projects, Industrial Village Project to be run under Swiss assistance in Dolakha and Sindhupalchok districts. Under these project 5,500 persons will be trained on motivation, entrepreneur develop and management and 9,600 persons will be prepared and distributed, 1380 industrial units will receive technical assistance and raw-materials and implements equivalent to an amount of Rs. 15.2 million will be supplied. Sales services will also be provided through direct procurement or products of such industries.

C. Promotional Program

Ceramics project, entrepreneur development program and training for gainful rural activity will be covered and implemented under this program. This program consists of mobile training under which 4,600 persons will be trained, another training program which will impart training on different skills to 1030 persons in addition to the establishment of a ceramics industry and initiation of related research in this area. Raw materials and other implements necessary for local cottage and rural industries and sales service for the products of these industries will be provided through Cottage Industry Sales Center and through other institutional mechanisms. In all, thirteen projects in different parts of the country will be implemented under this program. Supply of different raw materials worth Rs. 400.7 million, supply of other necessary implements worth Rs. 30.7 million, sale of different products of these industries worth 40.2 million through direct procurement arrangement, construction of 10 godowns and offices and expansion of 15 branch-offices are some of the targeted goal of these projects as a whole.

D. Program Under Decentralization

A total of 75 branch-offices in different districts run under the Department of Cottage and Small-scale Industry will be covered under this program Activities such as identification of industries which can be developed and established on a local basis, selection of trainees and promotion of people's participation in promotion of industries and in skill development training will be carried out under this program.

Expenditures

Details on expenditures to be incurred on the development of cottage and small-scale industries during the plan period are presented as follows:

Development expenditure on Cottage and Small-scale Industry

	in Thousand
Project	rupees
	Expenditure
1. General program (except project)	11,00,00
2. Intensive program	14,01,00
3. Sales promotion service	7,00,00
4. Readymade garments and hand-made paper projects	90,00
5. Ceramics project	20,00
6. Entrepreneur development program	15,00
7. Rural useful training project	9,55
8. District level programs	6,59,45
Total	39,95,00

The above figures reflect only the expenditures to be incurred in industries to be promoted the government sector. In addition to his, private sector investment in 18,400 cottage industries including those related with service is estimated at Rs. 825.6 million. If 12 percent of the total loan investment during the plan period can be mobilized for the priority sectors as estimated by Nepal Rastra Bank, then resources to the tune of Rs. 950.9 million can possibly be mobilized for the cottage and small-scale industry sector.

Description of Training provided during the Sixth Plan period

FY	Department of Cottage Industry									Cottage		
	General	Short term	Special	Inmates of Prison	Mobile	Entrepreneur	Handicraft	Total	Textile	Woolen	Tailoring	History
1980/81	557	1272	83	77	40	108	60	2197	-	-	-	-
1981/82	799	3263	155	190	340	252	45	5044	89	20	-	65
1982/83	486	1462	123	112	394	289	100	2966	470	235	93	80
1983/84	550	928	157	98	932	85	76	2826	326	285	184	147
1984/85 (estimated)	500	1097	118	220	620	181	20	2593	245	490	585	465
Total	2892	8022	636	697	2326	725	301	15626	1430	1030	862	757

Industry Development Board

Metalcraft	Bamboo cane	Carpentry	Dyeing carpet	Jute	Dhaka weaving	Leather	Miscellaneous	Total
-	-	-	-	-	-	-	-	-
10	-	30	10	-	16	78	-	318
-	-	44	20	-	16	-	513	1471
50	85	119	15	24	-	10	320	1565
42	175	112	-	95	40	25	68	2642
102	260	305	45	119	72	113	901	5996

Appendix-2

Description of Training to be Provided in the Seventh Plan

Department Of Cottage Industry		Cottage Industry Development Board	
Subject	Number	Subject	Number
1. General Training (Two years)		1. Skill Development Training	
Textile	250	Textile	3,400
Mechanical	100	Woolen carpet	1,000
Tailoring	180	Tailoring	1,500
Dyeing	40	Hosiery	1,000
Carpentry	100	Metal craft	500
Metal engraving	32	Bamboo cane	300
Electricity	130	Carpentry	400
Wood carving	32	Jute carpet	200
Ceramics	32	Handmade paper	400
Leather	40	On the job training in food	
Carpet	182	stuff chemical etc.	1,000
Hosiery	200		
Bamboo cane	12		
Total			9,600
2. Advanced Training (one year)		2. Training on motivation entrepreneur development and management	
			5,500
Textile	30	Total	5,500
Hosiery	45		
Tailoring	45		
Electricity	30		
Carpet-weaving	45		
Mechanical	30		
Wood-carving	15		
Ceramics	15		
Carpentry	30		
Dyeing, painting	30		
Leather	15		
Total	345		
3. Training of inmate			
Textile	115		
Hosiery	40		
Tailoring	40		
Dyeing	40		
Metal-works	40		
Total	275		
4. Mobile Training (three months)			
	9,200		
5. Professional Training			

Readymade garments (sixth months)	410		
Hand-made paper (three months)	210		
6. Trainer's training	1,030		
Grand Total	12,810		

Note: Subjects for mobile and trainers' training will be determined only after completion of surveys.

CHAPTER 34

TRADE

Introduction

Trade occupies a prominent place in economic development of Nepal. Lack of sufficient natural resource and endowments, delay in industrialization, limited market and limited investment capacity tend to suggest that development process is likely to be highly time-consuming. On the other hand, the country has to depend on imports even to implement programs which are likely to have adverse effect on imports even to implement programs designed to strengthen the economy. However, this dependence on imports is likely to have adverse effects on the balance of payments and give rise to new challenges. This kind of situation calls for a well-managed and regulated import policy and for a planned drive to increase exports so that the balance of payments situation is in favor of the country. In this background, only through proper development of the trade and commerce sector will it be possible to increase foreign exchange earnings through increased exports to finance the imports of goods essential for development. In fact, the present situation characterized by the need to rely on imports even to meet basic development aspirations makes it imperative to expand exports.

Increase in the size of population and the consequent increase in internal demand have led to domestic consumption of goods which were traditionally exported leading to a situation where export of such traditional goods is no longer possible. But, on the other hand, it does not seem possible to significantly expand the production of new exportable commodities without effecting major transformations, within a short period of time, in the economy dependent inordinately on agriculture. Thus, in the present context, it has become necessary to increase the production of goods, which were traditionally exported. However, it will also be possible through increased industrial production, to substitute imports and to effect significant savings in import spending. Foreign exchange earnings can be increased through diversification in the commodity mix in traditional exports and in the trading partner countries. This arrangement will also ensure that both agricultural products receive maximum prices.

Foreign loans and assistance will certainly increase in the Seventh Plan period as compared to the receipt of these in the Sixth Plan period. In addition, principals, and interests of loans received in earlier plan periods have also to be repaid. This situation again reinforces the need to increase foreign exchange earnings through increased exports and also signifies the important role of trade and commerce in the overall development of the country. The geo-physical structure of the country has resulted in a contraction of the internal market whereas the land-locked situation of the country has made it very difficult to export Nepalese goods and commodities in the competitive international markets, especially in the context of absence of proper transit facilities. The need to strengthen and to render the transit system less expensive and to increase the numerical terms of the transit facilities presently available. In addition, to ensure proper transit right in conformity with the provisions and agreements made by international bodies and under bilateral agreements is equally cogent. In addition, the transit system has to be linked to the infrastructures created in the country to accelerate the pace of expansion of the national market.

Review of the Sixth Plan

Seen in the background of the fact that the annual rate of growth of exports had remained at 5 percent whereas that of imports was 14 percent during the Fifth Plan period, it has to be recognized that the objectives pursued by the Sixth Plan to reduce this imbalance through increased standardization and through additional financial and monetary incentives to strengthen and stabilize the export sector has yielded positive results in terms of diversification gained in the commodity mix of exports and in the composition of trading partners.

Total foreign trade of the country stood at Rs. 4630 million in fiscal year 1979/80, which was also the last year covered by the Fifth Plan period, the figure had nearly doubled to a total of Rs. 8220 million and it is estimated to further increase to a total of Rs. 9630 million by the end of the plan period. Thus, it is estimated that the annual rate of growth in foreign trade will be 16.1 percent in current prices during the plan period.

Total exports of the country were equivalent to Rs. 5900 million (in current prices) during the Fifth Plan period. The Sixth Plan specified a target to increase the exports at an annual rate of 2.5 percent (in 1979/80 constant prices) to a total of Rs. 6360 million during the plan period. It is likely that export earnings from export earnings from exports to India and to overseas countries, including the estimated earnings for fiscal year 1984/85 will total Rs. 8095 million (in current prices) during the plan indicating, by and large, the fulfillment of the specified target. The annual rate of growth in exports was 5 percent (in current prices) during the Fifth Plan period whereas this annual rate seems to have increased to 17.1 percent during this plan period. However, this rate of growth is rather sensitive and has to be accepted with a number of cautions. For example, the figure for export earnings in fiscal year 1979/80 was Rs. 1150 million which increased by 39 percent to Rs. 1607 million in the first year of the plan (F.Y. 1980/81) but declined by 7 percent to reach a total of Rs. 1132 million in the third year whereas export earnings reached a total of Rs. 1704 million in the fourth year of the plan period thereby registering an increase of 50 percent over the earnings of the preceding year. It is estimated that export

earnings will further increase by about 27 percent and reach a total of Rs. 2160 million in the last year of the plan period.

Exports to India accounted for an earning of Rs. 5262 million of the total export earnings in the Sixth Plan period. Export earnings of Rs. 521 million in base year 1979/80 has increased to Rs. 1161 million in fiscal year 1983/84 and is estimated to increase further to Rs. 1272 million in fiscal year 1984/85. Thus, the average annual rate of growth of exports to India is likely to be 30.6 percent. During the period in consideration, goods such as Jute, goods, solved extraction, dried ginger, ginger, big cardamon and other such goods seems to have found a good export market in India whereas export of items such as rice and raw jute seems to have declined. India seems to have accounted for nearly sixty five percent of the total export trade during the period.

A substantial decline has occurred in the export of goods and commodities to oversea countries. Export to overseas was equivalent to Rs. 630 million in fiscal year 1979/80 whereas earnings from this source of exports declined continuously to reach a total of just Rs. 290 million in the third year of the plan. However, some improvements occurred in the fourth year as earnings totaled Rs. 543 million. It is estimated that export earnings from this sources will total Rs. 888 million in the fifth year of the plan.

Jute occupied the most prominent place in the list of items exported to oversea countries. However, during the Sixth Plan period, this place has been occupied by woolen carpets. For example, in fiscal year 1983/84 exports of woolen carpets accounted for 48 percent of the total exports overseas. Some improvements have also occurred in the export of leather and hides. In addition, goods such as catechu solvent extraction and ready-made garments have also shown strong export possibilities whereas export of items such as big cardamon, rice, handicrafts, dried-ginger, raw-jute and jute goods to be losing ground.

Recession in international market, protectionist policy adopted by importing nations, keen competition and increasing transit cost have affected very adversely Nepalese exports to overseas countries during the period in consideration. Likewise, waiving of the dual-exchange rate also seems to have lessened the attraction to engaged in export activities. An exchange rate based on currency basket was introduced during the midterm of the plan to eliminate this situation. In addition, the introduction of financial assistance in export of leather and hides, pre-export loan arrangement in addition to the provision to make available, a certain percentage of export earnings to the exporter and improvement and simplification in banking, financial administrative and other procedures favoring export trade as a result of the implementation of the nine-points export program have resulted in positive changes

Looking at the other side of the picture, import have consistently shown an increasing trend and the average annual rate of growth during the first four year of the plan period has been 17.1 percent. Total imports had increased by 27 percent in fiscal year in 1980/81 as compared to the previous year and had stood at Rs. 4428 million whereas the estimated spending on imports in fiscal year 1984/85 is likely to be equivalent to Rs. 7470 million and this, is likely to register an increase of 14.7 percent over that of fiscal year 1983/84. With imports from India totaling Rs 13380 million (45 percent) and imports from overseas totaling Rs. 16276 million (55 percent), it is estimated that the total imports bill during the plan period will be equivalent to Rs 29656 million. The annual rate of growth of imports, from India growing at an annual rate of 13.7 percent and imports from overseas countries growing 20.8 percent.

Imports from India accounted for 51.2 percent of the total imports in fiscal year 1979/80 whereas this share declined to 45 percent in fiscal year 1983/84 suggesting thereby an increasing rate of growth in imports from third countries and a relative decline in the growth of imports from India. Exports to India as a proportion of imports there from was 38 percent whereas the same in the context of overseas countries was just 15.7 in fiscal year 1983/84. Thus exports seem to be India oriented whereas imports seem to be oriented from overseas.

In the background of increasing demands for imports, balance of trade deficit amounted to Rs. 2330 million and to Rs.2820 million respectively in the last year of the Fifth and the first year of the Sixth Plan but this deficit nearly doubled to Rs 4810 million in fiscal year 1983/84. This has resulted in the balance of payments situation being adversely with a gradual decline foreign exchange savings. The balance of trade deficit is estimated to reach a total of Rs. 5310 million in fiscal year 1984.85. This deficit thus estimated to have increased at an annual rate 19.3 percent during the Sixth Plan period.

During this plan period, certain changes in the composition and nature of export items have occurred for example, in fiscal year 1980/81, unprocessed and semi-processed goods accounted for 91 percent of the total exports to India. But by fiscal year 1983/84, semi-processed and unprocessed goods accounted for only 39 percent of the total exports to India, Likewise, in the same period, share of unprocessed and semi processed goods declined from 33 percent to 2.5 percent of the total exports to overseas.

Foreign trade had to weather a number difficulty during the Sixth Plan period. Export sector could not achieve the expected level of performance mainly because the basic structures needed to develop the export sector were lacking. Export earnings declined substantially during the period in consideration mainly because of the recession in international market and the black of markets for primary products. In addition, there were only a few finished exportable commodities. On the other hand, increase in prices of construction materials,

petroleum products, chemical fertilizer and other such commodities essential for development programs exerted upward pressure in imports. This state of affairs foreshadows a situation in future whereby imports of not only construction goods but even if items needed for daily consumption will have to be controlled if foreign assistance can not be mobilized to the needed extent.

The progress of programs determined for the Sixth Plan period in the commerce and supply sector is briefly summarized in the following paragraphs.

1. Trade Promotion Center:

This center studied the process involved from production to export of commodities such as carpets, big cardamon, tobacco, pulses, solvent oil, ready-made garments (cotton) and handicrafts and has prepared an export plan for these commodities during the first four years of the Plan period. Likewise, a program to develop four exportable items, namely, dried ginger, catechu, vegetable seeds and paper products has also been prepared during the same period. Furthermore, it is estimated that there will be fifty seven participation in international trade fairs during the plan period either of this center or of the private sector. This center also undertook outside study of market for four oversea countries, prepared 254 company profiles of exporters in addition to collection 54 projects profiles and prepared a directory of foreign imp orters in the first four years of the plan.

2. Nepal Transit and Godown Company Limited:

This company had targeted at the construction of a loading and unloading platform at Calcutta port during the plan period which, however, is likely to remain unattained. A godown with 2,000 metric ton capacity has been constructed at the railway head of Raxaul and another godown in the premises of customs at Birgunj is under construction. In addition, land has been taken in lease for construction of a godown in Haldia port in India and the establishment of a transit information service center has also been completed. The company has also undertaken clearing and forwarding services.

3. National Trading Limited:

This institution is estimated to import foods and commodities equivalent to Rs. 679.4 million during the plan period in addition, to undertake construction of godowns at Prokhara with a 2,000 MT capacity, at Nepalgunj with 7,000 MT capacity and Birgunj and at Tribhuvan Airport in Kathmandu with a capacity of 4,000 MT each to a total capacity of 17,000 metric tons. An office building with a staff quarter and a show room in Pokhara is also expected to see the completion of construction works. Construction of two bayes bridges with a capacity of 30 mectric ton each in Birgunj and Pokhara have also been completed.

4. Jute Development and Trade Corporation:

During the Plan period, this corporation is likely to complete 60 percent of the construction works of the research center building, produce 905 MT. of improved variety jute seeds and 199 thousand mt. of jute forms, sale 784 MT. of improved seeds and exported 123 thousand MT. of jute in addition to completed the construction woks on seed-processing godown.

5. Nepal Oil Corporation:

This corporation is expected to complete construction works of 43 fuel storage tanks to a total capacity of 949 K.L. in Biratnagar, Kathmandu, Bhairahawa and Nepalgunj in addition, to these at Dhangadi and Amlekhgunj which were yet to be completed by the end of the Fifth Plan period. The corporation is also expected to complete the construction of pipe-line, pump-house, tank-lorry sheds and state water tank and other requisite works. In addition, the corporation is expected to import petrol, diesel, kerosene oil, bitumin and other like products to an estimated total of 6,29,521 M.T. during the plan period.

6. Cottage Industry Exports Development Project:

Implemented since fiscal year 1982/83 this project has entered into work-service agreements with five private sector entrepreneurs to produce woolen and cotton textiles for export in Kaski, Syanja, and Gorkha districts of Gandaki Zone in addition into run training programs on production of woolen products, established a sales promotion officer under the name of "Production of Nepal" in New York and arranged for sales promotion and observation tour in India and Asian countries for two teams of exporters.

7. Salt Trading Corporation Ltd.

This corporation is estimated to supply 3,81,211 M.T. of salt and 1,02,921 M.T. of sugar during the plan n period.

The above considerations suggest that though the targets specified for the export sector net and though the foreign exchange earnings from the sector has been increasing in current prices it has to be admitted that net earnings have not increased compared to the earnings have not increased compared to the earnings in the base year. Increasing imports from third countries and the big gap between exports and imports have erodeal the positive contributions from increased foreign exchange earnings from export as a consequence of the revaluation of U.S. dollars. Expansion of development programs on the one hand and delays in the process of industrialization which could lead to the economy towards self-sufficiency on the other call for a concentration

of efforts to reduce the excessive dependence on imports which characteristics the present situation. To reduce the excessive dependence on imports which characteristics the present situation. To reduce the excessive dependence on imports it has become necessary to increase the pace of industrialization to substitute imports, and to develop and expand the export sector to provide foreign exchange earnings for imports of essential commodities.

The new trends, observed during the Sixth Plan period, characterizing exports to be India oriented whereas imports tend to originate from the third country can not be accepted as sign of healthy development in the foreign trade sector. Increase exports to India will indeed help reduce the deficit in Indian currency holdings but this will not help finance the increasing imports bills which have to be paid U.S. dollars. To change this situation, the structure of foreign trade has to be changed to favor greater imports from India or export trade has to be expanded to be diversified both on a country wise and commodity-wise basis to intimate the adverse effects on balance of payments situation.

Transit costs and transit facilities also play a very significant role in the smooth and free conduct of import and export trades. The country still has to face many of the problems arising from the land-locked situation of the country as the program implemented with a view to reduce transport costs and to make the transit systems more efficient during the Sixth Plan have not yielded the expected benefits. However, during the plan period many developments on an institutional basis have been made in addition to the completion of different studies in this area which should pave the way for a more efficient transit system in future. These achievements have to be focused on furthering effort, to ensure the rights to transit facilities and to reduce transit cost to make Nepalese exports more competitive

Objective

1. To gradually make the balance of payment situation more favorable through expansion and development of the export sector.
2. To go on creating necessary infrastructures to make the imports of goods and commodities essential for national development more smooth and well managed.
3. To maximize the benefits of foreign trade to the national economy by making the transit system more efficient and less-expensive.

Policy

1. A plan will be formulated and implemented in a coordinated manpower to expand the export sector through increase in domestic production and through standardization of the produced goods and commodities.
2. A process to diversify and expand export trade will be initiated on the basis of periodic evaluation of emerging trends.
3. necessary steps will be taken to ensure proper use of the facilities provide under bilateral and multilateral agreements to make export sector more responsible to the needs of the nation
4. The role of the private sector will be expanded in the export sector and safe-guards will be provided to the interests of the private sector involved in export activities with out prejudice to the national interest.
5. Necessary amendments will be incorporated in the present acts, rules and regulations governing export trade on the basis of periodic review of such acts, rule and regulations.
6. Protection necessary for the establishment and operation of industries geared towards expansion of exports of towards achieving self-sufficiency will granted through the instrument of appropriate trade policies.
7. Imports priority will be accorded to goods and commodities essential for national development and for daily consumption where imports of other goods and commodities will be discouraged.
8. Necessary improvements will be introduced in the present system of appointment evaluation and incentives to improve the performance and expertise of the public corporations involved in import trade.
9. The structure of import trade will be changed both on a commodity-wise and county and country-wise as may be required in conformity with the trends identified in the balance of payments situation.
10. With a view to reduce transit cost, new transit facilities will be introduced in addition to the existing areas.
11. Institutions involved in the management of transit facilities will be further strengthened and made more efficient.
12. Measures which can contribute towards improving the transit system and towards increasing the storage capacity and which can be immediately implemented with the country will be identified and executed within the country will be identified and executed. Necessary arrangements will be made with the concerned party to extended the broad gauge and meter gauge Indian railway lines to appropriate lines to appropriate places in Nepal in order to remove the present transit difficulties.

Working Policies

1. Efforts will be focused on formulating and implementing an integrated five years plan to increase the production, productivity, quality and volume of exports of industrial and agricultural goods and commodities which are presently exported or which show promises for export to neighboring countries or to third countries on a selective basis.
2. There will be no restrictions on the free movements within the country of goods and commodities identified for promotion of export and either the price nor the quantity of such exportable commodities will be controlled or restricted.
3. An effective system to resolve problems related to production. Productivity, quality and exports of goods and commodities identified in the course of periodic reviews will be developed and implemented.
4. A system will be devised whereby exporters automatically receive the concession and facilities provided for expanding and promoting export trade.
5. In order to maintain the competition of our exporters, a system whereby necessary steps can be initiated on the basis of research and study on the production cost of exportable goods and commodities, current prices of our export in different countries and current prices of our exports in different countries and the foreign exchange regime in the country will be developed.
6. A program aiming at fixing the standards for exportable goods and commodities, establishing laboratory facilities to test the standard and qualities and aiming to provide pre-export tests and certificates will be formulated and put under implementation.
7. Present administrative procedures including those related to the issue of export license, customs examination and banking transaction will be simplified, strengthened and more efficient.
8. It is imperative to improve the present complicated and cumbersome transit process if the export sector is to be expanded and if our exporters are to be competitive with others in the third countries. Hence, a long term and short term plan to make the transit process less expensive and more efficient will be implemented, with the cooperation of the neighboring country, if necessary, on a priority wise basis.
9. Especial efforts will be made to implement programs, with the cooperation of the neighbouring country to link either by metergauge or by broad gauge railway link, appropriate places in Nepal directly from Calcutta port which would help make Nepal's trade with third countries expensive and more simplified.
10. A plan will be formulated and implemented to extend and strengthen the container track facilities.
11. Administrative procedures, both in Nepal and in the neighboring country, related to customs-check, clearance and other such procedures governing the trade to and from third countries will be studied and necessary steps to simplify these procedures will be initiated.
12. Programs directed at developing manpower in areas such as godown clearing and forwarding, supervision endurance procedures, customs checks and other procedures related to transit system will be implemented.
13. Measures aimed at the protection of industries which produce essential consumption items and/or constructional material such as textiles paper, soap, cement, matches and sugar and which substitute imports will be implemented in addition to providing incentives, facilities and necessary assistance to industrial ventures to be established in these areas.
14. A separate institutional arrangement will be made to ensure adequate and well-managed supply of coals less expensive.
15. Storage capacity will be improved in addition to the construction and necessary strengthening of basic facilities at the main transit points, main commercial centers near by to India boarder, Trighuvan Airpport, Biratnagar, Bairahawa, Birgunj and at Nepalgunj

The following target has been specified for the export sector on the basis of the objectives, policy and working policy enumerated in the foregoing paragraphs.

With export earnings of the fiscal year 1983/84; as the base figure, a target to increase export earnings by 2.5 percent (year 1983/84 constant prices) to a total of Rs. 11640 million or by 10.7 percent in current prices to a total of Rs. 15760 million during the Seventh Plan period has been accepted as a feasible goal. List of goods and commodities to be exported is presented in appendix 3. Regarding imports, it has been estimated that at an annual rate of growth of six percent at constant prices, the total value of list of the 4. The gap between export earning and imports expenditure is likely to widen still further on the basis of projected figures of export earnings, estimated expenditure on imports. Appropriate trade policies will be formulated and implemented to promote and protect domestic products which can contribute towards the achievement of self-sufficiency in the economy as a favorable balance of payments is possible only if the exports can be significantly increased and imports decreased.

Major Programs in the Trade and Supply Sector

1. Trade Promotion Center

This center will undertake studies on internal production, distribution, inventory and export markets in collaboration with the concerned agencies and prepare and implement programs directed at on a selective basis, promotion of exports to neighboring country and to third countries of items such as woolen carpets, leather and hides, woolen and cotton ready-made garments, handicrafts, raw-jute and jute products, pulses, vegetable seeds, oil seeds and tea. The center will run especial programs directed at promotion of trade in different commodities in addition to undertake studies in different aspects related to expanding the market of export items in the third countries, the structure of Indian market, and study and trade position at the northern border. This center is also expected to participate, along with the private sector, in many an international fair, organize five national-level exhibitions, run trade information service and training programs and study the regional composition of exports.

2. Nepal Transit and Godown Co.Ltd.

During the plan period, this Co. is expected to construct five godowns with a total storage capacity of 14 thousand metric ton in place adjoining Indo-Nepal boarder such as Biratnagar, Birgunj, Bhairahawa, Nepalgunj and at Tribhuvan Airport in addition to a godown with 7,000 M.T. capacity and other administrative buildings at Haldia port in India. This company will also run a multi-model container service right from the port area to Nepal strengthen transit information service center, engage in clearing and forwarding services and run training programs on transit and godown management.

3. National Trading Limited

This institution has a set of program aiming at imports of goods and commodities specified as essential, development related and construction materials to a total of Rs 2600 million, procurement of products of domestic industries equivalent to Rs. 1000 million, export of goods and commodities equivalent to Rs 50 million and construction of godowns in Dhangadi and in Mahendranagar with capacity each of 1 and 2 thousand metric tons and construction of office buildings.

4. Cottage Industries Export Development Project

This project, run from fiscal year 1982/83 with the assistance of the World Bank, has a program with components such as running training programs to enhance the level of skill of those involved in the cottage industry sector, entering into service agreements with 40 entrepreneurs to produce and export high quality products, providing consultancy services to 500 producers and exporters on the selection of exportable commodities, quality improvement and the practicalities involved in export trade, arranging for study and export promotion tour for producers to five overseas markets, participating in 10 international fairs and exhibitions, organizing 10 exhibitions and five seminars in the country disseminating information to 100 exporters and producers through the medium of write-ups, and a component aiming at 15 publications in English and 30 publications in Nepali on cottage industry for implementation during the Seventh Plan period.

Chapter 35

Tourism

Introduction

The contributions of the tourism sector in the overall national development have been quite significant. Specially, this sector has contributed significantly in the balance of payments situation through foreign exchange earning and in the creation of employment opportunities. Nepal is endowed with unique cultural traditions, majestic panoramic scenes and with the highest snow-capped mountains which do not fail to tempt and challenge the courageous ones. The rare flora and fauna, religions and cultural diversity and the simple and quiteless life-style of its people have added to the attraction of Nepal as a tourist centre. Efforts to develop and capitalize on these features of the country have been going on for a number of years. But even then, the benefits of tourism sector has been limited to a few pockets of the country and there have been going on for a number of years. But even then, the benefits of tourism sector has been limited to a few pockets of the country and there have been no significant successes in expanding the role of this sector in an organised and well-planned manner to realise the potential benefits in the overall national development endeavours. Even the increase in the flow of tourists to other areas outside Kathmandu has not yielded the expected benefits to the general mass. Only a few places of tourist attraction have been developed and these places have been the inflow of tourists for a relatively long period with a consequent decline in the attraction of these places. On the other hand, lack of infrastructural development has hindered the development of other beautiful places as center of tourist attraction. The need of the day is to develop tourism sector not only as a medium of foreign-exchange earnings but also as a catalyst which can contribute positively to the whole development process.

Tourism Development in the Sixth Plan

The total number of tourists who visited Nepal in fiscal year 1979/80 (i.e. the last year of the Fifth Plan) was 1,62,276. The number of visitors increased by only 0.4 percent and by 0.8 percent respectively in the first and second years of the Sixth Plan period whereas there was an encouraging increase by 8.5 percent in the number of tourists visiting Nepal in the third year. However, the rate of increase again slowed down to only 2.4 percent in the fourth year. Data on the number of tourist arrival suggest that a total number of 6,79,420 tourists visited Nepal in the first four year of the Sixth Plan period. The average rate of increase during the first four years of the Fifth Plan was 15 percent whereas the rate of increase has declined to only 3 percent during the same period of the Sixth Plan.

Of the total number of tourists who visited Nepal in the last year of the Fifth Plan period (1979), 12.04 percent came from North America, 1.1 percent from Central and South America, 42.0 percent from West Europe, 10 percent from East Europe, 0.20 percent from Africa, 36.50 percent from Asia, 5.7 percent from Australia and the Pacific and 0.10 percent came very areas during the first four years of the Sixth Plan (up to 1983) suggest a slight increase for almost all the sources, the trend of yearly increase, by that except for Asia (in which the majority is from India). Europe occupies Europe was 43.2 percent of the total tourist arrivals whereas arrivals from over five percent. The number of tourist arrivals from Asia was 36.5 percent period which has increased by about five percent to claim a share of 41.6 percent of the total tourist arrivals in 1983. These figures reveal that the member of tourist arrivals from the region itself is on the increase. Looked in totality, Europe still occupies the most important place except for Asia as the source of tourist arrivals.

The trend of foreign exchange earnings, during the last four years from the tourism sector is not very encouraging. Foreign exchange earnings from this sector increased by 24.5 percent in 1979 (The last year of the fifth plan) compared to 1978 but the trend has been much more erratic during the Sixth Plan period. For example, in the first year earnings increased by 18.9 percent, declined by 19.9 percent in the second year, again declined by 0.6 percent in the third year and increased by 19.3 percent in the fourth year of the plan. Thus, though there has been some increase in the number of tourist arrivals foreign exchange earnings have failed to increase. This state of affairs suggests just the increase in number of tourist arrivals does not guarantee, by itself, increase in foreign exchange earnings and that qualitative improvements are also called for.

The average duration of stay of tourists in Nepal was 11.5 days in 1983. 65.5 percent of the tourists stayed for a period of 1 to 7 days. Taking this fact into consideration, there still seem to be a number of possibilities in increasing the duration of stay of tourists. The figure for 1983 reveal that of the total number of 1,79,405 tourists who came to Nepal, 32,298 or 18 percent went on for trekking, mostly in Annapurna, Manang and Jomsom areas. A number of these trekkers also go to Everest, Helambu and Langtang areas. Except for these areas, only 417 trekkers went to other parts of the country. Earnings from trekkers in 1983 came to about Rs. 38,75,760 (calculated on the basis of average duration of 14 days and visa charge of Rs. 60 for one week). Earnings from their source can also be significant by increased if tourist facilities could be extended to other areas of the country as well.

That mountaineering is also an attractive area for promotion of tourism is substantiated by the number of applications received for mountaineering permits to scale the major peaks of Nepal. Of the 1310 peaks higher

than 6000 metres, Nepal has opened 115 peaks to mountaineering expeditions. During the Sixth Plan period (from autumn 1980 to 1985 spring) there were 411 mountaineering expeditions and it is estimated that these expeditions generated employment opportunities for about 2000 persons engaged in climbing. Royalty from these expeditions totalled Rs. 6,001,549 whereas these expeditions are estimated to have spent Rs. 83,450,962 in their stay in Nepal. In addition, those teams also paid a premium of Rs. 2,076,838 on insurance of Nepalese climbers. Thus, a total income of Rs. 91,529,349 equivalent of foreign exchange is estimated to have accrued to Nepal from mountaineering expeditions during the Sixth Plan period.

The number of hotel-beds in Kathmandu in 1979 totalled 4925 which have registered an increase of 38.45 percent to reach a total of 6819 in 1983. The occupancy rates, based on 1983 figures, came to 32.9 percent in the hotels of Kathmandu whereas it was only 28.9 percent for hotels outside Kathmandu. The average duration of stay of tourists in hotels was rather low with only 2.6 nights per tourist.

Most of the tourists coming to Nepal seem to come for entertainment. For example, of the total number of 162,279 tourists who visited Nepal in 1979, 79 percent listed entertainment as the purpose of their visit. In 1983, 73.8 percent of the tourists also listed entertainment as the main purpose of their visit.

Of the total number of tourists visiting Nepal in 1979, 60 percent were male and 40 percent female. Looking at the age composition of these tourists, we find that 36.2 percent belonged to the 16 to 30 year age-groups and 29.8 percent belonged to the 31 to 45 year age group. In 1983, the percentage of tourists in 16 to 30 age-group was 23.8 with those in 31 to 45 age-group being 31.5 percent. Thus, the number of tourists on the younger age-group seems to be on the decline. The implications of these decline on foreign exchange earnings perhaps merit deeper probings.

The total number of tourists visiting Nepal in the first six months 1984 was 91,233 which reflected an increase of 9.1 percent compared to the figures for the same period in 1983. Of the total number of visitors in the first half of 1984, 9,320 were of American origin, 6930 were British, 7691 French, 4790 German and 3650 were from Japan.

Foreign exchange earnings from tourism sector in fiscal year 1983/84 totalled an equivalent of Rs. 586 million. Though this figure was 19.35 percent higher compared to the earnings from this sector in fiscal year 1982/83, year 1980/81. Foreign exchange earnings from tourism sector was an equivalent of Rs. 617 million in fiscal year 1980/81 and equivalent of Rs. 494 million in fiscal year 1981/82.

Review of Programs Included in the Sixth Plan

1. Sixth Plan had Included the preparation of a 'tourism master plan' (second-phase) – A team of experts under the assistance of European Economic Community visited Nepal in the fourth year of the plan period and have completed a tour of possible tourist resort in addition to holding extensively discussions with concerned Nepalese authorities and a detailed review of the tourism master plan (first phase). Based on information received, the team of experts has already submitted their report to the Community with recommendations on the actions to be initiated in the tourism sector. Thus, it is expected that the tourism Master Plan (second phase) will be completed as specified by the plan.
2. Under the Himalayan Region Mountaineering Development Project, development of picture of 87 snow peaks and trekking-routes, publication of and distribution of 200 brochures and grant assistance to Himalayan Rescue Association were with activities specified for implementation. Picture-works of the 87 peaks have been completed and an annual grant assistance of Rs. 25,000 was provided to the Association in addition to extension a grant of Rs. 1 million to Mountaineering Association to acquire land in Pokhara to establish a Himalayan museum. A grant assistance of Rs. 50,000 was also extended to Trekking Association for the registration of porters and a cleaning campaign was also completed in the base camp of Mt. Everest.
3. The following research and study activities were identified for implementation during the Plan period under Tourism Survey and research Project.
 - a) canoeing
 - b) increase in earning and employment opportunities through tourism
 - c) development of man power in tourism sector
 - d) effects on ecology from mountaineering
 - e) tourism development in and around Tapatani
 - f) feasibility of ballooning, and
 - g) feasibility of skinning

Of these, research studies on 'canoeing' and on 'increase in earnings and employment opportunities through tourism' have been completed. In addition, a publication highlighting such aspects as the routes taken by tourist to visit Nepal, foreign-exchange earnings from this sector, details on airlines, hotel-beds, average duration of stay of tourists in Nepal and foreign visits by Nepalese which have direct relevance to research to the development of tourism sector has been brought out on a yearly basis.

In the areas of developing tourists in different places in the country, survey of Autodanda and Mia-Pokhari in Illam, Sanguro Dandan of Dhangadi, Tyamke Danda of Bhojpur, halesi Mahadev of Khotang, trekking routes to Lukla-Tumling, Langtang-Goisaikunda-Helambu, Timaalnayan in Kavre, Gupteshwore cave Panchalesek in Parbat, trekking route to Pokhara-Dhorpatan, Dumre-Manang, Pokhara-Jomsong, Muktinath-Lumbini, Tilaurakot, Khaptad, Dandeldhura, Darchula and survey of Shuklaphant have been completed and even the survey-reports of these places have been completed.

4. Under the Resort Area Development Project, plans to develop resorts in Illam, Dhankuta, Kulekhani, Rupa Taal, Begnas Taal, Srinagar and Rara were to be prepared in implemented with the establishment of offices in three areas. Survey-reports on Illam, Dhankuta and Rara area have been prepared and completed with the assistance of World Tourism Organization. Land covering an area of 135 ropani has already been acquired to develop hilly area of Dhankuta as a tourist resort and a study has already been commissioned with APROSC as the executing agency to identify and develop detailed construction plan of the resort after necessary contour survey. The report is expected to be submitted by APROSC by the end of the plan period. The private sector is engaged in the construction of restaurants and house-bot and other activities for tourist attraction in Begnas Taal as this Taal has been leased out to this sector. Construction of two cottages, drinking water supply system, lavatories and approach road in addition to the planning of trees have been completed in Srinagar with investment from the Tansen Town Panchayat as well. A grant of Rs. 50,000 was made available to the District Panchayat, Jumla to construct camping site in Lavra village panchayat which falls on the route to Rara,. Construction activity has started with this assistance, but completion of the works is likely to take some more time
5. The private sector was to operate a cable car after His Majesty's Government had provided the necessary land in Shivapuri. His Majesty's Government had completed the preliminary process for land acquisition and even a tender was called out to select the right party from among the private sector for operating the cable car. However, Shivapuri Watershed Development Committee has decided, on the basis of the possible effects of cable car operation on the environment of this area, to cancel the program on cable car operation.
6. Remote Area Tourism Development Project had a program to open ten trekking routes and improve the opened routes, develop camping sites and to repair and renovate Muktinath area. In conformity with the program objective, 25 ropanis of land have been acquired and developed for campaign purposes in Phaliya Sanghu in Dumke-Manang trekking route, Pisang in manmang, Lumsung and Babaiyachaur along the Pokhara-Dhorpatan trekking route and in Syangboche in Lamosanghu-Everest trekking route. In addition, construction of covered fire place, toilet and drinking water system in Muktinath area have been completed and notice boards have been installed in Pokhara-Jomsom, Helambu-Langtang trek routes and I the base camp at Lukla, Mt. Everest.
7. Tourist office, Pokhara and Tourist Information centers in Janakpur, Kakarbhitta, Tribhuvan International Airport, Basantapur, Birgunj and Bhairahawa were to be strengthened and improved in a physical sense during the plan period. Physical improvements of Tourist office, Pokhara and Tourist Information Centers in Tribhuvan International Airport, Basantapur and Birgunj have completed while the construction works of Tourist Information Center, Bhairahawa is expected to be completed by the end of the plan period.
8. 8 Sheds were to be constructed along Arniko highway and along Prithvi highway during the plan period. A shed was constructed in Arniko highway which however was washed away by the exceptional flood of 1981 whereas no sheds have been constructed along Prithvi highway.
9. A program to survey and develop hot water springs in Sindhupalchowk and in other areas were specified for implementation during the Sixth Plan period. Repair and renovation of the hot spring in Singhupalchowk was undertaken and completed in the Fifth Plan period itself. During the Sixth Plan, certain infrastructures including lavatories and toilets were constructed in this area which however, were washed away by the flood in 1981. Repair and renovation of the hot spring area in Kali Gandaki, Myagdi has been undertaken with people's participation.
10. Under the tourism materials production, distribution and promotion program, activities such as bring out 4 million brochures, posters, stickers and badges, production of two documentary films, reprinting hundred copies of films, advertising 150 times, in international newspapers and journals, extending hundred invitation to distinguished international travel writers television representatives, journalists and airlines representatives with a view to promote knowledge on Nepalese tourism, participating seventy five times in seminars, conferences, meetings and exhibition on tourism and seeking membership of international bodies and associations on tourism were specified for implementation. In all, a total number of 2.13 million copies of different brochures, 465 thousand copies of poster, 227 thousand copies of stickers were published and 11,017 badges were printed and distributed. Three documentary films were produced, 81 copies of films were reprinted, 158 advertisements in international papers and journals were issued, representatives of airlines and television, journalists and travel writers were invited and hosted 79 times, participation in foreign exhibitions, fairs, seminars and meetings were made 71 times in addition to organizing a meeting of International Hotel Association, International PATA

Cultural Heritage Seminar and a meeting and workshop of World Tourism Organization Commission for South-East Asia. Membership of American Association of Travel Agent was also secured during the period. In the area of developing manpower for the tourism sector, a training program on different subjects to train 130 persons at basic levels, 280 persons at middle level, 210 persons on trekking and tourist guides and 15 persons at management level to a total of 625 persons was specified for the Sixth Plan period. In fact, 95 persons at the basic level 244 persons at the middle level and 264 persons on tourist and trekking guiding to a total of 603 persons were trained.

11. Construction of Tourism Directorate was started in the fourth year of the plan which, however, is expected to be completed by the end of plan period, Toilets and lavatories have also been construction in Durbar Square, Patan and in Bhaktapur.

12. At the district level, activities such as development of hoot-spring areas, sight seeing places and camping sites and conservation of village with rich cultural heritage were identified for implementation. According, the hot spring at Kali Gandaki, Myagdi district was repaired and renovated and grant assistance was provided to District Panchyat Gorakha for 5th the construction of a camping site at Palsang Danda and to Illam District Panchyat for the construction of a sight seeing shed at Antudanda.

Under tourism development program in Pokhara, 25 ropanis of land have been acquired trees planted and surrounding was constructed in Tutung area which commands a beautiful scene of Seti river and the surrounding snow peaked mountains' a guard house was constructed with surrounding walls, trees planted and supply of electricity and water was ensured in 49 ropanis of land acquired for camping development around Phewa Taal. The sheep firm in Ghandruk village panchayat in Kaski District was repaired and renovated for the purpose of turning it to a tourist guest house, a garden was developed, a toilet constructed and supply of electricity was arranged for at Mahendra Cave; shed was constructed at the premises of Buddha Sadan and spot signs were arranged for at different places in Pokhara. The Seventh Plan has identified and developed the following objectives, policies, working policies and programs for the tourism sector.

Objective

1. To improve the balance of payments situation through increased foreign exchange earnings by attracting the upper class tourists.
2. To generate new opportunities of employment by enhancing tourist related business and by stressing their capacity utilization.
3. To increase the duration of stay of tourist and to ensure a wider distribution of tourists generated income by expanding the tourism related activities and business to those areas, which have the necessary infrastructure.
4. To produce to the maximum possible extent, goods consumed and utilized by the tourism sector domestically to reduce imports and to encourage domestic industries.

Policy

1. Tourism promotion activities will be further intensified in places of tourists' interests.
2. As compared to other countries of the region, it has become essential to increase the number of tourists visiting Nepal. Hence, to this end, different taxes, levies and other rules and regulation presently in practice and related to tourists, will be simplified and made more timely after a through review.
3. Investments from both the public and the private sector will be encouraged to develop and extend tourist related facilities in such areas where infrastructures have been developed and which hold promises for tourist attraction.
4. Mountaineering tourism development will be further developed with concentration of efforts on mountaineering and trekking.
5. In addition to the traditional sources (Europe and Western Countries,), efforts will be intensified to attract tourists from Asian countries and to this end, different measures will be implemented including those related to pilgrimage.
6. All services such as airport, hotels and internal flight services related to tourism promotion will be further strengthened and improved.
7. The atmosphere and surroundings of cultural, religions an historical heritage and of the tourist centers will be conserved and protected.

Working Policy

1. Private sector, and to the extent private sector is not forthcoming, local business enterprises will be encouraged to established a publication office to promote tourism in the places from where a large number of tourists originate. In addition to this arrangement, Royal Nepalese Embassies and Consulates will also be actively involved in promoting tourist.
2. Emphasis will be accorded to arrange for charter air services from the points of origin of tourist to Nepal directly with a view to increase the number of tourist visiting Nepal.

3. Greater participation in exhibitions, fairs, seminars and a greater dissemination of information will be encouraged to attract greater number to tourists.
4. Studies will be undertaken of certain places of tourist origin to ascertain the possibility of opening tourist information centers in future.
5. Physical facilities and atmosphere of Tribhuvan airport which is major point of arrival of tourists, will be improved by making the facilities available at the terminal building more scientific and skilled and by simplifying and improving the customs inspection procedures
6. Internal services of RNAC will be made more reliable and regular whereas the external services will be made more competitive with other airlines.
7. Efforts will be made to the possible extent to develop related places of tourist attractions and where necessary infrastructures are already available as tourist resorts on the basis of master plan
8. Promotional activities will be further intensified in the existing market as well as in South and South East Asia including India and a policy of mutually expanding tourist inflow will be pursued on a regional basis.
9. Trekking service and facilities will be expanded in addition to encouraging such activities as mountaineering tourism and incentives will be provided to increase the expertise of the private sector involved in such activities.
10. Feasibility studies on facilities needed for prolonging the duration of stay of tourist will be undertaken and the necessary facilities and services will be made available through the private and the public sector.
11. With a view to protect already created tourism related facilities from weathering effects, religion related tourism on a regional basis in addition to domestic tourism will also be encouraged and developed.
12. Conservation efforts of historical, cultural and religions monuments will be done at a more speedy pace and necessary financial and other facilities for their establishment will be provided.
13. Industries which can domestically produce goods imported hitherto for the consumption of the tourism sector will be identified and necessary financial and other facilities for their establishment will be provided.
14. Skilled qualified manpower will be developed to fill up the employment opportunities created by the development of the tourism sector. For this, hotel management and Tourism Training Center will be strengthened on a permanent basis and its physical facilities and training capacity will be increased. Necessary rules and regulation will be formulated and implemented to reduce the involvement of non-citizens in this sector.
15. With a view to develop places of tourist attraction in Mid-Western Development Region, infrastructures will be developed and air-links provided at appropriate places in those areas, which show the potential.
16. Acts and rules and regulations presently in practice will be reviewed and timely improvements and simplification incorporated ensure against a decline in foreign exchange earnings from this sectors. In addition, necessary steps will be initiated to check against any leakage of these earnings.
17. Arrangements will be made to establish a trust to conserve and to check against possible pollution, trekking-routes, mountaineering routes, base camps and areas of historical and cultural importance. The following Projects have been included for implementation in the Seventh Plan.

1. Himali Region Mountain Tourism Development

To attract tourist interested in mountains to provide detailed information and services and to strengthen the control system, activities such as fixing the number of trekking permits, cleaning of one mountain peak, as fixing the number of trekking permits, cleaning of one mountain peak, establishing medium of communication in three places, increasing the awareness of the local people on tourism and on ecology, broadcasting of weather forecasts and other relevant information, provision of grants to Himalaya Rescue Association which is involved in the rescue of trekkers and mountaineers, preparation of technical reports on river rafting, hang-gliding and balloon flying and the publication of a hand book of tourist related information are envisaged to be implemented during the Seventh Plan.

2. Tourism Survey and Research

Established with the aim of collecting data and of undertaking research studies related to tourism sector, this project has program components such as survey of thirty places to assess their tourist attraction, research study on five areas related to tourism and publication of five booklets with data and information on tourism sector, planned for implementation during the plan period.

3. Resort Area Development

This project, with the main thrust of its functions directed at expanding the tourism sector and thereby increasing employment opportunities, has identified activities such as construction of cottages and other facilities in locations identified by the feasibility study in Hile, Dnankuta district, construction of restaurant and other assets in Srinagar, Palpa in conformity with its master plan, development of necessary infrastructures on the basis of the feasibility study of Rara area in Mugu district, undertaking of feasibility

studies and then development of necessary infrastructures in Makawanpur, Tikapur Chisapani area (Kailali), Antudanda (Illam), Dhorpatan (Baglung) and in Kulekhani (Makawanpur). A plan to develop areas around Annapurna Mountain as tourist resort will also be developed and implemented under the auspicious of the Ministry of Forest.

4. Strengthening of Tourist Services

Completion of the construction works of the Directorate and arrangement of facilities such as reception hall, furniture and sanitation and other machineries, construction of Tourist Information Center in Birgunj and Janakpur, provision of necessary facilities at the existing center in Bhairahawa, development of sanitary and drinking water facilities at the existing center in Kakarbhitta, renovation and expansion of the tourist guest house in Kankai and repair and renovation of the Snow View Hotel run by the tourist office are the activities to be implemented under this heading during the Seventh Plan period.

5. Pokhara Tourism Development

This project, implemented with the objective of developing and extending tourists facilities in places of entertainment and attraction to tourist with a view to prolong the duration of stay of the twenty percent of the total number of tourists who visit Pokhara, has identified program components such as construction of road ground Phewa Tal, land scaping and planting of trees at the camping sites in Phewa Taal and Tutung and construction of the approach road to tourism office in Pokhara for implementation in the plan period. In addition, there is a program component to develop infrastructures to attract tourists to Sarang Kot and other adjoining areas of Pokhara.

6. Production and Distribution of Information Materials

Implemented with the objective of producing and distributing information material on the natural, cultural, social and historical heritage of Nepal to tourists both within and outside the country, this project is expected to implement activities such as publication of 3 million brochures on different aspects of Nepal, 0.9 million copies of six different types of posters and issuance of 0.4 million copies of stickers, production of two 16 mm. documentary films, reprinting of 100 copies of video cassette, production and distribution 20 thousand units of polythene or jute bags, construction of a dark room in Department of Tourism, collection of 10 thousand slides and of 5 thousand color and black and white pictures and modern of the design unit during the period.

7. Tourism Promotion

Implemented to provide information and knowledge in major sources of tourists origin and to tourists visit in Nepal, the program area of this Project during the plan period is expected to encompass activities such as advertising 175 times in different international papers and journals, advertising five times on television, participating hundred times in international and regional tourism promotion congregation, visiting and organizing five tourist promotion activities in countries which are major sources of tourists, extending hundred invitation to representatives of airlines and travel trade in addition to reputed travel writers, journalists, radio and television artists, operating public relation offices at major sources of tourist origin on the basis of a feasibility study, securing membership of important international tourism related bodies and agencies, organizing a joint meeting W.T.O. and C.C.A. and two other seminars, participating in five seminars and promoting of tourism in South and South-East Asia and joint basis for implementation.

8. Establishment of New Tourist Information Centers

With a view to make available necessary information and services to tourists who go out on trekking, new Tourist Information Centers will be established at Namche in Solukhumbu and at Jomsom in Mustang during the Seventh Plan period.

9. Hotel Management and Tourism Training Center

Established with the objective of enabling domestic labour to gain greater access to employment opportunities created in the tourism sector through appropriate training and skill enhancement, this center has aimed at training 340 persons on subjects related to hotel management and services, 90 persons on foods preparation and control, 25 persons on general management, 850 persons tours and travels, 500 officers on liaisoning with mountaineering teams and training 100 government officers on tourism related business during the plan period. In addition, awarding scholarships to six persons, undertaking research works and improving and developing physical facilities are also expected to be executed. Necessary arrangements also envisaged to improve the quality of the training programs and to develop this center as a permanent body with necessary strengthening.

10. Extension of Tourism Services

Run with the objective to provide necessary facilities along the highways to visiting tourists, this projects is expected to undertake development 3 parking places on the basis of feasibility, along Kathmandu-Kakarvitta highway, 2 parking places along Kathmandu-Bhairahawa route, 1 parking place each along Prithvi Highway and Lamosangu-Jiri road in addition to the supply of drinking water and toilet facilities in these places.

11. Expansion of Tourist Areas

Started with the objective of promoting tourism to different and new areas with historical or scenic attractions, this project has identified components such as development of essential infrastructure at Changuarayan, conservation and construction of Taro Pani area in Sindhupalchowk including development of infrastructures, development of infrastructures at Mai Pokhari (Ilam), Begnas Taal in Pokhara, Swargadwari in Pyuthan, Shuklaphanta in Kanchanpur and at Khaptad area in Doti in addition to undertaking repair and renovation works in Gupteshwore cave inn Kushma for implementation during the plan period. The private sector will be encouraged to promote Kathmandu, Pokhara, Palpa, Lumbini and Chitawan national Park in the form of a tour package.

12. Trekking routes and Community Projection

Developed to provide necessary services to tourists going out on treks in addition to conserve ecological balance and to attract tourists to these committees which have rich cultural heritage, this project is expected to develop three camping sites and expand necessary infrastructures along the Helambu, Gosain Kunda and Langtang Trekking-routes establish three fuel depots and open up trekking routes to the northern parts of Gorakha, Lamjung and Manang and to develop tourist infrastructures in these place during the Seventh plan period.

13. Mobile Tourist Police

A mobile tourist police patrol team with necessary facilities and equipment will be organized and operated in Kathmandu and Pokhara area during the Seventh Plan period with a view to further enhance the positive feeling of tourists on Nepal and to control crimes such as cheating of tourists, beggary and other harassment. In addition, necessary measure will be implemented to further strengthen the safety measures along the trekking routes.

14. Tara Gaon Development Committee

The Hotel Village Project, located near Baudha in Kathmandu run by this committee was started with a view to acquaint top class tourists to the traditional Nepali hospitality and to the historical, cultural and artistic aspects of Nepalese life in addition to discouraging cheap imitation and imports. During the Seventh Plan period, the capacity of this Hotel village will be expanded to 307 rooms with loan assistance from the Danish government and construction of an international conference room, dining hall, dance hall and temple building will be undertaken in addition to the construction of village building reflecting geographical regions.

15. Under the decentralization plan, activities such as development of infrastructures at Antudanda and Mai Pokhari, expansion and improvement of physical facilities in Muktinath area of Mustang, repair and renovation of Gupteshwore Cave in Parbat and protection and conservation of hot spring areas in Singhupalchowk and Myagdi will be implemented during the plan period.

APPENDIX -1

Number of Tourists Arrival in Nepal, 1979-83

Year	Total			By Air		By Land	
	Number	Annual rate of change	Index	Number	Percentage	Number	Percentage
1979	162276	3.9	2626	137865	85	24411	15
1980	162897	0.4	2636	139387	86	23510	15
1981	161669	0.8	2616	142084	88	19585	12
1982	175448	8.5	2839	133309	87	21939	13
1983	179405	2.3	2903	152470	85	26935	15

Source: Department of Tourism.

APPENDIX - 2

Nepal-Foreign Exchange Earnings from Tourism in 1978/79-1983/84

Total Earning

Fiscal Year	Rupees (in thousand)	U.S. dollar (in thousand)	Variation over previous year
2035/36 (1978/79)	416592	35007	21.6%
2036/37 (1979/80)	518706	44716	24.5%

2037/38 (1980/81)	616795	51831	18.9%
2038/39 (1981/82)	493842	38149	-19.9%
2039/40 (1982/83)	491077	35072	-0.6%
2040/41 (1983/84)	586000	-	19.3

Appendix - 3

Nepal Tourism market Growth Trends: 1979-1983

Year/C ontinent	North USA	Central & South USA	Western Europe	Eastern Europe	Africa	Asia	Australi a & The Pacific	Others	Total Market
1979	583	3457	3444	5941	5237	23694	8009	696	2626
1980	478	4059	3553	7254	8900	24766	6906	916	2636
1981	459	3207	3202	7359	6775	27685	6402	2404	2616
1982	537	3248	3469	6427	9600	29527	7200	2345	2839
1983	606	1807	3362	8963	13275	29866	8688	5845	2903

Source: Department of Tourism

Appendix - 4

Trend of Tourist Arrival in Nepal According to Mode of Transport and Airlines 1979 - 1983

Mode of Trans port/ Year	Unit	Bangl adesh Bima n	Indian Airlin es	P.I.A.	R.N. A.C.	Thai	U.B. A.	Other s	Total No. by airline s	By land	Total
1979	No.	339	47949	-	69457	14569	2530	21	13786 5	2441	16227 6
	%	2.1	29.5	-	42.8	9.0	1.6	0.0	85.0	15.0	100
1980	No.	3944	52392	-	68727	12565	1738	19	13938 7	23510	16289 7
	%	2.4	32.2	-	42.2	7.7	1.9	0.0	85.6	14.5	100
1981	No.	4790	59492	-	62064	11955	34.14	679	14208 4	19585	16166 9
	%	3.0	36.8	-	38.4	7.4	1.8	0.5	87.9	12.1	100
1982	No.	4865	74274	-	59001	13472	1484	413	15350 9	21939	17544 8
	%	2.8	42.3	-	33.6	7.7	0.9	0.2	87.5	12.5	100
1983	No.	4255	76347	584	50711	17624	1997	952	15247 0	26935	17940 5
	%	2.4	42.6	0.3	28.3	9.8	1.1	0.5	85.0	15.0	100

Appendix - 5

Nepal-Tourist Departure By Actual Length of Stay 1983

Visitors Staying	No. of Departures	Percentage
1-7 days	99171	65.5
8-15 days	21211	14.0
16-30 days	17629	11.7
31 days & more	11863	7.8

Unspecified	1527	1.0
Visitors Staying	Visitors days	Percentage
1-7 days	362835	21.0
8-15 days	227164	13.1
16-30 days	460099	26.6
31 days & more	678604	39.3
31 days & more	678604	39.0
Total	1728702	100.00
Total Departures -	151401	
Unspecified departure -	1527	
Total Visitors with specified length of stay	149874	
Total Visitors day	1728702	
Average length of stay		11.5

Source: Department of Tourism
Note: Including Indian Tourist

Appendix - 6

Nepal Number of Trekking Permit Issueation 1983

Month/Trekking	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Everest	319	506	978	673	175	274	27	56	338	1936	1011	689	6732
Helambu Langtang velley	214	199	610	444	150	50	60	65	210	1072	603	353	4030
Annapurna, Mangang & Jomsong	1103	1561	3430	2174	872	229	271	375	1190	4784	3048	2082	21119
Others	47	31	49	2	7	1	6	5	36	127	30	76	417
Total	1683	2297	5067	3293	1204	304	364	501	1774	7919	4692	3200	32298

Source: Central Immigration Office, Kathmandu

Appendix - 7

Nepal Hotel Industries Data, 1983

Capacity	Total
Kathmandu	
Rooms	20695
Beds	40031
Outstation	
Rooms	4338
Beds	8576
Total	

Rooms	25033
Beds	48607
Total arrivals	179638
Total guest nights	475314
Average guest nights (per arrival)	2.6
Bed occupy in percentage	
In Kathmandu	32.9
Outstation	28.9
Source: Department of Tourism	

Tourism
Expenditure Outlay in the Seventh Plan

		(in million rupees)
SN	Name of the Project	Expenditure
1.	Planning, Training & Research	16.000
2.	Promotion of Tourism	27.000
3.	Regional Tourism Development & Expansion	28.000
4.	District Level Projects	3.400
	Total	74.400

CHAPTER 36

LABOUR

Introduction

An increase in per capita productivity with positive effects on the gross domestic product is possible only if the problems related to unemployment and underemployment can be fully tackled. The unemployment situation does not present a really discouraging picture as only 5.62 percent of the labour force is estimated to be openly unemployed. However, data on underemployment present an alarming picture as 63.7 percent of the labour force in rural areas and 44.7 percent of the labour force in urban areas are underemployed. With annual growth rate of 2.66 percent during the 1971-81 decade, there has been an excessive increase in the size of the population with consequent effects on the size of the labour force. During the decade, the number of those reaching the age bracket of economically active labour force increased by 51.05 in the hilly region and by 38.60 percent in the Terai region. The labour force is estimated to grow by about 0.2 million persons per year, calculated on the basis of this rate of growth of the total population. The rate of increase, on the basis of the result of 1981 census is estimated at 1.36 percent in the mountainous region. These figures suggest that as compared to the mountainous region, population pressure on the limited arable land of Terai is increasing whereas this pressure (which was rather high) seems to be gradually easing out in the mountainous region. The easing of population pressure in the mountains could also be interpreted to indicate increased migration the Terai.

It can be accepted that a natural outcome of the relatively high level and pace of infrastructural development in Terai has been an increase in the pace of urbanization. This leads to the possibility that the problem of underemployment is also getting more and more complicated in the urban areas as well.

Increasing urbanization and migration have led to a growing concentration of population in the Terai area with significant increase in the size of the labour force which can not be fully mopped-up by the employment opportunities created thereby ongoing development works thereby suggesting that the problem of unemployment and underemployment are not getting any better even in this region whereas in the hilly region, given the relatively limited level of ongoing development activities and given the lack of the significant positive changes in the agricultural and non agricultural sectors, the unemployment and underemployment problems are getting worse. In the mountain areas, these problems can be assumed to be more acute as opportunity for gainful activities is limited to the monsoon season only. However, it can be assumed that a large segment of the labour remains idle in this area due to the shortage of employment opportunities. Thus, looking at the problem from a national perspective, it has to be accepted that the problems of unemployment and underemployment are pervasive in all regions and areas of the country. The Sixth Plan had accorded "increase in productive employment opportunities" a prominent place in its objective essentially to emphasis the need to balance increase in employment opportunities with the increase inn labour force and to counter-act the negative effects of an idle labour force on the national economy.

The 1981 census result, as compared to the result of 1971 census, shows an increase ranging from 16 percent of 48 percent in all age cohorts of the economically active population. Labour force in the 55-59 years cohort shows the least increase whereas the 20-24 years age-cohort shows an increase of 48 percent. There is a maximum concentration of the labour force in the 20-29 years age cohort. Moreover, efforts to ease the excessive pressure of this labor force from agriculture to others sectors of the economy have net only with limited success during the decade under reference. Only 3 percent of the population has shifted from agriculture to non agriculture sectors in 1981 as compared to 1971. Though the increase in the number of persons employed under services sector has shown an encouraging increase of 10.7 percent, the gap between creation of employment opportunities and the rate of increase in labour force does not, however, show any signs of being bridge up, resulting in a situation full of challenges. And there is no indication of changes for the better in this situation, especially as no institutional mechanism has been devised and developed to imp act basic skills to the members of the labour force, which would enable them to gain access to the employment opportunities created in the labour market. As the created employment opportunities look minimal compared to the unemployment and underemployment situation, the need to invest on total mobilization of the labour force becomes a matter of national priority. If there is a big shortage of employment opportunities in the rural areas, there is also a shortage of labour with necessary skills and qualities in the urban areas. Thirteen studies (of Jhapa, Biratnager, Dharan, Janakpur, Birgunj, Pokhara, Siddharthanagar, Dang, Surkhet, Darchula, Baitadi Illam and of Kathmandu) undertaken by the Department of Labour on certain aspects of the labour market suggst that demand for labour of these markets came to combined total of 48,438 persons whereas the actually supply was only 32,512 persons leaving, thereby, an unmet demand of 15,876 laborers.

With the above considerations in background, efforts to generate increased opportunities for productive employment have to be based on the following two strategies:

- to increase investment in projects likely to have a direct impact in easing the unemployment and underemployment problems, and

- to improve the quality and skills of indigenous labour force

In the context of increasing investment, concerned agencies and institutions have to initiate efforts in this direction after taking stock of different aspects of the economy. Though efforts in this direction have to be made through a coordinated institutional approach, it would not be out of context to reiterate the fact that there can be no significant increase in the creation of employment opportunities in investments to increase production in both the agricultural and non agricultural sectors are not forthcoming. Thus, without increase in the rate of production and increase in the level of investment to bring this about, it does not seem possible to bring about a significant increase in the creation of productive employment opportunities. On the other hand, efforts to improve quality and skills of labour, available within the country but remaining idle, in conformity with the demands of the labour market are also likely to pay high dividends. The Department of Labour, within the Ministry of Labour and Social Welfare, is presently engaged in this area. On the whole, efforts to fully utilize the labour force of the country are likely to yield positive effects to the national economy in the form of a) evolution of a scientific and systematized mechanism for supply of labour as defined by the growth of the economy, b) production and supply of domestic labour in conformity with the needs of the labour market and replacement of foreign laborers, and c) increase in income through mobilization of domestic labour in the competitive employment opportunities created.

In addition to other considerations, labour has significant role to play in maintaining a peaceful working atmosphere in the industrial sector conducive to increased investment and production. It is equally important to protect the interest of the labour and to maintain working discipline as it is to ensure that adverse developments do not disrupt the production. It is in this context that His Majesty's Government has undertaken the responsibility of fixing minimum wages level of the industrial workers. The following changes in the minimum wages levels were effected by the government during the Sixth Plan period.

Minimum Wage Level

Categories of Labour	1979/80	1981/82	Percentage increase	1984/85	Percentage increase	Total per. increase during the Sixth Plan period	
Unskilled	200	260	30	325	25	62.5	In addition to the basic minimum wage dearness allowance of Rs 50 has also been fixed for payment.
Semi-skilled	230	299	30	365	22.7	58.7	
Skilled	290	377	30	452	19.9	55.9	
Highly Skilled	390	507	30	598	17.9	53.3	

Fixing minimum wage level has a salutary effect on the maintenance of peaceful working conditions though it has to be admitted that the diverse nature of different industries, their production characteristics and ownership patterns make it difficult to treat all workers as a homogenous group and provide equal benefits. Minimum wage level have to be fixed in a way which does not have any adverse effects on the industries but in the meantime takes into consideration the welfare of the workers. Thus, a policy whereby the minimum wage level supplements and encourages investment and productivity and takes into consideration the welfare of the laborers as well will be followed during the Seventh Plan period.

Looking from the demand side, there seems to be an acute shortage of semi-skilled and skilled labour in the Mid-western and the Far-western development regions whereas a surplus is limited to some districts, which have easy access and are relatively developed in the Central development region. The private sector also can play a meaningful role in increasing the mobility of labour and in implementing projects, which encourage this mobility to improve up on the present situation. The Seventh Plan has taken this consideration in full account.

Review of the Sixth Plan

In all ten projects directed at the development of the labour sector were implemented during the Sixth Plan period. Eight Labour supply Center (Table 2) some of which have been in operation from earlier plan period with the objective of improving the quality and skills of domestic labour, were to run training programs on carpentry, masonry, press composition, boiler operation, brick-laying, knitting, cutting and tailoring and were to train a total of 17 thousand persons on these subjects during the plan period, of these eight, Labour supply

Center had imparted training on different subjects to 4020 persons during the first four years of the plan period and are likely to train an additional number of 925 persons during the last year of the plan. Thus, a total number of 4945 persons would have received training on different subjects to improve their skills during the plan period. A target to train 40 persons on industrial and vocational subjects and 250 persons on hairdressing was further specified by the Sixth Plan. During the first four years, 183 persons have undergone industrial and vocational training and 239 persons have undergone training on hairdressing. Furthermore, it is estimated that an additional 52 persons and 40 persons would have undergone training in industrial and vocational and hair dressing training by the end of fiscal year 1984/85.

The plan had envisaged establishment of an Employment Research and Development Center and preparation of ten pilot schemes, five manpower development manual and research studies on five topical issues related to employment problems. In all, twelve studies on labour market and four studies on the effectiveness of training have been completed in addition to the preparation of thirteen syllabuses on different subjects. Surveys related to skill needs and supplies have also been completed in six districts. The Sixth Plan had also specified a target of holding three seminars on population education in the organized sector and running of thirty-six motivation and intensive trainings. Only one seminar was organized where sixty-nine motivation and intensive trainings were run. This program, however, was not carried on in fiscal year 1984/85.

Only three additional labour supply centres in Jhapa, Itahari and Dhangadhi were established vis-à-vis the target of establishing five centers during the Sixth Plan period. The total number of Labour supply Centers has now reached six as three center in Hetauda, Nepalgunj and Butwal were already established during the Fifth Plan period.

The Seventh Plan has identified the following objectives, policies, working policies, working policies and programs in the labour sector.

Objectives

1. To enhance quality and level of skills of labour with a view to mobilize, to the maximum possible extent, domestic labour and to raise the level of national productivity.
2. To strengthen and make more efficient the programs related to employment generation, both at the domestic and foreign level, on the basis of appropriate studies to generate greater employment opportunities and to resolve unemployment related problems.
3. To make more effective the systems related labour welfare in conformity with the welfare needs of the labour.
4. To involve, to the maximum possible extent, Nepali labour in employment opportunities created by development efforts.

Policies

1. The level of skills of labour will further be enhanced and necessary industrial and vocational training will be imparted to the members of idle rural labour force with the aim to mobilize and supply labour to the non agricultural sector as per its needs.
2. Legal provisions will be developed and made more effective so as to make it obligatory for industrial concerns to utilize domestic labour to the maximum possible extent. In addition to this, apprentice training for Nepali citizens will also be made compulsory in industrial concerns where non citizens are presently engaged with a view to make more effective the programs directed at replacement of non citizen labour.
3. Programs on employment research and promotion will be further strengthened and implemented.
4. Labour exchange service will be extended and developed on an institutional setting and legal provisions necessary to this end will be devised and developed.
5. Private sector will be encouraged to develop an institutional mechanism to facilitate inter-sectoral mobility of labour.

Working Policy

1. A system whereby the management of an undertaking in the organized sector which employs hundred or more semi-skilled laborers will itself have to appoint a labour welfare officer will be implemented to safeguard the welfare of the laborers.
2. With the Industrial Training Act already effective, greater efforts will be directed at making the apprenticeship-training program in industrial ventures more effective.
3. Services of Labour-supply Centers will be further strengthened and expanded with greater thrust at skill development trainings from these Centers.
4. Registration of non-citizen workers will be made obligatory.
5. Studies and research projects on employment issues will be organized and encouraged at the national level. Specially, efforts will be directed at: a) identification of industrial and vocational training needs as defined by the labour market and development of training curricula; and b) research and study on the extent and

nature of employment opportunities in the labour market and of self employment opportunities in both the agricultural and non agricultural sectors with a view to ascertain employment opportunities for unemployed and underemployed labour.

6. Relevant information and data will be collected to adjust wage levels on a timely basis.
7. Necessary statutory provisions will be formulated to systematize seeking of employment in foreign countries.
8. Training programs will be devised with the specific needs of a particular area and will be centered there itself to ease the imbalances caused on labour market by labour migration.
9. Especial arrangements will be made to ensure a congenial and healthy working atmosphere in production-oriented industries to promote at least a minimum acceptable level of social welfare.
10. Ministry of Labour Social Welfare will collect relevant information and arrange to run local training programs in areas where big projects are to be constructed and run by the government.
11. A well-planned program will be implemented in a few selected industrial ventures to fully replace the non-citizen labour. Skill-development training will be organized more widely and intensively as a component of this program.

Program

1. Labour Supply Centers

A. Current Projects

Labour supply Centers located in Jhapa, Itahari, Hetauda, Butwal, Nepalgunj and in Dhangadhi have been operating for a considerable period of time essentially to strengthen and expand the labour supply system and to enhance the productivity of labour through appropriate at site trainings. Program in this area aims at a further broadening of the areas of activity of these centers to train 4740 persons including 650 women on subjects like cutting, knitting, tailoring, carpentry, press composition, masonry, machine-operation, milling, birimaking, apprenticeship, boiler operation, textile mechanics, tying, wring, spinning, stone cutting and so on during the plan period. These centers, it is also envisaged, will undertake skill-surveys of 100 Panchayats.

2. Industrial and Vocational Training Program

A one-year training program for 300 trainers on subjects like fitting, lathe-operation, milling, welding, machine repair, wiring and electric installation, metal work and pipe fitting is expected to be implemented to enhance the skills of labour by the Vocational Training Center at Rani in Biratnagar. The Vocational Training Project, located at Kathmandu, has a program to train 200 persons including 150 women on hair dressing the plan period.

3. Employment Research and Development Center

Established in the Sixth Plan period with the objective of undertaking research and developing policies on issues related to the development of productive labour force in an organized manner, this center has a program to further intensify and strengthen search project, to develop occupational classification of labour involved in industrial and development works in three sectors, prepare job inventory of one sector and to prepare ten pilot scheme, five manpower manuals and reports on the labour market of five sectors, namely, of transport, construction, mining, commercial enterprise and of tea garden. In addition, ten studies on training effectiveness, ten feasibility studies on employment promotion and skill development in remote areas and identification of twenty five training areas and development of curriculum on the training areas identified are the programs to be implemented during the plan period.

4. Foreign Employment Service

Foreign employment service will be implemented in an organized manner and this program will have components such as collection of information on those workers who have migrated to foreign countries for seeking employment opportunities and those who are already in foreign countries with a view to safeguard their interest and welfare and development of manpower in conformity with the needs of foreign labour markets.

5. Labour Exchange Services

Department of Labour in addition to the Labour-supply Centers already established or to be established will implement a program aimed at collection of information on employment opportunities and dissemination of this information through out the kingdom with a view to assist both the employers and the employees and to reduce the time lay involved in filling up a vacancy. This program will be extended gradually.

6. Project to Strengthen National Training Center

Preliminary investigations and works on the establishment of a national Training Center will be undertaken in joint collaboration with the International Labour Organization during the plan period. There a very cogent need to establish a training Center which can organize refreshers' training for

trainers, who in the absence of such opportunity, tend to teach only what they have learnt during their own training and tend to be oblivious to the latest theoretical and practical additions. This gap is especially left in technical and educational subjects and at themselves of supervisors and superintendents. In addition to the establishment of this center, a study will also be commissioned with the assistance of I.L.O. to improve the physical facilities available at and the functioning of, Labour-supply Centers.

Appendix - 1

Total Population	Economically active population	Mountains	Hills	Terai	Economically inactive population
15022839	6850886	709471	3497178	2644237	3667002

Appendix - 2

Target and Progress in Sixth Plan

Name of Project	Physical Target	Physical Progress	Remarks
1. Labour supply center, Hetauda	to train 2500 persons	1494 persons trained up to F.Y. 041/42	
2. Labour supply center, Nepalgunj	to train 2500 persons	1207 persons trained up to F.Y. 041/42	
3. Labour supply center, Butwal	to train 2500 persons	1305 persons trained up to F.Y. 041/42	
4. Labour supply center, Itahari	to train 2500 persons	446 persons trained up to F.Y. 041/42	
5. Labour supply center, Dhangadhi	to train 2500 persons	312 persons trained up to F.Y. 041/42	
6. Labour supply center, Jhapa	to train 1000 persons	181 persons trained up to F.Y. 041/42	
7. Labour supply center, Pokhara	to train 1500 persons	Not yet established	No budget
8. Labour supply center, Surkhet	to train 2000 persons	Not yet established	No budget
	17000	4945 (4042+925)	
9. Vocational Training Center Rani Mechanical Training	to train 40 persons	Mechanical and other 233 persons trained	
10. V.T.C. Hair-dressing	to train 250 persons	279 persons trained	
11. Employment Research and Development Center	a) 10 pilot schemes	a) 12 labour market study	
Development Research and Development Center	b) 5 population manual	b) 4 training effectiveness study	
	c) 5 research	c) 13 curriculum development	
		d) 14 skill development survey	Not included in program of F.Y. 041/42
12. Population and Education on organized sector	a) 3 Seminars	a) Seminar - 1	
	b) 36 Trainings	b) Training - 89	

Appendix - 3

Training Programs of Labour-supply Centers: Progress During Sixth Plan

APPENDIX - 4
**Supply and Demand of Laborers
in Nepal**

SN	Studied Labour market	Total demand for labour	No. of employed laborers	Number of unmet demands for laborers
1.	Jhapa	2512	1578	934
2.	Biratnagar	14918	10544	4374
3.	Dharan	309	259	50
4.	Janakpur	1795	1261	534
5.	Birgunj	4597	3442	1155
6.	Pokhara	1547	925	622
7.	Siddharthanagar	3573	2222	1351
8.	Dang	532	284	248
9.	Surkhet	1132	282	850
10.	Darchula and Baitadi	1291	-	1291
11.	Jhapa and Illam Tea cropping	7762	3833	3929
12.	Kathmandu	8470	7882	588
	Total	48438	32512	15876

APPENDIX - 5
**Comparison of Demand for Skilled-labour
and Member of Persons Trained by labour
Supply Centers**

SN	Studied Labour Market	Total demand for laborers	Trainings provided by Labour supply Center	No. of persons trained
1	Jhapa	934	1. Carpentry (general)	1024
2	Biratnagar	4374	2. Carpentry (Skilled development)	94
3	Dharan	50	3. Masonry	852
4	Janakpur	534	4. Earth-cutting	2598
5	Birgunj	1155	5. Brick-laying	1660
6	Pokhara	622	6. Short-term	1074
7	Siddharthanagar	1351	7. Press-composition	320
8	Dang	248	8. Biri-making	566
9	Surkhet	850	9. Boiler-operator	33
10	Darchula and Baitadi	1291	10. Spinning and weaving	481
11	Jhapa and Illam	3929	11. Tyre resoling	12
12	Kathmandu	588	12. Stone-cutting and Slating	77
			13. Cutting and Tailoring	364
			14. Cane-works	90
			15. Apprentice Training	162
			16. Electrician	38
			17. House wiring	48

			18. Cycle, Rickshaw repair	10
			19. Earthen pots and works	15
			20. Hair dressing	314
			21. General Mechanics	212
			22. Pipe-joining	13
			23. Gabion-making	75
			24. Workshop	30
			25. Brick and Stone Chipping	352

NB: Total demand for laborers do not include laborers employed but reflects only additional demand.

Labour
Allocation of Expenditures
in the Seventh Plan

Project	Allocated Expenditures	in million rupees
1. Labour-supply Centers	19.000	
2. Industrial and Vocational Training	3.000	
3. Employment Service	4.000	
4. Training and Strengthening	5.400	
5. Research	2.000	
Total	33.400	

CHAPTER - 37 MINING AND GEOLOGY

Mining and Geology is a sector, which can contribute significantly to the attainment of national developmental goals and aspirations. In fact, given the geo physical structure, the pattern of present natural resource endowment, the increase pressure of population on limited land, the deteriorating land erosion and the development of the mining and geology sector can have a very important role to play in the overall national development.

Geo-scientific development can supplement the development of all types of natural resources of the country as well as contribute to the planning, construction and development of physical infrastructures of the country whereas development of the mining sector can yield the following benefits to the economy;

- increase in production of mineral based industries and creation of employment opportunities,
- increase in government revenue and in foreign exchange earnings,
- other miscellaneous advantages to the economy mainly because of the development of the infrastructures and other industries and occupation likely to result in the course of the development of the mining sector.

In the context of Nepal, then direct and indirect benefits can be of especial importance mainly from the following consideration;

- creation of employment through the development of the mining sector favour the mountainous region where the majority of the population is poor and where the unemployment problem is rather serious;
- lead to the full utilization of the existing infrastructures in the relatively remote and underdeveloped mountainous region and provide economic justifications for the creation of the infrastructures;
- create a market for the development of small, medium and big hydroelectricity projects.
- lead to the development of the mountainous region in the above manner and check the migration from this region to Terai and check the denudation of forests;
- the mineral and water resources of the mountainous region and the infrastructural bases in the Terai and the plains can possibly lead to integrated industrial development;
- development along the above lines can lead to integrated regional development and to increased international and regional cooperation

However, though the development of the mining sector can yield the above benefits, it also has to be accepted that the development of this sector can not be cost free. Ecological disturbances and pollution, rapid and uncontrolled urbanization, direct and indirect import of foreign personnel and laborers and its consequent socio-economic implications and the problem related to displacement of population after the mines are exhausted are some of the cost that the development of mining sector is likely to entail. Thus, this exemplifies the need to evaluate the costs and benefits and the need to minimize the costs in taking decisions on mineral development.

The mineral potentials of Nepal are not well explored on the one hand while, on the other proper evaluation of the deposits and utilization at the right pace and pattern have been possible even of the identified deposits. Likewise, operation of mining based industries have been very slow and limited while, at the same time, collection and supply of geo-scientific technical facts so essential for the construction and development of natural endowments including mineral deposits and of physical infrastructures are at a very unsatisfactory stage, institutional arrangements equipped with all necessary elements and vital of mining and geology sector have not been developed as yet.

Construction of the processing plant for Ganesh Himal zinc and lead mine has been delayed mainly because the approach road to it has not been completed in stipulated time. Likewise, construction of the dead-burnt magnesia factory based on the huge magnesite deposit at Kharidhunga in Dolkha district has also in Makawanpur district is also expected to start only in the last month of the Sixth plan.

Himal Cement Factory at Chovar has been operating at a low capacity and even the plans for expansion scheduled for completion by the end of 1985 is likely to be delayed. Progress on the promotion of a cement factory at Udayapur district has also lagged behind. Chemical grade limestone factory at Jogimara in Dhading district and the marble factory at Godawari in Lalitpur district are operating on a small scale. Of the mineral deposits at the stage of evolutionary development, exploration of the iron-ore mineral deposit at Phulchoki mountain in Kathmandu has been postponed. Limestone deposit at Okhare in Makawanpur district can be utilized as the reserved deposit for the future needs of Hetauda Cement Factory. Feasibility study of the cement factory based on the limestone deposit at Chaukune in Surkhet can be undertaken only in the Seventh Plan period. There have been no significant progresses on the proper development and production of different types of stones which are available in the country in huge quantity and which can be used domestically as well as be exported to neighboring countries.

There have been no systematic exploration, so far of lime-stone deposits and other stones which can be used for construction purposes for promotion of integrated stones which can be used for construction purposes of promotion of integrated stone quarries and industries either in small or in medium scale at selected places and for establishing, in a national scale, mini and micro cement plants, lime-plants and construction stone quarries and factories. Cement plants which are already in operation in different stages of implementation represent whatever progress there has been of the past efforts in the area of construction related non metallic mineral exploration.

There are no encouraging indications in the area of fossil-fuel deposits from the coal exploration in the Churia range and from the exploration of coke deposits in Kathmandu valley. In the area of petroleum exploration, despite the various exploration surveys of different types and at different times, only the aeromagnetic and seismic surveys conducted under the technical assistance and soft-loan from the World Bank which have provided positive indications and justification for further exploration.

Despite efforts initiated right from the third plan onwards to prepare basic geological maps on a systematic basis to develop geo-scientific data base for the country, no geological maps of the desired standards have been prepared even upto the end of the Sixth Plan and consequently no meaningful and effective geo-scientific technical database has been developed.

In the area of developing basic technical support for the development of the mining sector organization, management and operational process of the chemical laboratory have progressed satisfactorily and there has been some progress in the area of drilling service as well but the progress in the development of national capacity and in construction of other technical support services in areas such as mineralogy, petrology, paleontology, geophysics, mineral processing, physical and geo-technical tests and analysis, cartography, publications and in information collection and dissemination system has been negligible.

There have been no developments in separate policy formulation on mining in consideration of the potential role of this sector. Legal enactments have been completed and implemented only recently to attract foreign investments in area of petroleum exploration, an area which has increased in importance in light of the world wide fuel crisis. However, there have been no efforts to incorporate timely changes in the existing legislature designed at promoting both domestic and foreign investment and technology in the exploration and development of other mineral deposits.

Review of the Sixth Plan

The progress of different programs implemented during the Sixth Plan period is presented in the following paragraphs:

a) There has been no progress in the programs for Regional Geo-physical and Geo-chemical Exploration except in integrated regional geological and geo-physical exploration.

b) Regional Geological Study:

Under this program, geological maps covering an area of 250 sq. miles have been prepared, map compilation of 25,000 miles has been completed and maps covering an area of 27,000 sq. miles have been printed. However, it is necessary to change the kind and standards of these maps to color compilation in the scale of 1:25,000 and 1:100,000 and black and white compilation to the scale of 1:63,360 in 15 minutes quadrangle sheet standard.

c) Mineral Exploration Project:

Under this project, geological quadrangle and compilation maps of international standards covering an important land mass of the country have been prepared to identify the geological structure of that area and compilation maps have been published whereas compilation maps covering an additional 22,000 square kilometers in 840 to 860 latitude is nearing completion. In addition, location of 22 possible first phase base metal deposits have been identified on the basis of integrated geological and geo-chemical exploration covering an additional new area of 24,000 sq. kilometers and two sheets area at data processing and interpretation stage. All the findings are being achieved and indexed on a chronological and spatial basis.

d) Geological Foundation and Seismic Study:

A program to study seismic and foundation geology and to undertake works related to geological engineering on a phase-wise basis was targeted to be completed whereas only the establishment of one additional seismic station and preliminary works to estimate crystal model on the basis of seismic data seems to have been completed. There have been no progresses in the area of phase-wise geological engineering.

e) Metallic Deposits Exploration:

The program in this area specified phase-wise exploration of copper, lead, zinc, iron-ore and other like deposits whereas the working policy emphasized exploration of copper, lead, tin and tungsten. Explorations of copper deposits in Pandavkhani and Chhirling Khola and of tin-tungsten-copper in Dundeldhura massifs

suggested very low-grade deposits as a consequence of which the explorations have been postponed. However, positive indications have been received from the exploration of gold deposit in Rolpa district. Basic exploratory works in the whole of Chure mountain range for possible uranium deposits were envisaged under a separate program for mining and geological exploration in the Chure range. However, to-date only 2,600 square miles have been covered under this program.

f) Non-metallic Mineral Deposits Exploration:

A Program to cover 20 sq. km for exploration of carbonate mineral phosphorite, salt and other semi-precious stones was to be implemented during the plan period. However, exploratory works for phosphorite deposits was carried out in 1500 sq. km. including 4 sq. km. of Baitadi and Bajhang district as well the detailed exploration works for lime-stone deposits in 60 ha. in Dhankuta district. In addition, exploratory works in 300 sq. kilometer was carried out for semi-precious stones and geo-chemical study of 1 sq. km. was completed pegmatite deposit.

In the area of exploration of fuel deposits, the policy to continue further exploratory works on Chure ranges on the basis of the results of aero-magnetic survey and to continue the explorations for natural gas lignite deposits in Kathmandu valley has been continue. The program on oil and natural gas exploration has a target to undertake geo-physical survey in an area of 500 sq. km. and to undertake stratigraphic drilling and logging of 10,000 meters where reconnaissance seismic survey of 1,250 line kilometers with the cooperation of the World Bank and photo-geological interpretation of 60,000 sq. km. have been actually completed. In addition, Petroleum Exploration Act and Regulations have been formulated and implemented and promotional meetings in London, Houston and in Kathmandu were held to attract foreign investment in petroleum exploration.

A study of 200 sq. km has been completed for thermal springs though the original program was to cover 500 sq. km.

Though no target was specified for the natural gas deposit exploration in Kathmandu valley, surface exploration and exploratory drilling to a depth of 300 meter at three places were undertaken with Japanese assistance and an area of 26 km was identified as having possible deposit. Furthermore, it has also been estimated that the 4 sq. km. area from Teku to Tripureshwore has a deposit of 4,760 million cubic meters has already been constructed and is actually in operation.

Progress in the programs directed at conducting feasibility studies for utilization of already identified deposits and at promotion of feasible projects are presented in the ensuing paragraphs.

Detailed Feasibility Study of Cement Factory

This program has aimed at a detailed feasibility study of a cement factory based on cement grade limestone deposit at Surkhet in the Far West. A deposit of 24 million tons of limestone have already been proved and samples have been sent outside the country for test production of clinkers.

Pilot Foundry Project

Constructed under the assistance of UNIDO, this Project was expected to complete installation of equipment and to go into regular production at a capacity utilization rate of 50 percent in addition to import training to entrepreneurs involved in foundry works. Though the production from this foundry has started, yet mainly because of the market related problems the planned capacity utilization has not been achieved.

Feasibility Evaluation and Industry and Promotion

The aim of this project is to assist in the decision making process on the promotion of projects on the basis of evaluation of feasibility studies already completed and to undertake preliminary works on the establishment of such projects. During the Sixth Plan period, this projects was to initiate steps towards the establishment of an iron and steel industry in addition to some other like industries. The project has been continuing necessary works towards the establishment of a cement factory based on the limestone, deposit at Udayapur under the joint investment of Nepal and India.

In light of the above considerations, the Seventh Plan has identified the following objective, policy, working policy and programs for the development of mining and geological sector.

Objective

- 1) To collect and collate geo-scientific and technical and mineral data and information of the country to help develop the mineral resources, other natural endowments and the physical infrastructures of the country and to provide these data and information in a useful manner to all concerned.
- 2) To increase national production and to strengthen and diversify the national economy through development of existing mineral deposits and through the development of mineral based industries.
- 3) To create maximum possible employment opportunities through the development of mines and mineral deposits.

- 4) To save foreign exchange expenditures by utilizing as far as possible, available mineral deposits in the country itself and to increase foreign exchange earnings by advance processing of exportable mineral products or by exporting these products as finished goods.
- 5) To augment regional development at the national level through the development of mineral deposits scattered throughout the country and to integrate and coordinate mineral development with the development of other natural endowments, physical infrastructures and with the conservation of environment.

Policy

To achieve at the above objectives, following policy measures are proposed:

- 1) The present institutional arrangements will be thoroughly reviewed and necessary steps to improve these arrangements will be taken to run the exploration and development works of mineral deposits and geological surveys in a well-planned and efficient manner.
- 2) A separate national mineral development policy will be developed and necessary legislative measures will be enacted to implement this policy which will be designed with a view to maximize the benefits from the development of the mining sector to the national economy by attracting domestic, private and foreign capital and technology in the development and exploration of mineral deposits.
- 3) Efforts to formulate and implement mineral exploration and basis and geological engineering surveys on a methodological, phase-wise and integrated basis will be further expanded and intensified.
- 4) Project will be identified on the basis of the evaluation of what all products can be produced from the mineral deposits available within the country and what kind of markets these products can command both in the domestic and foreign markets. Projects identified as feasible on the above basis will be promoted on a priority basis.
- 5) Decision on study of available mineral deposits, feasibility evaluation and promotion of production will be based on considerations such as the creative utilization of the technology and the materials, commercial viability and national costs and benefits.
- 6) Necessary incentives and technical assistance will be provided to promote relatively small and construction related mineral production concerns in the private sector and such concerns will be operated in the government sector or in collaboration with the private sector only if the private sector is not forthcoming.
- 7) Necessary infrastructures such as laboratory support services, technical and logistic support services and administrative and management support services will be strengthened and made more efficient to make mineral exploration and development more objective oriented and to make them more economic and effective.

Working Policy

1. In view of the importance and national priority on developing fuel deposits, necessary steps will be undertaken to establish a separate agency to be entrusted with the exploration and development of petroleum and natural gas deposits.
2. Programs in the mining sector will be formulated and implemented, as far as possible, on a multipurpose, unified and time bounded basis after proper scientific, technical and economic analysis.
3. Maps of mineral deposits will be published and distributed and programs on integrated regional geological survey and mineral exploration will be gradually expanded to cover the place in conformity with the index map.
4. Engineering and ecological maps will be prepared and distributed and consultancy services provided to develop the physical infrastructures in the country.
5. Exploration of mineral fuels will be implemented as a priority program after necessary agreements on this with foreign investors. In addition preliminary evaluation of the coke deposit in Kathmandu valley will also be undertaken.
6. Exploration of base metals such as lead, zinc, copper and other metals such as tungsten, tin and gold will be undertaken whereas in the area of industrial non-metal minerals exploration for phosphorite and for raw materials for glass and ceramics will be undertaken in addition to implementing program on a priority basis for evaluation and exploration of cement grade limestone deposit for big and small plants and for integrated construction stone plants in the area of non-metal construction related mineral deposit.
7. Arrangements will be provided to deliver necessary services on technical assistance, skill development, marketing and investment to develop mineral deposits feasible at a small scale and at the local level.
8. Measures such as publication of a promotional manual providing information such as the present state of the mining sector, national priority, acts and other legislation on mining, available aimed at attracting both the domestic and foreign investors in the mining sector will be undertaken.

9. A system to record different scientific, technical and economic information related to the mining sector at the central level and to make available these information on an up-to-date and regular basis to all concerned will be devised and developed.
10. Steps to develop necessary manpower for the mining and geology sector and to entrust trained and skilled manpower to the right task will be taken.
11. Modern management methods and process will be applied with necessary improvements in the formulation and implementation of programs related to the mining sector.

Program

1. Geological Survey and Exploration

a) Regional Geological and Mineral Survey:

Activities such identification of places with potential mineral deposits and publication and distribution of qualitative regional geological maps on the basis of phase wise and integrated regional mineral and geological surveys are planned for implementation during the plan period. Survey of the total land mass of the country east to 81° longitude will be completed with the survey of 25,000 sq. km area including the high and low area near the snow-line at the sub Himal area under this program.

b) Metallic Deposits Exploration:

Differentiation on the basis of geological region and on the basis of metallic deposits will be undertaken on the basis of the results of exploration completed in an area of 40,000 sq. km. in the lower Himalayan region for copper, zinc, lead and other base-metals during the Sixth Plan period. In addition, exploration works in 20,000-km additional area of this region and in 2,000 sq. km. of high Himalayan region will be undertaken for light and rare metals and for uranium. Follow up of the uranium exploration undertaken in 1000 sq. km. in the sub Himal region will also be explored for gold and uranium deposits covering also the 400 sq. km area in Lundrikhola in Rapti Zone under geological and geo-chemical surveys for gold and 10 sq. km. area under detailed geological survey.

c) Coke Deposit Exploration:

Areas with high promises for coke deposits will be identified after a comprehensive and systematic exploration of different areas in Kathmandu valley under this program.

d) Non-metallic Deposits Exploration Project:

Under this project detailed exploration in 250 ha. for limestone and for semi-precious stones in addition to exploring 1,500 sq. km for phosphorite deposit will be undertaken. Likewise, in the course of those explorations, deposits of other agricultural and chemical minerals, raw materials for glass and ceramics, semi-precious and gem-crystals and industrial and construction-related deposits will also be identified.

2. Mineral Development

a) Natural Gas Project:

Implemented with the objective of producing gas through underground drilling and distributing this gas for domestic use, this Project is expected to expand the capacity of present model plant to produce 2,000 cubic meters of gas per day and to explore for additional gas deposits in an area of 26 sq. km by drilling holes upto a depth of 600 meters to a total drilling of 4,200 meters (9 holes).

b) Cement Industry Feasibility Study:

Under this program, technical and economic feasibility studies of cement plants in Surkhet and Dhankuta districts will be undertaken. In addition, feasibility study for the establishment of a mini cement plant each in appropriate places in four development regions expecting the central development region will be undertaken after identifying and proving necessary limestone and soil deposits in these regions.

c) Pilot Demonstration Integrated Stone Industry Feasibility Study:

Feasibility study for the establishment of this industry based on the quarries in Kathmandu and Pokhara valleys and o boulders and gravel pits in Parsa, Chitwan, Nawalparasi, Rupandehi, Kapilbastu, Dang, Banke, Bardia, Kailali, and Kanchanpur districts of the western provided to the private sector.

3. Technical and Logistics and Support Services

a) Documentation and Publication

Documentation and Publication services will be provided by compilation of old and recent field-studies and reports and these documents will be recorded and catalogued for publication.

b) Laboratory and Research:

Regional laboratories in three place will be established and operated effectively to provide necessary laboratory and research facilities for the implementation of different projects and in the course of providing regional laboratories and documentation facilities to all the regions. Under this program, different technical and logistics supports will also be developed and made available.

Allocation of Expenditure

The Level of investment necessary for the implementation of the above mentioned programs in the Seventh Plan period is presented in the following table.

Development Expenditure on Mining and Geology Sector
in million rupees

Project	Expenditure
1. Geological Survey and Exploration	20.000
2. Geo-physical Survey and Exploration	12.000
3. Mineral Development	28.500
4. Mineral Development	27.00
5. Technical and Logistics Supports Services	40.500
Total	182.000

CHAPTER 38 (A)

POWER

Introduction:

Development of the power sector has consistently received high priority in the periodic plans as this sector occupies a prominent place amongst the infrastructures essential for the overall development of the country. The development of hydro-electricity was emphasized right from the beginning of planned development endeavors in view of the high potential of generating power from the massive water resource of the country and in view of the fact that other sources of energy like fossil fuel, coal or gas deposits were not yet identified. Diesel plants for generating power have been developed, as a matter of fact, only as a short-term increase designed to meet the shortage of power. In fiscal year 1979/80, that is the last year of the Fifth Plan, power generated for public distribution totalled 68,346 k.w., of which 52,588 k.w. was hydro-electric power and diesel power was 15,758 k.w., whereas in fiscal year 1955/56, that is before the First Plan, was launched, total installed generating capacity of the country was 6,280 k.w. with, 2,077 k.w. being hydro electric power and 4,023 k.w. being diesel power. It is further estimated that the total installed capacity will reach 1,55,941 k.w. of which 1,29,509 will be generated power and 26,432 k.w. diesel generated power by the end of this Sixth Plan. Thus, though the power generation, especially Hydro-electric power generation capacity of the country has increased substantially, it has to be admitted that the achievement in this area has always lagged for behind the power generation targets specified by the periodic plans. But, at the same time, it also has to be recognized that the gaps between the specified targets and the actual achievements have narrowed down progressively over the years. The percentage achievements from the First to the Sixth Plans against the specified targets were respectively: 4.8, 13.8, 33.7, 70.3, 31.8 and 60.5 percent. Looking at the supply situation of power, in inability to increase the supply at the same time rate at which the demand for it was growing was affecting adversely the developments of the industrial, agricultural, commercial and domestic sectors even by the end of the Fifth Plan. The shortage of power had further worsened in the first two years of the Sixth Plan. Since the third year of the plan period, when 60,000 k.w. of power was generated from Kulekhani Hydro-Electric Project and added to the sources of supply, the situation has much improved. But now, it has also been noted that as the demand for power supply did not increase at the expected rate, more than 50 percent of the generating capacity of Kulekhani Hydro-Electric Project remains unutilized. Thus, while there is a very cogent need to initiate steps to increase the demand for power so as not to let the generating capacity remain unutilized, there is also an equally important need to develop a system during the Seventh Plan period whereby the demand for and supply of power will balance each other.

In the second year of this plan period, that is fiscal year 1986/87 Kulekhani II Hydro-Electric Project (32,000 k.w.) will be completed as will the Marsyandi Hydro-Electric Project (66,000 k.w.) by fiscal year 1988/89 or the fourth year of the Plan. In the area of extension of power supply, only 41 districts have received power supply services so far whereas the 34 mountainous districts are yet to receive the supply to the rural areas for the economic development of these areas in addition, to the rural areas for the economic development of these areas in addition, to strengthening and widening the coverage of the electricity services even in areas which presently are receiving these facilities. It is in cognizance of all these facts and figures that the Seventh Plan has aimed at the development of the power sector.

Review of the Sixth Plan

The Sixth Plan had specified a target of generating 1,24,000 k.w. from big-hydro-electricity projects 5,833 k.w. from small hydel projects and 15,000 k.w. from diesel plants to a total additional generating capacity of 1,44,923. However, the total increase in generating capacity was only 86,045 k.w. during the plan period. Of this increase, big hydro-electricity projects like Kulekhani and Devighat accounted respectively for 60,000 k.w. and 14,100 k.w. while eight small hydel plants accounted for 1271 k.w. and in the area of diesel generated power, Hetauda Diesel Plant accounted for 10,000 k.w. and other small diesel plants for 674 k.w. By the end of this fiscal year (i.e. 1984/85) as additional supply of 1,500 k.w. is expected to be generated from Pokhara water utilization project and as one more small hydel project is expected to be completed, the progress in the area of generating additional power supply during the Sixth Plan will be 87,595 k.w. In comparison to the specified target, this progress is only 60.4 percent of the target. In the area of small hydel projects, Gorkha (64 k.w.), Phidim (260 k.w.), Dhading (32 k.w.) Doti (200 k.w.), Jomsom (260 k.w.) Syanja (80 k.w.), Jumla (200 k.w.) and Baglung (175 k.w.) are the eight completed projects whereas the project the projects at Helambu (50 k.w.) is the one expected to be completed by the end of this fiscal year. Kulekhani Hydro-electricity Project Phase II (32,000 k.w.) and sixteen small hydro-electricity project projects (3529 k.w.) will remain in the construction. Phase whereas the main construction works of Marsyandi hydro-electricity Project (66,000 k.w.) is expected to begin by the end of this fiscal year (1984/85), the last year of the plan.

In the area of construction of transmission lines, a total of 238 km of extension lines is expected to be completed including the already constructed 90 km of 132 kv line and 38 km of 66 kv line and 110 km of 33 kv line which expected to be completed by the end of the fiscal year. The target is specified for the construction of

transmission line was 1,324 km. Thus, the actual progress comes to only 18 percent of the specified target. The 132 kv transmission line between Hetauda-Butwal, Butwal-Nepalgunj and Dumkebas-Dumre to a total 526 km and 33 kv transmission line from Dharan-Dhankuta, Trishuli-Dhunche-Somdang, Kharidhunga-Charikot and Ghorahi-Tulsipur to a total of 135 km, to a grand total of 671 km will remain under construction. The progress in the construction of transmission lines between Hetauda-Biratnagar and Dumkebas-Butwal is expected to have reached around 90 percent.

In the area of strengthening power supply system, works on both the first and second phase have been already completed in Kathmandu, while the first and second phase have been already completed in Kathmandu, while the first-phase strengthening program in Biratnagar is expected to be completed by the end of the plan period. These measures are expected to improve power supply capacity and check, to a certain extent, system-loss and other leakage. Extension of electricity services in the existing and new supply centers are being continued.

Pre-feasibility studies of Kali Gandaki II (4,80,000 kw), Budi Gandaki (6,00,000 kw) and Seti West (1,05,000 kw) and the economic and technical feasibility studies of Koshi river basin master plan, Mulghat Hydro-Electricity Project (68,000 kw) and Sapta Gandaki Hydro-Electricity project (2,25,000 kw) have been completed during the Sixth Plan period. These studies were undertaken essentially to identify in due course of time. However, there has been no progress in the completion of feasibility studies on a project identified as the most appropriate from the study on Koshi river basin master plan and on Rapti and Bagmati rivers as were specified by the Sixth Plan.

Impediments, Hindrances and Problems

Both external and internal factors have been identified as being responsible for the big gap between specified targets and actual achievements. The following are the main problems and hindrances encountered in the course of implementation of programs

- a) Most of the power projects have to rely on one or more than one source(s) of bilateral and/or multilateral financing. As a consequence, the delays in financing and procedural arrangements have adversely effected the implementation of these projects.
- b) Lack of capable contractors has led to delays in works and to supply of inferior goods and services to the projects.

Efforts will be designed and developed to pre-empt the occurrence of the same problems during the Seventh Plan period. A system designed to activate the concerned agencies involved in the implementation of projects to be executed with foreign assistance in finalizing negotiations and other necessary arrangements to eliminate different procedural delays will be developed. Likewise, arrangements to the effect that works-contracts are finalized only after the identification and selection of the right and capable contractors will also be developed. In order to achieve a satisfactory rate of progress in the Seventh Plan period, especial emphasis will be occurred to enhance both the technical expertise and the implementation capacity. In addition to above mentioned problem, a number of difficulties arising from the following factors were also encountered in the course of implementation:

- a) Pre-feasibility and feasibility studies of projects sufficient in numbers and different in kinds (eg those based on run-of -the and/or reservoir) have to be completed so that there is a large enough so that there is a large enough choice to choose from at the implementation stage and so that power can be generated at relatively cheap costs.
- b) Transmission and distribution networks have to taken as an integral component of power-general projects and feasibility studies have to design to take the whole into consideration.
- c) The investments in power generation in power generation, transmission and generation have to be balanced to maximize the returns from the investments in the power sector.

On the basis of these experiences, implementation of programs in the power sector will be based on more realistic, practical and appropriate considerations.

Projection of Demand

The Peak demand for fiscal year 1983/84 was calculated at 1,31,760 kw by the Fifth Plan and at 1,93,000 kw by the Sixth Plan. In comparison to this projection, the peak-demand reached 76,000 kw in areas cover by the unified electricity system and 16,000 kw in other areas to total of 92,000 kw in fiscal year 1983/84. Total hydropower generating capacity in the central unified system has reached 1,25,986 kw, but the utilization has been only 60 percent of this generating capacity.

Good return from projects can be expected if the projected demand for power-supply prove to be realistic. This in itself, signifies the need to base projections on realistic considerations. If the projections prove to base on highly conservative estimates then a shortage situation might emerge leading to shortage of power supply needed for different productive sectors and to adverse effects on economic development efforts whereas a

very high projection might lead to misallocation of resources and again to negative effects on the economy. These considerations again reinforce the need to make projection as realistic as possible.

Projecting accurately the demand for electricity is indeed a difficult proposition. It is desirable to update the projections on a regular basis especially in view of the complications involved in, and the importance of these projections. New projections on the demand of electricity is presented in appendix 1. Whereas the graph representing projections on demand and supply of electric power presented in appendix 2. The practice of updating these projections will be continued during this plan period.

On the basis of these projections, the demand for electric energy will increase at an annual rate of 13.9 percent and the peak demand for electricity power will increase by 13.6 percent during the Seventh Plan period (1985/90). In the fiscal year 1984/85 which was the last year covered by the Sixth Plan, demand for electric energy and for electric power was respectively 492.2 gigawatt/hour and 115.6 megawatt whereas the present projections suggest these to reach 943.4 gigawatt/hour and 218.9 megawatt by fiscal year 1989/90 which is the last year covered by the Seventh Plan. By the end of the Eighth Plan (1991-1995) demand for electric energy and for electric power is respectively estimated to increase at an annual rate of 11.2 percent and of 10.4 percent to a total demand of 1608.0 gigawatt/hour and 359.0 megawatt in fiscal year 1994/95.

Steps Needed to Increase Power Consumption

Though the increase in power consumption indicates an increase in the pace of economic activities and the supply electricity facilities to a greater number of the population, it has become necessary to devote attention to the measures which can lead to an increase in the demand for electricity, especially in view of the fact that there was significant shortfall in the actual demand for electricity in comparison to the projected estimates even though the power generating capacity was there in the country. As already stated, increase in power consumption can directly contribute to the economic development endeavors in the country. However, the following factors seem to be responsible for slowing down the target of increase in the demand for power supply.

- a) Inadequate expansion of the transmission and distribution lines,
- b) Lack of expected increase in demand for power in productive sectors especially in sectors such as industry, agriculture, tourism, transport and others; and,
- c) Increase in electricity tariff rate with the rate being fixed at a level, which discourages increase in power consumption.

Thus, in this situation, the following steps are necessary to increase the demand for electric power.

Produce cheap electric power:

It has become necessary to reduce, to the extent possible, the outlays involved in the production of electric power, its transmission and distribution. The step in this direction is the identification of the right project and this has received ample emphasis in the policy measure enunciated in the Seventh Plan. In general, big projects tend to be more economic. But as the power generated by big projects likely to be fully consumed only domestically, efforts and studies identifying export possibilities of surplus power will have to be continued.

Producing electricity at relatively cheap costs will help conserve forests to a certain extent by increasing the demand and consumption of electric power and will also result in substituting the imports of costly petroleum.

However, to produce electric power relatively cheaply it is necessary to enhance the level of national technical expertise and to expand gradually the production of goods and materials such as wires and cables, poles and other like equipment necessary for power projects.

1. Increase the Demand of Power in other Productive Sectors

Electric power is an essential infrastructure for the development of productive sectors such as industry, tourism, transport, agriculture and other. However, formulation and implementation of different plans to increase the demand of electricity from these sectors seem to be required. This will lead to an increase in the production of the country in addition to an increase in the utilization of electricity. Thus, in this context, electricity tariff rates will be revised to attract and encourage these sectors to use electric power to a greater extent.

2. Revise the Electricity-tariff Rates

Revision to encourage higher utilization of electricity has to be effected in the present tariff structure rate, which discourages higher consumption by charging progressive higher charges. If changes in the present tariff structure are made to this effect then the domestic and other sector will substitute other kinds of imported fuel for electricity and this will result in a significant increase in electricity consumption.

3. Increase Investment in Transmission and Distribution Systems

It is not possible to increase the demand for electricity simply by increasing the power generation capacity but it is also essential to deliver the generated power to the customers to increase the effective demand. Thus, to ensure adequate returns, it is essential to increase and balance the investments in transmission and distribution systems with the increase in generating capacity. The policy to increase and balance investments in

transmission and distribution systems will be adhered to in the plan period. Thus, extension, improvements and necessary electrification activities to strengthen the distribution on system will be undertaken promptly as will be the construction of extension lines.

4. Study of the Internal Market

Studies aiming at the full utilization of presently generate electrical power and at increasing the demand in internal market will be undertaken.

The Seventh Plan has identified the following objective, policy, working policy and programs for the development of the power sector.

Objective

1. To meet the increasing needs of different sectors such as industry, agriculture, commerce and transport and others by generating power from water resources available in the country.
2. To augment the development of cottage industry and of agriculture through the generation of power from small hydel projects in rural areas where the possibilities of supplying electricity facilities from big power projects do not exit.
3. To conserve the ever-decreasing forest area and to reduce the use of imported fuel materials by encouraging the different sectors of the economy to use electricity more extensively and by expanding its supply.

Policy

1. Projects adjudged appropriate will be executed to meet the long term and the medium term power supply needs of the country. An inventory of hydro-electricity projects will be developed for implementation after the selection of projects will be developed for implementation after the selection of projects deemed attractive from an economic point of view.
2. Unified transmission system will be established by linking power generating centers to supply electricity in the main areas of consumption to ensure the development of regular and reliable distribution system.
3. Electrification programs will be made more extensive to augment the development and expansion of agricultural production and of cottage and small-scale industries in the Mountaineous and the Terai regions of the country. For the implementation of these programs, small hydel plants will be developed whereas electrification can not be provided through the unified transmission system.
4. Research and studies on the technical and management aspects will be undertaken with the aim of reducing the construction and operational expenditures of small hydro-electricity projects. Studies will also be taken up on the electricity-tariffs charged by these projects to fix these tariffs at the appropriate levels.
5. Especial attention will be devoted to develop electricity-based transportation to substitute the import of petroleum.
6. Hydro electricity projects will be executed to the extent possible, as multipurpose projects on the basis of other possible functions of these projects.
7. Especial efforts will be made to utilize to a maximum the generating capacity of projects which are already operating by properly and efficiently running these projects and to ensure that the supply and distribution of electricity in regular and reliable by discouraging leakage, necessary legal provisions will also be enacted to control leakage.
8. Necessary facilities, incentive ad encouragement will be provided gradually to involve the private sector in the establishment and operation of micro -hydel-plants in the rural areas.
9. Electricity-tariffs will be made more practical to encourage the utilization of electricity in keeping with the generating capacity in different areas of the country. In addition, these tariffs will be made more favorable to the productive sectors.
10. Especial attention will be focussed on the possibilities of exporting electricity and on the possibilities of substituting the imports of POL products as these measures are likely to have favorable effects on the balance of payments situation.
11. Efforts will be continued to maintain regional balance in the generation and distribution of electrical power.
12. Likewise, efforts will be made to balance and harmonize the demand for electricity of different productive sectors and supplies thereof.
13. Ecological balance will also be given full consideration in formulating and implementing hydro-electricity projects.

Working Policies

1. Priority will be accorded to the implementation of projects carried over from the Sixth Plan.
2. With the objective of producing electricity at cheap rates, projects identified as being attractive on the basis of pre-feasibility and feasibility studies will be implemented.
3. Especial importance will be accorded to extend the unified electricity system to supply electricity generated by different centers to the more area of consumption.
4. Expansion and strengthening of the distribution system will be stressed in view of the reality that it is possible to ensure adequate returns from past investments if the distribution system at different power generating centers are not sufficiently extended and strengthened.
5. Electrification programs will be implemented in the district head quarters and other places of other places of the country to maximize the utilization of limited resources on the basis of the following consideration:
 - i. area with economic potentials,
 - ii. area with possibility of underground and pump irrigation and the development of cottage and small scale industries,
 - iii. area adjoining areas where electrification works have already been completed, and
 - iv. area in proximity of hydro-electricity generating plant.
6. Studies and other measures will be undertaken to reduce the construction, operation and maintenance costs of projects.
7. The survey and design phases will receive special attention in the construction of small hydel plants. In addition, the possibility maximum mobilization of local labour and other resources will also be taken into consideration while generating electrical power. Highest priority will be accorded to encourage the utilization of power generated from small hydel project in project in productive uses.
8. To develop and expand the production capacity of mechanical equipment necessary for micro and mini hydro-electricity projects and other goods and equipment necessary for electrification process and to improve the quality of these products, discussions and negotiations with the local manufacturing firms will be held on a regular basis and necessary incentives will also be provided to them.
9. No projects without finalizing the total project costs and the sources of financing will be included in the annual program.
10. Arrangement to ensure that contracts are awarded only to the capable and qualified contractors will be devised and if demand necessary, a system whereby tenders are accepted from identified and selected contractors only will also be implemented. In addition, a system to ensure that the goods and material supplied conform to specified qualities will also be developed and implemented.

Physical Targets of the Seventh Plan

- a) The installed generating capacity will increase by 1,06,629 kw during the plan period with 32,000 kw being generated from the Kulekhani Hydro-electricity Project Phase II which is under construction; 66,000 kw from Marsyangdi Hydro-electricity Project which has reached construction phase, 5,100 kw from Andhikhola 3,529 kw from small Hydro-electricity projects.
- b) Transmission lines of different kilo-volts will be constructed to a total length of 1339-km including those presently under construction.
- c) System loss and leakages will be reduced to 20 percent from the present high rate of 30 percent.
- d) The Seventh Plan will accord especially emphasis on the pre-feasibility and technical and economic feasibility studies of projects identified as attractive from the already completed master-plans of the Gandaki-river-basin and the Koshi-river-basin in view of the fact that technical and economic feasibility studies can not be carried out without identifying the right projects through preliminary surveys and pre-feasibility studies and detailed engineering plans and financing arrangements can not be made without projects which have completed feasibility study. The approach of the Seventh Plan, thus, is predicted by considerations to eliminate implementation delays. Studies on electricity engineering will be completed on two projects of the big hydro-electricity projects which have already completed feasibility studies. In addition to these, feasibility study programs on small hydro-electricity projects and on construction of transmission lines will also be continued.

Power Development Program

Projects to be implemented under this program in the Seventh Plan are classified along the following lines:

- a) Large Hydro-electricity Projects
- b) Small Hydro-electricity Projects

- c) Construction and Extension of Transmission Lines
- d) Electrification
- e) Strengthening of the Electricity System
- f) Surveys and Feasibility Studies
- g) Miscellaneous

a) Large Hydro-electricity Projects

Construction of Kulekhani Hydro-electricity Project, Phase II (32,000 kw), Marsyangdi Hydro-electricity Project (66,000 kw) and Andhhi Khola Hydro-electricity Project (5,100 kw) which are presently under construction and which have been carried over from the Sixth Plan to the Seventh Plan, will be completed during the Seventh Plan. Details of these projects are provided in the following paragraphs.

i. Kulekhani II Hydro-electricity Project:

Construction of this Project was started in fiscal year 1983/84 as this project was found to be economic and attractive and as the financing arrangements could also be completed for the implementation of this project. It is expected that this project can be completed by fiscal year 1986/87.

This project, under construction at an estimated cost of Rs. 710 million, will use water of the Kulekhani I Project through a 6 km long tunnel in addition to the water resource of Mandu river which is a tributary of Gandaki. The installed capacity of this project will be 32,000 kw and it is expected that this project will generate electricity upto 104.6 million kilowatt/hour a year.

ii. Marsyangdi Hydro-electricity Project

This Project formulated to utilize the water resources of Marsyangdi river was included in the Sixth Plan with the hope that it will be completed by the end of the plan period. However, the strong possibilities of cost over-runs delayed financing arrangements and consequently and preliminary works at the project site could be completed during the plan period. At the financial arrangements are at a finalization stage now, this project has been included in the Seventh Plan and it is expected that it will be completed during the plan period. Located at 110 km west to Kathmandu at Aabu Khaireni this project will produce electricity up to 462.5 million kilowatt/hour per year by utilizing the water resources of Marsyangdi river through 7,500 meters long tunnel. The installed capacity of this project will be 66,000 kw.

iii. Aandhi Khola Hydro-electricity Project

The construction of this project at Aandhi Khola river was started in fiscal year 1981/82 and it is expected to be completed by fiscal year 1987/88.

Located at Gallyang pass, 80 km south to Pokhara, this project will use the water of Aandhi Khola will have an installed capacity of 5,100 kw with annual electricity production capacity of 20.1 million kilowatt/hour. This project is being constructed by the Butwal Power Company under the assistance of United Mission to Nepal in addition to some investment from His majesty's government

b) Small Hydro-electricity Plants

Construction of sixteen small hydro-electricity projects have been carried over from the Sixth Plan to the Seventh Plan and these projects are scheduled for completion during this plan period. These projects are scheduled for completion during this plan period. These projects include those at Taplejung (125 kw), Khandwari (250 kw), Tehrathum (100 kw), Bhojpur (260 kw), Namche (480 kw), Salleri (200 kw), Okhaldhunga (125 kw), Ramechhap (75 kw), Manang (80 kw), Chame (40 kw), Tatopani, Myagdi (1000 kw), Chaurjahari (200 kw), Syarpudaha (150 kw) Bajura (200 kw) and at Darchula (50).

c) Construction and Extension of Transmission Line

Construction of five 132 kv transmission line projects to a total length of 731 km and of another five 33 kv line projects to a total length of 258 km which were either under construction phase or fast approaching this phase during the Sixth Plan will be completed in this plan period. In addition to the construction of this 989-km of transmission lines, construction of additional transmission lines of 33 kv, including transmission line of Nepalgunj-Mahendraganar and lines to other consumption centers, to a length of 350 km will also be completed during this plan period. 33 kv transmission line construction projects will also be implemented under the district plan. The list of the transmission line projects carried over from the Sixth Plan is presented in the following tabular form.

Project	Physical	Details Remarks
A. 132 KV Transmission Lines		
1. Kathmandu-Marsyandi-Bharatpur	115 KM	
2. Hetauda-Biratnagar	283 KM	
3. Dumkebas-Butwal	42 KM	

4. Butwal-Nepalgunj	208 KM	
5. Biratnagar-Anarmani	80 KM	
B. 33 KV Transmission Lines		
1. Dharan-Dhankuta	30 KM	
2. Sunkoshi-Charikot	18 KM	Sunkoshi-Kharidhunga portion is expected to be completed within the Sixth Plan period.
3. Trishuli-Dhunchhe-Somdang	65 KM	
4. Janakpur-Malangawa and Birgunj-Kalaiya- Gaur	119 KM	

d) Electrification

In the course of extending the supply of electricity, electrification project, the construction of which were still in complete by the end of the Sixth Plan, will be taken up and completed in this plan period. In addition, electrification extension program will be implemented with a view to promote the development of cottage industry and to encourage the use of electricity by other industries while, at the same time, aiming at increasing the irrigation potentials of underground water through the supply of electricity in areas in proximity to the planned east to west 132 or 33 KV transmission line spanning the whole length of the entry and in other rural areas in the mountains and the Terai. Electrification programs at the district level will also be undertaken under the District the District Plan.

e) Electricity System Improvement

The following projects, designed to improve the electricity supply system and to make the supply system more regular in addition to checking leakages, have been included for implementation during the Seventh Plan period.

- i. Load Dispatch Center: As a load dispatch center has become essential for smooth operation of the electricity system especially in view of the fact that both Marsyangdi Hydro electricity Project and Kulekhani II are scheduled for completion during the plan period, hence, the construction of a load dispatch center will be taken up and completed with the plan period.
- ii. Strengthening the supply center: Distribution system of Biratnagar-Janakpur, Pokhara and Nepalgunj supply centers will be strengthened in addition to improving the capacity of Pokhara sub-center. In addition to these, these, distribution system of the town area in Hetauda-Birgunj and Bhairahawa 0-Krishnanagar will also be improved.

F. Survey, Feasibility Study and Detailed Engineering Study

1. Big Hydro-electricity Projects:

- a) Pre-feasibility Study: Pre-feasibility studies of projects including those listed below and selected from amongst the projects identified as attractive by the studies on the formulation of river-basin master plans, will be undertaken during this plan period.

Project	Approximate Capacity
1. Karnali (upper Chisapani) Project	Not yet determined
2. A selected project on Arun River	Not yet determined
3. Tamakoshi III Project	132 MW
4. Aandhikhola Reservoir Project	180 MW
5. Mugling Project	90 MW
6. Bhotekoshi II	69 MW
7. Khimti Khola	25 MMW

b) Economic and technical feasibility study:

Feasibility Study of Arun III: A project which has been identified as being attractive from the Koshi river basin master plan and the final feasibility study of Saptagandaki will be completed on a priority basis. In the context of regional development, feasibility study of Seti (west) hydroelectricity project will be undertaken. In addition, feasibility study of run of the river project, from among the projects already studied or to be studied in the near future, and which suits the national supply system will also be completed. Likewise, detailed survey of Mulghat hydro-electricity project will also be completed Study on a 10,000 kw project on the Jhimaruk river to supply electricity to district headquarter of Arghakhanchi, Gulmi, Phythan, Rolpa and other mountainous

districts of the Western and Far-western development region will be completed and the project will be implemented if found feasible.

c) Detailed engineering study

Keeping in view the projected demand for electricity supply, it is necessary to identify a project during the Seventh Plan period, which can be developed at least to the construction phase. Thus, a detailed engineering study of a project from among Sapta Gandaki (2,25,000 kw) and Kali gandaki (90,000 kw) the feasibility study of which have already been completed and of Arun III or of a project from other projects identified as feasible will be undertaken. Necessary arrangement to construct the most feasible one from among these two projects will also be made.

2. Small Hydro-electricity Project:

Detailed designing of projects after necessary surveys, pre-feasibility studies for the establishment of small hydro-electricity project will be continued in the Seventh Plan, especially in those areas where supply of electricity through the development of transmission and distribution networks is likely to take a long time and those areas which have not been covered from surveys conducted earlier. The following programs have been included under this in the plan period.

a) Projects with less than 100 kw generating capacity

With a view to encourage the establishment and operation of projects with a generating capacity of upto 100 kw in the private sector, a directory containing projects which have been found feasible after preliminary studies will be published on a regular basis. The preliminary studies will be undertaken as a form of technical assistance to the private sector. To assist the private sector, an annual on the appropriate structure and standard equipment needed for the construction of such projects will also be published in a way which can be used even by the general public. In addition, financial loan assistance and other technical assistance will also be available for such construction purposes.

- b) Projects with generating capacity from 100 kw to 500 kw will be identified and feasibility study of projects from among these will be taken up. Under this program feasibility study of a hydro-electricity project in Myagdi and Aruntar hydro-electricity project in Gorkha will be taken up and a project will also be constructed if found feasible.

3. Survey of Transmission Lines

Generation of electricity was emphasized to great extent in the Sixth Plan period. But to ensure adequate returns from investments made in producing electricity development of transmission lines is also necessary. Thus, development of transmission lines has been stressed by this Plan. Survey of the 150-km long Nepalgunj-Dhangadhi-Mahendranagar transmission line will be completed to extend the transmission line will be completed to extended the transmission from the Anarmani in the east to Nepalgunj in the west to be constructed during this plan period. In addition, to this transmission line will be completed.

In addition, survey of a 500 km long 33 kv transmission line to supply to different centers of consumption from the 132 kv transmission line stretching from the east of the country to the west will also be completed. Survey for the establishment of a 132/33 kv capacity substation in Lahan will also be completed in addition to the task listed above.

c) Miscellaneous

Multipurpose Projects

Multipurpose projects are those projects based on reservoirs which can supply irrigation water and help flood-control in addition to the generation of electricity. Kankai, Bagmati, Western Rapti, Karnali (Chisapani) and Pancheshwore (Mahakali) projects fall under this category.

Especially priority will be accorded to develop projects like Karnali (Chisapani) and Pancheshwore (Mahakali) which have potentials to export electricity from among the projects listed above. In addition, efforts will also be made to implement other Projects like Karnali and Bagmati.

District Level Projects Under the Decentralization Plan

Electricity projects which benefit a particular district only and not two or more districts and which are not operated under development boards are defined as districts and which are not operated under development boards are defined as district level projects. Projects related with electrification and extension, system improvement, construction of 33 kv line transmission lines and related with operation of diesel plants, are all projects at the district level. A total sum of Rs. 644.5 million has been allocated for these projects by the Seventh Plan.

Expenditure

Expenditures allocated for the development of the power sector by the Seventh Plan presented as follows:

Program	In million rupees
a. Big Hydro-electricity Projects	2,700.000
b. Small Hydro-electricity Projects	250.000
c. Transmission lines	480.000
d. Electrification and System Improvement	450.000
e. Survey and Feasibility Study	232.000
f. District Level projects Under Decentralization Plan	644.000
Total:	4,757.100

Projected Demand of Electricity for the kingdom of Nepal

Unified Electricity System				Total Nepal
Fiscal Year	Energy Megawatt/hour	Peak Demand & Megawatt	Energy Megawatt/hour	Peak Demand Megawatt
1983/84 (040/41)	304.425	76.377	365.244	91.63
1984/85 (041/42)	316.793	78.518	388.843	96.28
1985/86 (042/43)	372.410	91.241	349.841	96.72
1986/87 (043/44)	392.809	95.185	417.928	101.29
1987/88 (044/45)	455.421	109.288	460.704	110.48
1988/89 (045/46)	501.909	121.061	517.002	122.69
1989/90 (046/47)	574.665	135.147	572.342	136.360
1990/91 (047/48)	541.908	149.603	548.285	127.73
1991/92 (048/49)	716.130	165.469	724.441	167.40
1992/93 (049/50)	808.466	185.276	808.466	185.276
1993/94 (050/51)	901.068	204.886	901.068	204.886
1994/95 (051/52)	1003.011	266.267	1003.001	226.367

Figures in parenthesis represent fiscal years in Bickram Sambat.

Chapter 38 (B)

ALTERNATIVE ENERGY

Introduction

At present, the per capita consumption of energy in Nepal is 224-kg oil equivalent of which about 94 percent is met from traditional sources of energy and the remaining 6 percent from modern commercial fuels.

Price increase of the POL products in 1973/74 and in 1979/80 and the consequent crisis affected Nepal as well and, indeed, led to a slow down in the pace of development in addition, to the adverse effects on the balance of payments. But despite these effects, the important of petroleum products has been increasing every year mainly because the expansion of development programs, promotion of a number of commercial and industrial establishments and increase in the number of vehicles. On the other hand, forests are being denuded in the uncontrolled manner mainly for the supply of fuelwood and timber and for resettlement purposes. These factors have led to a worsening of the energy problems and have, at the same time, affected the ecological balance adversely.

Though water resources is one of the most important valuable and basic infrastructure for the overall development of the country having a high potential to generate surplus power for export, harnessing of this resources needs huge amounts of capital, numerous technical manpower and a long time horizon especially in term of export, harnessing of his resources needs huge amounts of capital, numerous technical manpower and a long time horizon especially in terms of pre-investment and feasibility studies and in terms of construction. Development of forest resources, which represents another national asset, also needs huge financial and human resources in addition to the long time involved from planting of saplings to their fuel growth.

In the above background, it has become essential to promote and implement programs directed at the development of alternative sources, sources of energy, conservation of sources of energy and at the substitution of energy to ensure supply in the future. In this connection, programs which aim at the development of bio-gas, solar and wind-power distribution of improved Chulo to conserve fuel-wood installation of cross-flow turbine and multipurpose power unit in the conventional water mill to increase its horse-power, research and analysis to identify cheap alternative source of energy and at providing necessary incentives to their producers, have to developed and implemented. In addition, it has also become essential to coordinate the activities of the agencies and institutions, both in the private and public sector, involved in the production and in research activities of alternative sources of energy especially with a view to mobilize the available resources to improve the working capacity. The proposed outline for the development of alternative sources of alternative sources of energy has been developed taking into consideration all these factors.

Review of the Sixth Plan

Sixth Plan had aimed at developing arrangements to provide necessary assistance and to facilitate programs designed at research and analysis of cheap alternative sources of energy and to programs designed to increase the production of these sources of energy. However, the government sector could not provide the necessary assistance and support to these activities.

In the area of forest conservation and tree planting, conservation and planting activities in addition to the distribution of improved Chulo were undertaken under the community forest development project and some other projects. Around 1620 bio-gas plants, at the family and community level, have been constructed in addition to the installation of 250 cross-flow turbines and multipurpose water-mills which have provided at concessional rates directly to the farmers and through the small farmers development projects by the Agricultural Development Bank under the loan assistance of Asian Development Bank. In addition, grants from UNICEF were also received for these activities. Some private sector establishments also seem to be engaged in the production of solar water-heaters and solar-drier.

Projection of Demand and Supply of Energy during the Seventh Plan period.

It has been estimated that the annual demand of the total energy needs will be 3781 kilo-ton, oil-equivalent by the end of the Sixth Plan period and this further estimated to increase to 4356 kilo-ton and oil equivalent per annum by the end of the Seventh Plan. Of this total demand, 93 percent is estimated to be accounted by domestic uses, 3 percent by commercial and industrial sector, 3 percent by transport sector and the rest 1 percent by other sectors. Actual energy use by different sectors and projected estimates are presented in the following tables:

Total energy Consumption (Kilo/ton Oil Equipment)

Sectors	1980/81	1985/86	1990/1991	1980/81-1990/91
Domestic	3126	3573	4082	2.7
Industries and Others Enterprises	83	102	130	4.6
Transport	70	93	123	5.8
Agriculture	5	9	17	13
Others	4	4	4	0
Total	3288	3781	4356	

Sources: "Energy Sector -Brief Report", published by the Water and Energy Commission.

In total consumption of energy, consumption of petroleum products, electrical-power, coal and lignite, fuel-wood and other traditional resources of energy is estimated as follows:

(Kilo/ton equivalent)

Year	Total Energy Consumption	Electricity	Petroleum	Coal and Lignite	Traditional Sources of Energy including Fuel-Wood
1980/81	3288	14	199	36	3119
		0.43	3.62	1.09	94.86
1985/86	3781	28	153	42	3538
		0.74	4.05	1.11	94.10
1990/91	4356	53	198	49	4056
		1.22	4.55	1.12	93.11

Sources: "Energy Sector: Brief Report" Published by the Water and Energy Commission.

The following objectives, policy, working policy and programs have been identified by the Seventh Plan for the development of the alternative sources of energy:

Objective

1. To meet the energy needs and to reduce the dependence on traditional sources of energy through the development of alternative sources of energy.
2. To encourage the wide spread use of improved and appropriate techniques to reduce the consumption of fuel-woods by the domestic sector.
3. To develop and expand the use of productive techniques through appropriate improvements in the traditional techniques in rural areas, especially in the context of the use of hydro-energy.

Policy

1. To encourage the development of alternative sources of energy, especially to the development of bio-gas plants, solar and wind energy and to accord a greater importance to the role of the private sector in this area.
2. To expand the distribution and use of improved Chulo in an extensive manner with appropriate encouragement to the private sector to reduce consumption of fuel-woods. In addition, research will also be undertaken to develop techniques designed to reduce the consumption of fuelwoods.
3. To undertake research activities to develop and construct cheap and appropriate bio-gas plants to suit the different climatic conditions of the different parts of the country.
4. The use of small water turbines and of improved water mills will be propagated and encouraged on a wide-scale in the rural areas, especially to augment the development of agriculture and cottage industry and to supply electricity to these areas.

Working Policy

1. Necessary assistance and incentives as may be justified will be provided to encourage the involvement of the private sector in the development and expansion of use of alternative sources of energy and to make the role of the agencies and institution involved in this area more effective. Consumers will also be provided with financial assistance either in the form of grants or loans to promote the use of these alternative uses of energy.
2. Necessary encouragement and incentives will be provided to the concerned agencies in researches directed towards the development of cheap, practical, simple and more productive techniques in the use of alternative sources of energy.

3. Highest priority will be accorded to the production and distribution of bio-gas plants, improved Chulo and improved water mills as there is a great potential to increase their uses.
4. Data will be collected and analyzed and the available techniques propagated on an applied basis to develop solar energy and wind energy.
5. The use of local skill and technology, labour and resources will be encouraged in the development of alternative sources of energy.
6. Research, surveys and studies will be undertaken to develop alternative sources of energy. Likewise, technical manpower will be developed through the mechanism of imparting training to the local people.

Programs

The following programs in the area of development of alternative sources of energy, energy conservation, energy substitution and in the area of research and analysis in the use of alternative sources of energy have been identified for implementation during the Seventh Plan.

1. Establishments of Bio-gas Plants

Gas from these bio-gas plants can be used for cooking purposes, for lighting purposes, for operating small mills for processing agricultural products and for electrification. Another important and very useful product for these plants is the high quality organic manure. Bio-gas plants can be expected to contribute positively in the improvement of the environment in addition to ushering pleasant changes in domestic life by providing clean, easy and smokeless sources of energy.

It has been found necessary to provide subsidy to the users and to provide encouragement to the producers of bio-gas plants to promote the production of these plants. Thus, a provision to sell these plants at 25 percent less than the production cost and to provide the differential in the production and the sales price to the producer in the form of a grant will be implemented. This grant to the producers has been calculated on the basis of savings accruing to the government through less use of fuel woods which will be the case if the bio-gas plants are used.

During this plan period, a total of 4,000 bio-gas plants will be established throughout the Kingdom, the breakdown of which on a fiscal year basis is provided as follows:

Fiscal Year	Number of Bio-gas Plants to be constructed	Total Investment (Rs.000)	Total Investment of the Pvt. Sector (Rs. in '000)	Grants to be Provided by HMG (Rs. in '000)
1985/86	480	9,792	7,392	2,400
1986/87	640	13,056	9,856	3,200
1987/88	800	16,320	12,320	4,000
1988/89	960	19,584	14,784	4,800
1989/90	1,120	22,848	17,248	5,600
Total	4,000	816,000	616,000	20,000

Establishment of the 4,000 bio-gas plants, ranging in size from 100 cubic feet, is expected to provide energy sufficient to meet the cooking and lighting needs of a population of 42,000. Savings of about 16,000 ton (22,000 cubic meters) of fuel wood and of 960 kilo liter of kerosene (for lighting purpose only) are expected to be made from the use of these plants. In monetary terms, these savings will amount to Rs. 18 million needed to develop 3,000 hectares of land for productive forest to produce the above mentioned quantity of fuel woods and to Rs.5.7 million in foreign exchange needed to import kerosene. In addition, foreign exchange to the tune of Rs. 16 million will also be saved, as these plants will produce about 2,800 metric tons of organic fertilizers.

2. Distribution of Improved Chulo

Significant contributions can be expected from the improved Chulo in reducing the consumption of fuel-woods and thus, to the conservation of forest as these Chulos are supposed to use only 50 percent of the fuelwood used by traditional Chulos. Program on the distribution of improved Chulos is expected to ease the present pressure on forest and to reduce the need to plant saplings to significant extent. As an integrated component of this program, measures designed to increase the acceptability of the customers by seeking their choice and their approvals in design developments. In addition, regular review and evaluation of this program will also be undertaken. The activities undertaken by different agencies will also be coordinated.

Under this program, improved Chulo will be distributed in Kathmandu and other district facing fuelwood shortage free for charge. However, transportation cost from the godown to the user's house and installation charges will have to borne by the users themselves. Training programs to the polters producing the Chulos, to the workmen involved in their installation and to the users for repair and maintenance will also be undertaken. During the plan period, a total of 160 thousand improved Chulos will be distributed as follows:

Fiscal Year	Number of Chulos (Rs. in '000)	Estimated Cost (Rs. in '000)	Estimated Expenditures for Review, Evaluation & Training (Rs. in '000)
1985/86	16	1,600	150
1986/87	25	2,400	259
1987/88	32	3,200	300
1988/89	40	4,000	400
1989/90	48	4,800	415
Total	160	16,000	1,500

If the distribution of 160 thousand improved Chulo is estimated to cost Rs. 16 million, a saving of Rs. 270 million is estimated to be made on the basis of the fact that these chulos require only 50 percent of the fuel wood required by the traditional chulo(cooking stove). On this basis, it is calculated that on area of 40,000 hectares which will be required for afforestation to produce the required fuel wood (for traditional chulos) annually will not have to be developed.

3. Installation of Turbines and Improved Water-mills

There are about 25,000 traditional water mills scattered all over the country in Nepal. If these water mills could be improved to produce even only 10 kw each then an addition 250 mw of power could generated. In present context, the private sector is manufacturing multipurpose power unit (MPPU) and cross-flow turbines of different capacity and these have the potential of substituting the use of traditional water mills. In addition, these turbines and water mills produce more power that the traditional water mills, can process a more diversified ranged of agricultural products and can even generate electricity for distribution to the immediate neighborhood.

A system to subsidies 10 percent of the total installation charge will be developed to promote the use of multipurpose power unit and cross flow turbines. In addition the practice of making available loans at concessional rates from the Agricultural Development Bank will be continued. It is estimated that during the Plan period, 640 multipurpose power units (on an average, 5 horse-power) and 320 cross flow turbines (10-20 horse power) will be installed and HMG will have to provide grants to the tune of Rs. 4.8 million.

The details of these calculations are presented as follows:

Fiscal Year	No. of MPPU to be installed	No. of cross turbines to be installed	Investment of the Private Sector (Rs. in '000)	Grants from HMG (Rs. in '000)
1985/86	80	40	5,400	600
1986/87	80	40	5,400	600
1987/88	160	80	10,800	1,200
1988/89	160	80	10,800	1,200
1989/90	160	80	10,800	1,200
Total	640	320	43,200	4,800

4. Solar and Wind Energy Development Program

The scientific use of solar and wind energy has to be accepted as being negligible upto now in Nepal despite the fact that the development of these sources of energy can be important sources of energy supply. In the area of solar energy, the private sector has been involved in the manufacture of solar water-heaters and driers. However, as the process of transforming solar energy to electrical power involves relatively high costs we are yet to come to a stage where this technique can be used by the general people

Though the scientific use of both solar and wind energy is very limited in the present context, it is necessary to collect data and information in these area and to analyze them right from now on in view of the potential role of these sources of energy in future. This, in this context, a program to establish around twenty

stations with equipment to measure solar heat and wind speeds is expected to be implemented during the Seventh Plan. To the extent possible, this equipment will be installed in hydrology and meteorology related stations.

The private sector will be provided with necessary incentives to promote and develop the use of solar energy, especially to encourage a more extensive and wind spread use of useful technologies, such as the solar water heaters and driers. In addition, program aiming at tax-rebates to reduce the prices of these products and at providing necessary encouragement and incentives to the producers will also be implemented as the use of this source energy is likely to significantly reduce the consumption of electricity and fuel wood and of imported oil products. In addition, programs will be implemented to encourage the use of this source of energy to develop irrigation and cottage industry in those areas, which are short of other sources of fuel. Appropriate steps will also be initiated to develop this source of energy on the basis of surveys, studies, data collection and analysis and of the existing techniques.

At amount of Rs.2.5 million has been earmarked for the implementation of this program.

5. Research and Development

There are numerous research and development opportunities in the area of alternative source of energy as this is a relatively new field. Though there are a number of government, semi-government and private agencies involved in these activities, research and development works have not progressed much mainly because of shortage of necessary financial resources, lack of coordination and the lack of specified goals. In this background, the Seventh Plan addresses itself to improving these identified deficiencies. to be more specific priority will be accorded to the research and development works in the following areas:

- i. designing of less expensive solar water heater, cooker and direr,
- ii. designing of less expensive and more effective bio-gas plants and developing techniques which will ensure the same quantity of gas even in winter season,
- iii. designing of further improved Chulos,
- iv. designing of residential house which can maximize the use of solar heat, and
- v. development of less-expensive, simple and easy to operate water mills and other water based equipment.

A total Rs. 3.2 million has been ear-marked for this program.

6. Training Program on Alternative Sources of Energy

The fact that the private sector has played a significant role in the development of alternative sources of energy, in energy conservation and in substituting the conventional sources of energy, in energy conservation and in substituting the conventional sources of energy has already been mentioned earlier. In this connection, it has become essential to provide additional encouragement and incentives to this sector. In addition, to measure directed at providing tax and customs rebate to the private sector, measure to improve the productivity of the workers engaged in this areas are also equally important to implement. Thus, the Seventh Plan has also developed a program to train the workers involved in the area of alternative sources of energy ini the private sector. A total sum of Rs. 2.0 million has been earmarked for this training program.

Allocation of Expenditure

Allocation of expenditure for the different programs to be implementd in the area of development of alternative sources of energy during the Seventh Plan is as follows:

Program	Expenditure (million in rupees)
1. Establishment of Bio-gas plants	20.000
2. Distribution of Improve Chulo	17.500
3. Installation of Turbines and Improved Water-mills	4.800
4. Solar and Wind Energy Development	2.500
5. Research and Development	2.200
6. Training Program	2.000
Total	50.000

CHAPTER 38 (C)

WATER AND ENERGY DEVELOPMENT

Introduction

Formulation and implementation projects through the concerned sectoral agencies to increase the use of water resources has become highly essential, especially in view of the fact that of the natural resources available in the country, water resources is probably the most important one. This resources has to developed as the backbone of the economy not only to reduce the dependence on traditional sources of energy like fuel wood, dung cakes and other imported sources of energy like gas and oil but also to develop other sectors of the economy. In the present context, it has become essential to accelerate the pace of irrigation development to increase agricultural production and to increase the generation of power through the development of water resource. In addition, development of other sectors of the economy such as river-based transport is also dependent on the development and harnessing of water resource. All these considerations reinforce the need to develop water resource and energy in a planned and dynamic manner. As mostly the government agencies are involved in the task of increasing the use of water resources, it was felt necessary that the activities of these agencies have to be well coordinated with clear and specific goals and a proper guideline has to be enunciated. A national body to coordinate and guide the activities of these agencies was sorely needed. Thus, keeping in view all these considerations, His Majesty's Government formed in fiscal year 1975/76, that is, during the Fifth Plan period, a Water and Energy Commission with the representation of all the concerned agencies. In addition, arrangements have been made for this Commission to be chaired by the Minister for Water Resources. A permanent Secretariat with experts in related fields has also been established for effective operation. It has become necessary to identify and develop programs for implementation by this Commission during the Seventh Plan as this Commission has significant potentials in carrying out studies, research and analysis, exploration and project formulation related tasks and in providing technical advice for the development of water resources.

Review of the Sixth Plan

The secretariat of the Water and Energy Commission has been involved in extending assistance in formulation of water resource and energy related projects, collection of basic data, research and standardization, determination of existing manpower, preparation of project profiles of different project, study of investment outlays for different projects, study on the allocation of investment and their benefits of large projects, evaluation of the general impact of such projects and in conducting studies on the development of alternative sources of energy. In addition, the Secretariat has also been involved in the development of an economic impact model for water resource, in the application of the basic assumption of this model and in studies on national and international laws related to Nepal and of international arguments on, and management of, these laws have also been going on.

Canadian government is involved in extending assistance to the Secretariat. Efforts will be directed at further strengthening the Secretariat during the Seventh Plan.

Objective

1. To facilitate the planned and rapid development of water resources by coordinating the activities of all the concerned agencies and by providing specific guide lines.
2. To orient the focus of the program on water resource control and conservation to the water use needs of the country as a whole.

Policy

1. Efforts to coordinate the activities of the agencies involved in water resource and energy sectors will be continued further.
2. National laws and rules and regulations related to water resource and energy will be devised and developed and programs will be formulated on detailed surveys and exploitation, studies on present and future needs, resource conservation and development and long and short-term projects related to the water resource utilization of the county.
3. Guidelines will be developed to render project formulation, identification, selection and operation and maintenance costs less expensive but more effective on the basis of evaluation and study of current practices
4. Necessary advice, suggestion, and recommendations will be provided to His Majesty's Government on policy measures and plans on water resource and energy.

Program

1. Survey and exploration of the water resource and energy sources of the country will be undertaken and the involvement of different agencies in such activities will be well coordinated in addition to extending necessary advice to His Majesty's Government to such matters.
2. Studies on the present and future needs of the country in the area of water and energy sources will be undertaken.
3. Programs directed at the conservation of sources of water energy, their development and proper use will be formulate either by the Secretariat or other concerned agencies.
4. Both long-term plans and projects on water and energy sector will be developed and coordinated.
5. National laws, rules and regulations will be devised and developed on water resources and energy.
6. Research and studies on the sources of the sources of water resource and energy will be undertaken.

Expenditure

Total sum of Rs. 5.6 million has been earmarked for the programs of Water and Energy Commission to be implemented during the Seventh Plan period.

CHAPTER 38 (D) ENVIRONMENT

The objective conditions of land, water living organisms and biosphere, their pattern of utilization and interactions can be defined to constitute the environment as such. The developmental activities organized by human beings are indeed an integral part of the environment. In the interactions of different elements constituting the environment as such are balanced, then we have a stable environment whereas the environmental conditions tend to deteriorate if these elements are not balanced. Likewise, a close relationship subsists between land-use and environment. The changes made by man on land-use patterns tend to affect the ecosystem which in itself can affect the welfare of mankind. These considerations lead to the conclusion that environment has to be included as a determinant in the developmental efforts of human beings. In the developed countries, environmental problems seem to originate from industrialization and modernization, whereas in a country like Nepal these problems can be attributed to ignorance, poverty and the rapid growth in population. Maintenance of a balanced ecological system seems to get more and more difficult especially as the rapid increase in population pressure and rapid expansion of developmental activities seem to cause denudation of forests, land-erosion, floods, drying-up of water sources and shortage of fuel woods, grass and other like sources of energy. In addition, industrialization, modernization, and tourism development also seem to be contributing to ecological disturbances. The main objective of environment management will be to mitigate the adverse effects of the mentioned factors and to maintain a balanced environment. In addition, proper land-use patterns and a sound environment management system are the basic prerequisites to control the process of desertification, to increase land-productivity and to implement balanced development plans. In short, proper land-use patterns and sound environment management are the essential preconditions to improve the general welfare of the people.

Review of the Sixth Plan

It is believed that the measures initiated during the Sixth Plan have helped in checking further deterioration of the environmental conditions on the one hand and in developing a sound base for formulation and implementation of policies directed at the maintenance of a sound and balanced environment. Formation of a Department of a sound and balanced environment. Formation of the Department of Soil and Water Conservation and of the Department of National Parks and Wild-life Conservation are the results of some of the steps taken by His Majesty's Government. Likewise, implementation of integrated rural development projects, watershed management, community forest development and other projects with afforestation component have contributed positively to the forest development program while the establishment of a Remote Sensing Center has helped generate data on environmental status. In this background, the establishment of Mahendra Nature Conservation Fund and the establishment of International Center for Integrated mountain development (ICIMOD) with the assistance of UNESCO and other friendly countries can be expected to play a significant role, the latter not only in Nepal but also in regional context, in the conservation and development of a balanced environment. Study project on environmental impacts was also taken up by the Department of Land and Water Conservation during the second year of the Sixth Plan.

This Project has been involved in drafting a national policy and legal measures on environmental conservation, in study and evaluation of the impacts of developmental programs on environment and in organizing training, seminars and conferences in addition to publication of materials on conservation of nature. Likewise, Nepal National Committee on Man and Biosphere has also been involved in conducting research on related issues. This Committee in fact ushered in the right atmosphere for the establishment of ICIMOD. As the formulation of a first phase national conservation policy has already been completed and the report already prepared with the assistance of IUCN, efforts to initiate works on the second phase during the Seventh Plan period are being made. The election of Nepal to the governing council of United Nations Environmental Program for a three year period starting from 1984 can also be expected to facilitate exchange and inflow of information or conservation efforts made in the international context and to mobilize external resources for conservation efforts in Nepal itself.

In the above background, it has to be accepted that there are many tasks to be undertaken in the area of land use and environment conservation but it has to be accepted that these tasks are by no means easy. In addition, nature conservation and proper land use functions can not be the responsibility of a single agency, but needs a multi dimensional and multi institutional approach. Thus, formulation and implementation of programs in these areas need multi sectoral approach and a good coordination.

Problems in Implementation

- a) The National Resources Conservation Commission, formed in the Sixth Plan to provide necessary guidelines at the national level to the concerned agencies, has not been able to function effectively as desired. One of the main reasons for this has been to keep this commission as an agency of the Ministry of Forest and Land Conservation.

- b) The Sixth Plan could not arrange for the training and development of manpower and expertise in conformity with the multidimensional nature of environmental management.
- c) Study and evaluation programs have suffered mainly because no system has been devised and developed to specify a nationally acceptable minimum level of pollution and to develop the manpower necessary to undertake these activities.
- d) Continued collection of data and their interpretation and research and analysis are very essential for the development of a sound environment management program. Forgoing ahead in this area has proved difficult mainly because of the absence of a central-level body to look in this area, though there are some agencies presently engaged in these activities.

In the above background, the Seventh Plan has identified the following objective, policy and program for implementation in the area of environment and land use.

Objective

1. To control environmental degradation caused by developmental activities and other factors and to bring about and maintain a positive relationship between development activities and environmental management.
2. To preserve the interest and welfare of the common people by reducing the level of water, air and sound pollution.
3. To maintain and develop the overall welfare of the people through conserving and strengthening the environment through a system of sound environmental management.

Policy

1. Efforts will be made to coordinate the involvement of the concerned agencies in the multidimensional task of development a sound environment through concerted efforts.
2. Necessary steps will be initiated after an evaluation of the effectiveness of the present institutional arrangements with a view to ensure proper coordination amongst the different governmental agencies and to ensure proper implementation of related programs.
3. Developmental programs will be implemented only after evaluating the environmental aspects of these programs.
4. Efforts directed at people participation and at creating awareness in the people on resources conservation and management would be encouraged.
5. Collection of data and research and analysis activities necessary for maintaining a healthy environment will be continued.
6. Promotion, establishment and development of national parks and sanctuaries, which not only help preserve the rare species but also help in ecological balance, will be continued.
7. In resolving the problems related to ecology from population growth and natural catastrophes encouragement and incentives will be provided to relocate the population engaged in agricultural pursuits in the operation of the cottage and small-scale industries. In addition marginal lands will be converted to forest and pastoral lands.
8. Environmental aspects will also be given their due importance in tourism development programs.
9. A system will be devised and developed to implement programs on industrialization, urbanization and resettlement only on the basis of scientific classification of land taking into consideration the structure and possible uses of such lands.
10. The process of conservation of important and sensitive watershed areas through afforestation, flood control and other measures will be continued.

Program

1. Necessary steps will be taken to further strengthen the present National Natural Resource Conservation Commission so that the Commission can play a more effective role in maintaining a proper balance between man and natural resources and environment.
2. Necessary arrangements will be made guidelines on these arrangements will be prepared in conformity with the policy to incorporate elements of environmental factors right from the formulation stage of developmental plans and projects so that there are no adverse effects of these plans projects on the ecological system. In addition, studies to evaluate the effects of industrial, tourism, water-resources, transportation, urbanization, agriculture, forest and other developmental programs on environment will also be undertaken.
3. Scientific research and analysis will be continued in an unceasing and effective manner in areas related to resources conservation and development in addition to specifying a minimum standard of environmental cleanliness.

4. Pilot projects exhibiting balanced environment of different geographical and ecological regions of the country will be implemented.
5. Exchange of information and knowledge on major achievements in the area of resources conservation and management will be promoted at an international level by establishing and developing relations with the concerned agencies. In addition, information on resources conservation and management will be disseminated within the country through the medium of studies, exhibition and education.
6. The present rules and regulations on resources conservation and utilization will be implemented effectively in addition to formulating acts on conservation of national ecology and environment.
7. Study of environmental aspects will be made compulsory at the school and college levels and necessary steps to prepare a syllabus and textbook in this subject will also be taken.
8. Study and training opportunities, both within the country and outside, will be developed to develop necessary manpower on resource conservation, utilization and management. In addition, the program in national development service will also be oriented to the area of natural resource and environment conservation.
9. A report on the status of environment will be prepared during the Seventh Plan period in addition to the preparation of a yearly report on the quantity of natural resources and environmental situation at a regional and the national level.
10. Individuals, social institutions and organizations, non-governmental agencies, class organizations and local panchayats will be encouraged to be more active and necessary arrangements to award recognitions and assistance as incentives will also be made.
11. Classification of land on the basis of national land-use policy will be started.
12. One of the fiscal year covered by the Seventh Plan will be designated as environment year and activities will be conducted in a manner specified by the programs of this year, especially with a view to ensure effective and timely implementation of programs on ecological balance and environment management by the concerned agencies.
13. Efforts on the formulation aspect of a national conservation policy and programs will also be developed and implemented after the finalization of national conservation policy.

Allocation of Expenditure

It is estimated that a total investment of Rs. 10.8 million will be made by His Majesty's Government to implement the above mentioned programs .

Chapter 39

Education and Culture

National education system has been in operation since the year 1971 for the all-round development of education in Nepal. There are many fundamental subjects under the system. It has been specified that a single system of education should be adopted through the country. Education materials are being made available increasingly at the school level. Improvements are being made in the distribution of education materials. Besides, the extension and consolidation of school level education is being emphasized in remote areas. Arrangements are being made for extra-curricular activities in many schools. In the national education plan, priority has been assigned to meeting the need of technical manpower. Some substantial achievements have been made in this direction during the Sixth Plan period. For example, establishment of technical schools and efforts made to produce low, medium and high level manpower can be cited. Main achievements made during the plan period are as follows:

Programme Review of the Sixth Plan

(a) School Education

Comparing the situation of primary, lower secondary and secondary education in the final year of the Fifth Plan 1979/80 with the final year of the Sixth Plan 1984/85, it becomes clear that the number of school, students and teacher at all the three levels has increased satisfactorily. Annual statement about this is given in the attached table.

The number of primary school enrollment in the final year of the Fifth Plan was 1,317,008 students. It increased by 39 percent to 1,833,655 students by the final year of the Sixth Plan. This is about 78 percent of the children of primary school going age, 6-10 years. The main causes of this increase in the number of primary school children are the provision of free primary education, free distribution of text books up to grade III and rise in public consciousness in favour of education. In FY 1979/80, female enrollment was 26.7 percent of total student enrollment. The figure rose 28.8 percent by the fourth year of the Sixth Plan, 1983/84. The number of teacher is estimated to have increased from 28,353 in FY 1979/80 to 44,616 in FY 1983/84. Thirty two percent of them have been provided training. In the year 1983/84, teacher-student ratio is 1:39. The number of schools is estimated to increase from 10,404 in FY 1979/80 to 11,704 in FY 1984/85.

142,271 students were enrolled in lower secondary schools in FY 1979/80. Student in lower secondary school is estimated to reach 266,639 in FY 1984/85. This is 35 percent of the children of school going age. Female student enrollment at this level in FY 1979/80 was 20 percent. This figure reached 23.9 percent in FY 1984/85. Of 10,590 teachers at lower secondary level in FY 1983/84, 41.4 percent were trained.

In FY 1983/84, teacher-student ratio is 1:23. In FY 1979/80 the number of schools was 2223. By the end of the plan period, it is expected to increase to 3502.

In the final year of the Fifth Plan, the student enrollment was 121,007 at the secondary level. By the final year of the Sixth Plan, FY 1984/85, the figure is expected to reach 228,5022. This is about 24 percent of the children of secondary school going age of 13-15 years. At this level, female student enrollment in 1979/80 was 17.9 percent. In FY 1984/85, the figure is estimated to reach 21.8 percent. By FY 1984/85, 55.6 percent of the total number of 6294 teachers at this level were imparted training. At this level, teacher-student ratio is 1:34. In FY 1979/80, the number of school was 785. By the final year of the Sixth Plan, the figure is expected to reach 1280.

The Sixth Plan had an objective to make adult education vocational and functional. The informal education adopted as an experiment was taken as the basis. The programme was adopted to make adults vocational-oriented and activate the adults in production activities. There was programme to make 9 lakh adults literate. About 276,710 adults are expected to be imparted literacy by the end of the Sixth Plan.

There was the target to impart literacy to 32.4 percent of the total population by the end of the Sixth Plan period. However, achievement has been only 28.9 percent. One of the main reasons for the non-fulfillment of target was that the population growth rate proved to be 2.66 percent according to the report on 1981 census despite the previous estimate of 2.3 percent at the start of the plan period.

It is the objective to increase people's participation and effectiveness in school education. With the objective, school cooperation committee has been changed into school managing committee with additional responsibilities.

**Progress in School Education
During Sixth Plan period**

Level	1979/80	1980/81	1981/82	1982/83	1983/84	9184/85	Percentage change in 5 years
1. Primary							
a. School	10,404	10,628	10,912	11,299	11,479	11,704	12.5
b. Student	1,317,068	1,388,001	1,474,698	1,626,437	1,743,518	1,833,655	29.2
c. Teacher	28,353	29,134	32,259	38,131	44,616	49,305	73.8
d. TS Ratio	1:46	1:47	1:46	1:42	1:39	1:36	
2. Lower Secondary							
a. School	2,223	2,786	2964	3268	3352	3502	57.5
b. Student	142,271	169,564	199678	219639	252686	266639	87.4
c. Teacher	11,145	12,245	10820	10146	10590	11037	-0.1
d. TS Ratio	1:13	1:14	1:18	1:21	1:23	1:23	
3. Secondary							
a. School	785	918	1031	1124	1205	1280	63.0
b. Student	121007	144331	170404	198446	214611	228502	88.8
c. Teacher	4683	4909	5634	5764	6294	7881	46.9
d. TS Ratio	1:26	1:29	1:30	1:34	1:34	1:33	

Estimated source: Ministry of Education and Culture.

(b) Efforts for Qualitative Improvement of School Education

Various programmes and projects were undertaken during the Sixth Plan period for improving the standard of school education. An education project was launched in Seti Zone with a view to bring about qualitative improvement in education by adopting new techniques for various aspects of education, such as, teachers' training and supervision, curriculum design, preparation of text books and education materials. Science education project was started in order to make provisions for imparting science education of good standard by improving the teaching and learning process in science, mathematics and English subjects. Similarly, primary education project was undertaken to improve the quality of education at this level. Primary education is the foundation stone of higher education. Besides, programmes in conformity with educational policies are underway to increase the number of trained teachers, to improve curriculum, education materials and examination system to establish the process of developing new education programmes, methods and techniques on the basis of studies and research, to reduce educational losses, to make arrangements for sufficient education materials, to consider population while establishing schools and to improve other physical facilities. A special programme has been launched to fulfill the need for teachers in remote districts.

(c) Technical Education

There were programmes in the Sixth Plan to establish trade schools in Lahan, Dhankuta and Jumala to start secondary level technical school in the Dharan Campus of Engineering Institute, to open lower secondary level technical schools in Sifal (Kathmandu), secondary level technical school in Sanothimi (Bhaktapur), and Technical Schools in Karnali, Bheri, Seti and Rapti Zone and in Mustang, Kaski, Solukhumbu and Jiri and to convert Butwal Technical Institute and Balaju Mechanical Training centre into technical Schools. Programme has been made for establishing technical school in Sanothimi (Bhaktapur), and technical schools in Karnali, Bheri, Seti and Rapti Zone and in Mustang, Kaski, Solukhumbu and Jiri and to convert Butwal Technical Institute and Balaju Mechanical Training Centre into technical Schools. Programme has been made for establishing technical school in Lahan, Jumala, Dhankuta, Jiri and Dharan (under Engineering Institute). Besides, the mechanical training centre in Balaju has been converted into trade school.

(d) Activities Relating to Art, Culture and Sports Development.

Royal Nepal Academy has been conducting music and dance training in Kathmandu, collection and exhibition of fine arts in Birendra Kila Bhavan, cultural 'Mahotsav celebrations' Publication programmes, etc. to uplift and propagate Nepali art and culture. Cultural Corporation has also been making substantial contribution in organizing cultural programmes.

Archaeological works are underway for the renovation and preservation of historical and cultural monuments in Kathmandu and Patan Durbar Square, Gorkha Durbar Square, in Swayambhu, Boudhnath and in various parts of the country. Surrounding environment are also being improved.

Facilities are being provided to stimulate and activate the youth in sports under the National Sports Council. Priority has been assigned to place beyond Kathmandu Valley. Covered hall are under construction in Nepalgunj, Sankhuwasabha, Baitadi and Bhojpur, During the plan period, first and second national sports contest was held and the first Asian sports contest was also organized.

When the achievements of the Sixth Plan are analyzed, it becomes clear that physical facilities could not be provided to the desired extent for school development which is the infrastructure for the development of educational sector. Teachers training was not considered necessary for permanent appointment. Number of trained teachers could not be increased according to target. The supervision system also could not be made effective.

For the formulation of education plan, reliable statistics are still not available on schools, teachers and students. Drop-out problem has been the main hurdle to primary education. Although the number of female students has increased to some extent, the increase has not been substantial.

There has been no progress according to target in adult education. The main reason for this is that implementation could not be effective because of the lack of proper supervision of the programmes that were under way.

Background of the seventh Plan

In view of the performance of the Sixth Plan described above, it is necessary to bring about substantial improvements in the educational sector of the forthcoming plan. There is still the need for active efforts to make available actual statistics on education. During this plan period, various steps will be taken for collecting, analysing and processing education statistics. Primary schools will be opened by ascertaining the need in different places. Schools already operating in the country will be studied in the districts. establishment of new schools will be encouraged on the basis of school mapping. Secondary schools will be allowed to be established in the private sector on the basis of people's participation. These schools will be studied for a specific period of time and grants can be provided only on the basis of the study.

The defective implementation of the adult education programme will be taken into account. Steps will be taken to improve and strengthen the implementation of the adult education programme in the seventh Plan accordingly.

Arrangements will be made for girls hostel and training lady teachers with an objective to encourage female education. In order to raise the standard of education, it is necessary to make provision for teachers training. It is also necessary to generate competitive feeling among schools with this objective, some model schools will be opened during the plan period. The difficulties because of the lack of low level and basic manpower will be taken into account. Additional arrangements will be made for technical schools during this plan period.

Steps will be taken for timely improvements in higher education. It is the objective to accelerate educational development. Following objectives, policies and programmes will be adopted with this objective in the Seventh Plan.

1. National objective of Education

- a. To prepare citizens who are loyal to the nation and the crown, dedicated to the system and preservation of national sovereignty, conscious of their duties and rights and have high moral character.
- b. To prepare capable manpower by developing technical skills and knowledge necessary for various nation building works.
- c. To develop science and technology in order to fulfill the multi-dimensional need for development and national modernization.
- d. To support national development by preserving and promoting the glorious culture, art and literature of the kingdom of Nepal .

2. Policy

- a. To expand literacy rate rapidly by means of primary education and adult education, to emphasize the development of vocational education, to establish and develop technical educational institution at

university and campus level, to prepare skilled manpower necessary for economic development of the country, and to emphasize the qualitative improvement of educational standard.

- b. To build up the character of students by imparting moral education and emphasizing sports and extra-curricular activities.
- c. To adopt the policy of making arrangements for primary education from 1-5 standard and secondary education from 6-10 standard and gradually develop the system accordingly.
- d. To encourage private sector and people's participation in the establishment of lower secondary and secondary schools and campuses that impart higher education of vocational or general nature.
- e. Special arrangements will be made for the development of female education.
- f. Emphasis will be placed on the development of culture, art and literature that can add new dimension to national development by eradicating superstition and mal practices from the society.
- g. To emphasize the preservation and promotion of places and objects of archaeological importance and cultural monuments and arts.

3. Working Policy

- a. In order to make primary education available to everybody, education at this level will be made free and text books will be freely distributed up to the third class.
- b. Secondary schools that have been sanctioned by His Majesty's Government subject to specified conditions will be provided grants only after they have run successfully with people's participation for a specified period of time. Necessary arrangements will be made for this purpose.
- c. The responsibility of establishing adult literacy centre will be entrusted to concerned panchayats.
- d. Special priority will be given to the establishment of vocation oriented adult education centres in various districts of the kingdom with an objective to imparting vocational skills to adults in education to making them literate.
- e. The responsibility of establishing adult literacy centre will be entrusted to concerned panchayats.
- f. People's Participation will be encouraged for the establishment and expansion of kindergartens.
- g. Programmes like kindergartens and female education development will be conducted on an experimental basis with a view to reducing educational losses.
- h. Technical schools will be expanded in various zones to fulfill the requirements of basic technical and vocational manpower.
- i. Incentive and reward system will be improved to attract good writer and make them prepare text books of good quality.
- j. Scholarships and hostels will be arranged for the development of female education.
- k. Programme for the preparation of food question papers and examination of answer papers in a scientific manner and for building up question paper bank will be conducted for improving the examination system.
- l. Education project for rural development will be started in order to provide educational opportunities to people in remote areas and those places that are backward from educational point of view.
- m. In order to create an atmosphere of competition to raise the standard of education, schools will be evaluated and worthy ones will be rewarded. Besides, model schools will also be established at regional level.
- n. While adding primary schools, wards that have no such schools will be given priority. While adding lower secondary schools, panchayats that have no such schools will be given priority. While adding secondary schools, areas that have no such schools will be given priority.
- o. Extra curricular activity will be classified into compulsory, desirable and optional groups for the mental, intellectual and physical development of students.
- p. Research will be conducted on subjects of national need with an interdisciplinary approach. Such research works will be conducted in mutual cooperation of government and non government agencies.
- q. People's participation will be mobilized for the physical facilities of schools. Panchayats will be activated for the purpose.

- r. Additional equipment and suitable training will be arranged to bring about qualitative improvement in science, mathematics and English teaching.
- s. Population education and environmental education will be integrated with formal and informal adult education.
- t. The school management committee will be activated to run schools according to people's expectations. Participation of guardians will be obtained for making the teachers vigilant.
- u. Experimental activities will be undertaken to attain high quality in science and technical education. For this purpose, emphasis will be placed on making arrangements for laboratories, and equipment and appliances.
- v. Campus autonomy and self-reliance will be emphasised for decentralizing university administration as far as possible.
- w. Substantial measures will be taken to provide higher education through open media like radio and correspondence to reduce the admission pressure on campuses.

4. Objectives of Education

- a. The objective of primary education is to make students literate and develop their habit of remaining healthy.
- b. The objective of lower secondary education is to build the character of students, develop in them the feeling of dignity of labour, stimulate in them the habit of working and to prepare basis for secondary education.
- c. The objective of secondary education is to prepare citizens capable of making contribution for all-round development of the country and to impart basic knowledge for obtaining higher education.
- d. The objective of higher education is to bring about the intellectual development of students, to prepare capable citizens and to furnish manpower necessary for various nation building works.

5. Physical Target of the Seventh Plan

- a. Primary education:
Primary education facilities will be provided to 87 percent of primary school going age of 6-10 years.
- b. Lower secondary education:
Lower secondary education facilities will be provided to 43 percent of children of 11-12 years age group.
- c. Secondary education:
Arrangements will be made for imparting secondary education to 36 percent of the children of 13-15 years age group.
- d. Adult education:
Illiterate adults will be made literate. About 7.5 lakh adults will be made literate. They will also be taught vocational skills. Literacy programme will be undertaken by local panchayats. The primary and adult education programme is expected to raise the literacy rate to 38.9 percent during the plan period.
- e. Teachers training:
Training will be imparted to 2895 primary teachers, 1035 lower secondary teachers and 825 secondary teacher during the Seventh Plan period. Primary teachers training will be provided to 6000 persons under the radio teaching programme and 1710 persons under the female educational training programme during the seventh plan period.

6. Priority

National Priority projects

- a. Expansion of primary education and vocational education
- b. Higher education will be provided on additional technical subjects as necessary.

- c. In order to raise the qualitative standard of education, improvements will be brought about in teachers training programme, educational materials production programme and in the examination system.

Programmes under the Seventh Plan

1. **Primary education:**

Primary education facilities will be provided to 87 percent of the children of primary school going age (6-10 years). Free education will be imparted to the primary children from the first to the fifth standard. Text books will be distributed to primary children from the first to the third standard. For this purpose, arrangements will be made for 1000 schools and 12,838 teachers. This will raise the number of teachers to 62,143 and the number of schools to 12,704 by the end of the seventh Plan period.

Primary education will play an important role in the qualitative improvement of education above this level. This fact will be duly considered and special emphasis will be placed on primary teacher training during the plan period. Programmes will be conducted accordingly. Besides, priority will be given to opening new primary schools in backward areas as far as possible.

Guardians will be encouraged to educate their children from the vary primary level. Female education will be emphasized. Thus the objective of primary education expansion will be fulfilled by the year 2000. The Seventh Plan will advance towards this direction.

The programme to make primary education compulsory will be implemented on an experimental basis in some town panchayats under the activity of the panchayats themselves. Besides, in those wards that have no primary schools, youth voluntary primary schools will be started with people's participation under the activity of educated youth. The School house teacher and other requisites will be arranged by the volunteers with rural participation.

Children school cultivate school going habit in time. Drop-outs should be prevented. The problem of repeating class one will be solved. For this purpose, pre-primary education will be expanded with emphasis. Encouragement will be provided to establish such schools in the private sector on the initiative of social organization and in the panchayat area. Curriculum and text books for this purpose will be specified by His Majesty's Government.

2. **Lower Secondary and secondary education:**

Lower secondary school education facilities will be provided to 43 percent of the children of lower secondary school going age. Similarly, secondary education facilities will be provided to 36 percent of the children of secondary school going age. Encouragement will be given to the private sector for the establishment of schools at this level. Approval will be given for the addition of 450 schools at lower secondary level and 900 schools at secondary level. If such schools run successfully with people's participation for a specific period of time. grants will be provided by His Majesty's Government.

3. **Adult Education:**

The birth right of everybody to have the opportunity to be literate has been declared by the United Nations. UNESCO has made a Worldwide call to eradicate illiteracy by the year 2000. In this context, it is necessary to extend literacy to the adults and to impart them vocational education in addition as specified above.

Illiteracy is a curse on development. It should be accepted that illiterate adult is an agent of production. In order to raise their productivity, they have to be made literate and trained in such activities as health, cottage industries, industrial skills. Their standard of living should be improved. Most of the Nepali People live in villages. The importance of adult education becomes conspicuous in order to carry out development efforts to villages For the fulfillment of the objective, about 7.5 lakh people ill be made literate under local panchayat literacy programmes during the seventh Plan period. Vocational adult education centres will be established in various parts of the kingdom to impart vocational education to 7.5 lakh adults. Thus a total of 15 lakh adults will be made literate.

During the Sixth Plan Period, there were shortcomings in the implementation of the adult education programme. Therefore achievement lagged far behind target. In the Seventh Plan, adult education programme will be implemented under district development plan according to the system of decentralization. Effective improvements will be made in the programme implementation process accordingly.

4. **Curriculum text books and education materials:**

The usefulness and effectiveness of the existing curriculum will be studied and necessary improvements will be made accordingly. In order to make curriculum more effective, its pattern will be changed. The question of making science compulsory will be considered and some vocational subjects will be introduced under optional group. Subjects relating to environment, nutrition and population education will be included in the concerned curriculum and workshops will be arranged on curriculum to make teachers and supervisors more competent in the implementation of curriculum. Text books of good qualitative standard will be prepared. The subject matter, Language and presentation will be made more interesting, more useful and more effective. For this purpose, special attention will be given to the selection of text book writers and the remuneration to be paid to them will be made more attractive.

Supporting materials will be prepared to make text books effective. Reference materials will also be prepared. The possible use of materials prepared under rural development education project and similar other projects will be considered for preparing such materials. Teaching materials will be prepared on physical education, handicrafts, painting, language, science and mathematics subjects for primary level from first to the third grade for distribution among primary schools. Curriculum and text book development centre will be strengthened and, for this purpose, arrangements will be made for physical facilities.

5. Supervision:

Supervision is necessary for raising the quality of education, to improve the process of teaching and learning at the school level, to enhance the competence of teachers, for proper use of teaching technique and education materials and also for physical and financial resources of the school. In this process, the head master and the managing committee have a direct role in control and supervision. The main responsibilities of the supervisor are to analyse the educational and other problems of schools within his jurisdiction, identify the gaps, to try to solve these problems through training and other activities, to evaluate the status of schools, to ensure the smooth flow and exchange of information between the district and the schools, etc. In order to make this process of supervision more effective and consistent, schools in the district will be grouped together and resource centre will be established.

Such centres are in operation in education project areas under rural development programmes. Provision will be made for one additional teacher in such resource centres and training seminars will be arranged for removing the shortcomings identified during supervision. Such resource centres will also prepare the necessary basis for evaluating the students of the schools within its jurisdiction. The supervision system depends on the capability, training and attitudes of the supervisor. Training programmes will be undertaken to improve their skill and efficiency, opportunities will be provided to improve competence. Specialists on various subjects at the regional level will organize training and seminars to support the activities of the supervisor. In order to support the supervisor, Manuals and other materials will be prepared and distributed from the central level. Supervision projects will also be undertaken on experimental basis. The district education officer will inspect the resource centre and schools on a random basis and will recommend worthy supervisors for training, higher studies and other incentives.

6. Teacher training:

Trained teachers play an important role in improving the quality of education. In view of the fact, in-service training will be imparted to 2895 primary teachers, 1035 lower secondary teachers and 825 secondary teachers during this plan period. Besides, under the special programme 90 each of lower secondary and secondary teachers will be trained for 18 remote districts. For this purpose, quota of 18 seats each of I.Ed level and B.Ed. Level of two years duration will be arranged.

7. Radio education teachers training:

Teacher training through radio media will continue for in-service training of teachers below S.L.C. level for teaching in primary schools. Under this programme, 6000 under-matriculate teachers will be trained during the plan period. Offices responsible for conducting, evaluating and analysing this programme will be strengthened.

8. School broadcasting and audio-visual programme.

Besides text books, audio-visual materials also play an important role in making teaching effective. The subject matter can be clearly explained and it will be easy for students to understand through audio-visual media. For this purpose, slides, educational films will be brought to use. School programme and other radio programmes will also be broadcast in order to raise the quality of education.

9. Physical education and extra-curricular activity:

Physical education and extra-curricular activity will be classified into compulsory, optional and extra-optional groups. Compulsory activities should be conducted by all the schools. Extra-curricular activity will constitute the basis for rewarding the schools. Sports, cultural programmes, PT, debating and other competitions will be conducted at school, district, regional and national level. Extra-curricular programmes will be conducted in a more coordinated manner. At least, one teacher at the school level will be imparted extra-curricular training. Workshop seminars will be arranged to conduct compulsory and optional activities. One trainer will be appointed at District Education Office in order to conduct training and extra-curricular activities at the district level. In addition, necessary steps will be taken to enhance the administrative and technical capability at the regional and central level.

Manuals will be prepared and distributed for physical education and extra-curricular activity for the use of teachers and physical education supervisors.

10. Examination reform:

Necessary reform measures will be taken to make school level examination system enactive. The office of the controller of Examination will be physically improved.

11. Scholarship:

Ten scholarships will be awarded to excellent SLC students from each development region in order to continue studies at the Intermediate level. One hundred ten scholarships will be awarded to students from remote districts in order, to provide them school education opportunities. His Majesty Birendra Aishwarya scholarship will be awarded to one boy and one girl student with highest marks in order to enable them to continue at the Intermediate level in Law, Sankrit, Engineering, Agriculture, Medicine and Forestry, similarly, His Majesty Mahendra Ratna Scholarship will be awarded to 7 boy and 3 girl students who have matriculated with highest marks in order to enable them to continue studies at the Intermediate level. His Majesty Mahendra scholarship will be awarded to three foreigners to make research on Nepali language, culture and literature and two foreigners to undertake post graduate studies. Necessary institutional capability has not developed in the country to produce high level technical manpower. Therefore, foreign scholarship will be secured and His Majesty's Government also will provide necessary finance for this purpose.

In order to encourage science education, 50 scholarships will be provided to first class matriculates with science to continue science studies at the Intermediate level Under the special programme, children of planned couples with two children only will be provided free education up to the seventh standard. This provision will be made in 75 districts during this plan period as far as possible.

12. Educational statistics and survey:

Collection of educational statistics and survey of educational problems are necessary to prepare educational plans and programmes. Therefore, the process of collecting educational statistics will be made more effective during this plan period and statistics will be collected accordingly on school, students and teachers. While collecting statistics on students, if there are students who are below or exceed the age specified according to level the same will be made clear in the collection process. Besides, survey and study will be made of the causes of educational loss, the status of students who exceed the prescribed age and the physical and financial condition of the schools. Annual publication and distribution of education statistics report will be continued.

13. Model School

During this plan period model schools will be gradually established at regional level. Arrangements will be made to award scholarships to poor and bright students in such schools in order to ensure proper educational facilities to them. Provision will be made for teacher training and guidance and consultancy services in such schools for improving the quality of education in neighbouring schools.

14. Development of education materials:

Janak Education Materials Centre has been producing and distributing text books and all kinds of education materials at the school level in conformity with the Education Plan right from the time of the implementation of the national education system.

In view of the increasing number of students during this plan period, this Centre will purchase one offset machine, two offset press, two photo composing machine, one colour processing camera, one stitching machine and four folding machines in order to expand production capacity. This will enable the centre to print 12 million books every year.

Physical facilities of the centre will be extended by constructing compound wall, by making arrangements for water supply and by arranging training abroad for improving manpower skills.

15. Technical school:

The Sixth Plan had the targets to establish and expand technical schools, to increase employment opportunities by imparting vocational education and to produce skilled manpower necessary for development programmes to be implemented for the development of the country. During four years of the Plan period, Technical Schools were established in Lahan, Dhankuta, Jiri and Jumla. The mechanical training centre in Balaju has been converted into technical school according to the target of the plan. Dharan technical school has been started under Engineering Campus. During the Seventh Plan period, besides strengthening the above technical schools, technical schools will be extended the various zones. Technical schools will be opened in Mustang of Dhawalagiri Zone, Dang Deokhuri of Rapti zone, Surkhet Birendranagar of Bheri Zone, Doti Dipayal of Seti zone, and Makwanpur Hetauda of Narayani Zone. Besides, women technical school will be opened in Sano Thimi Bhaktapur of Bagmati Zone. The technical and vocational education directorate will also be strengthened.

16. Girls hostel:

This project is being implemented with the cooperation of HMG and UNESCO. By the end of the Sixth Plan, four central hostels and eleven feeder hostel were built, scholarships were granted and upgrading and training programme was conducted. The construction of a central hostel has been started in Birgunj and feeder hostels are being constructed in Baitadi and Dolakha. These hostels will be completed during the Seventh Plan Period. Additional scientific equipment and laboratories will be added to existing schools.

17. Female education project:

This project was started during the Sixth Plan period in order to educate women, to familiarize them with their responsibilities towards the nation, and to enlist their active participation in allround development of the country during this plan period, 1710 women will be trained under the female teachers training programme. Under the upgrading programme, 1258 will complete their studies. Besides, other programmes to be implemented are the candidate selection programme, local schools scholarships programme, women informal education training, and special programme at primary level for non school girls of school going age.

18. Primary education project:

Primary education is the foundation for qualitative improvement of education. In view of this fact, it is indispensable to bring about qualitative improvement in primary education. To fulfil this objective primary education project was started in the final year of the Sixth Plan period. Under the project, administrative organs related with primary education (ministry, office of the controller of examination, regional educational directorate, district education office) will be strengthened. Under the project, resource centre will be established in six districts (Jhapa, Dhankuta, Tanahu, Kaski, Dang and Surkhet). These resource centres will make arrangements for extension of physical facilities for primary schools, supply of education materials, trained teachers, and supervision through efficient supervisors.

19. Science education project:

The objective of the project is to improve science, mathematics and english education at secondary level and to impart good quality education to the student programmes under this project including teacher training, production and distribution of education materials, Renovation and reconstruction of schools, construction of science laboratory, etc. This project will be implemented in 25 districts of Nepal. Science education development centre and science education development unit will be established under this project Besides, six science campus buildings will be improved and constructed.

20. Rural development education project:

Major part of Nepal consists of village. Rural Development is, therefore, the objective. This project will be implemented on an experimental basis in Doti, Bajhang and Bajura Districts of Seti Zone. Under this project, efforts will be made to integrate education development with the needs of the rural people by adopting various new techniques and methods. During the Seventh Plan period, the resource centre under this project will provide for teacher training production of education materials and text books, and their distribution in schools in order to improve education. Illiterate adults will be provided skill oriented training in order to make them literate and make

a living. Women classes will be started to help women outside the school A teacher training centre will also be established in Doti under this project.

21. Integrated rural development projects:

Educational programmes will be conducted at the district level to improve physical facilities for schools under integrated rural development project.

22. Miscellaneous education programme:

Works related to Nepal National commission for UNESCO and Nepal scout activities will be conducted during the plan period under this programme.

23. Nutrition programme:

In order to rouse health and nutrition consciousness among the people, nutrition will be included as a subject in formal and informal education programme. Nutrition programme will be integrated with other regional programmes to prevent diseases resulting from mal-nutrition. During this plan period necessary centres will be established in five selected places in five districts. Adult literacy classes will be conducted Programmes will be implemented to raise dietary level for school children.

24. Sports development:

Necessary facilities will be developed to activate the youth and make them take interest in sports. The youth outside the valley will be given priority in sports development activities. During this plan period, Physical facilities at the Dasarath stadium of the National Sports Council will be improved and parapet, covered hall, field works etc will be constructed besides training programme and sports equipment distribution programme will also be conducted.

25. Literature, arts and culture development:

Literature, arts and culture play an important role in allround development of the nation. Literature can exert an effective influence in eradicating social mal-practices and superstition. It can contribute towards social reform. The achievements of planned economic development can be brought to the notice of the general public through the medium of literature. The feeling of loyalty and patriotism can also be generated by means of literature.

In view of these facts, proper attention will be given to the development of literature, art and culture during this plan period. Music and drama training, Birendra art buliding, cultural mahotsav and exhibition, Academy library extension and the arte hall extension programmes will be implemented during the plan period. National science dictionary will be published. Feas NAFA site. Besides, in order to encourage new genius in culture, literature and arts relevant incentive programmes will be implemented.

26. Development of Culture:

Culture plays a very important role in all-round development of the nation. In view of this fact, cultural corporation has been conducting programmes to promote culture. The efficiency of the cultural corporation will be enhanced and cultural programme will be made more effective. If feasible, a new theatre hall with modern amenities will be constructed.

27. Archaeology:

The Fifth Five Year Plan included programmes for the development of architectural property of Nepal. The Sixth Plan made provision for additional programmes relating to architecture. More financial resources were allocated and diversification was adopted. The Seventh Plan provides for programmes to prepare an inventory of national cultural monuments, preservation and promotion of ancient monuments, including the seven monumental places in the Kathmandu valley of international importance and other monuments of local importance in various parts of the country. Preservation and conservation works will also be undertaken in Lumbini, Kapilvastu, Devdaha, Kathmandu valley, Surkhet valley, Janakpur, etc. Besides, the construction of regional museums started during the sixth plan period will be completed, new museum will be constructed in Dipayal in Far-western Development region. The national museum in Kathmandu Hanuman Dhoka will be expanded and improved to make it more modern and attractive.

Priority programmes will be implemented for the preservation of Swayambhu area and Gorkha Durbar Area.

Various statues will be installed during the plan period to inspire gratitude and devotion towards historical figures and great men of the country and to stimulate the feeling of nationalism and national unity and loyalty to the crown.

Valuable collections in National Archives, historical papers, microfilms will be scientifically catalogued and preserved. Various works and historical papers will be collected in a systematic manner. Arrangements will be made to extend physical facilities for national library, to make reading services more efficient and to maintain scientific listing.

28. Tribhuban Memorial:

The Tribhuban Memorial Monument established in thankot in memory of and respect to the father of the Nation His majesty king Tribhuban will be made more cultural, pleasant and attractive. The Tribhuban Memorial project is being implemented specifically for this purpose, Various works will be undertaken during the plan period to make the memorial place beautiful and representative of our culture.

29. Improvement and development of Pashupati area:

Pashupati is a very important area from the point of view of religion, history, culture and tourism. The monasteries, temples, inns, roads, drains etc in the area will be reconstructed and improved. Trees will be planted in the area and the entire surroundings will be made clean and peaceful. Various important works will be undertaken for this purpose during the Seventh Plan period.

In accordance with the decentralization (Arrangements) Rules 2041, all kinds of formal and informal education programmes except higher education and technical schools within the district and culture promotional activities have been included in the district level project.

HIGHER EDUCATION

Review of progress During Sixth Plan period

It was the policy of the Sixth Plan to prepare high level technical manpower in the country. Accordingly, commencement was made for the production of MBBS doctors from medical campus in Maharajgunj, BE engineers from Engineering Campus in Pulchowk Agriculture diploma holders from the Agriculture and Livestock Campus in Rampur and Forest Diploma holders from the Forestry Campus in Pokhara (Hetauda at present). In the order to increase the supply of lower level and middle level technicians during the Sixth Plan period existing campuses were maintained as usual and courses were started in some additional campuses. Trade courses on construction, electrical and mechanical subjects were started in Engineering Institute eastern region campus Dharan. Physical facilities are being constructed in the western region campus in Pokhara. Under the medical institute programme, teaching hospital building has been completed in the central campus in Maharajgunj and services for the patients have been started. Physical facilities have been added in Agriculture and Livestock campus in Rampur. For various campuses, Physical facilities like electricity, water, drainage, walls, latrines, roads, buildings, hostels, staff quarters, teaching appliances etc were installed.

It was the target of the Sixth Plan to enroll 186,107 students for higher education through 10 institutes under Tribhuban University during the plan period. For this purpose, the Institutes were classified into technical, vocational and general groups. The target of the Sixth Plan was to enrol 41,282 students in higher technical education. By the end of the Plan period 25,427 students are expected to be enrolled which is about 61.59 percent of the target. The Sixth Plan had an enrollment target of 77,075 students are expected to be enrolled by the end of the plan period, which is about 52.32 percent of the target. The target was to enrol 67,750 students in general education. The achievement did not exceed 42,411 students, 62.59 percent of the target. Thus taking into consideration the three groups, enrollment is expected not to exceed 58.18 percent.

AN OUTLINE OF HIGHER EDUCATION IN THE SEVENTH PLAN

During the Sixth Plan, in order to maintain coordination and consistency in the higher education sector and improve quality, all colleges were arranged as campuses under various institutes of the Tribhuban University. During the seventh plan period also, emphasis will be placed on increasing the middle level and higher level manpower within the country for agriculture, engineering and forestry and on improving the qualitative standard of education.

In this context, following programmes will be adopted to bring about timely improvements in the higher education sector:

1. The research centres under the Tribhuban University will undertake research works to improve the standard of higher education, raise national productivity, fulfil national needs and to contribute towards the process of national integration.
2. Special attention will be given to complete annual projects/ programmes effectively in specified time. While selecting projects, the capacity of the University will be taken into account and only possible projects will be carefully undertaken.
3. Encouragement will be given to start additional certificate level campuses in the private sector under general and vocational institute.
4. For the facility of private students, for acquiring higher education while on job and to reduce the excessive pressure of admission on campuses, arrangements will be made to impart higher education by open education method through medium of radio, publication, tapes and correspondence.
5. The existing campuses will be improved and strengthened as necessary. But the campuses will be upgraded in a limited area only on the basis of feasibility study.
6. In view of the fact that courses could not be completed in specified time because of some irregularities for the last few years, necessary steps will be taken to bring regularity in the teaching process course in order to complete the courses in specified time. An organized schedule of work will be prepared specifying in a planned way the date of admission course period, date of examination, date of results, etc. beforehand.
7. Since the Tribhuban University in the educational and academic institution, administrative personnel will be kept to the minimum and teachers will be kept on the basis of work load and proper attention will be given to reducing the administrative expenses.

8. Teaching will be conducted by increasing the capacity of technical institutes, by adding subjects like veterinary science, architecture, electrical, mechanical engineering at the graduate level. Generalist doctors necessary for the country will be produced.
9. The standard of higher education will be raised to enable it to obtain international recognition. The higher education will be classified into three groups: technical, vocational and general. The following institutes will be included in the various groups as follows:
 - a. Technical Higher Education
 1. Agriculture and Veterinary Science Institute
 2. Engineering Institute
 3. Medical Institute
 4. Forestry Institute
 5. Science and Technology Institute
 - b. Vocational Higher Education
 1. Education Institute
 2. Management Institute
 3. Law Institute
 - c. General Higher Education
 1. Humanities and Social Sciences Institute
 2. Sanskrit Institute

Technical higher education admission and production are cited in table 1,2 and 3.

Table 39.01
Technical Higher Education
Admission and Production
During seventh Plan Period
Target

S.N.	Name of Institute	Admission Target	Production Target
1/	Agriculture and Veterinary Science	3870	3300
2.	Engineering	5050	2497
3.	Medicine	3455	2055
4.	Forestry	1290	955
5.	Science and Technology	20650	5870

Table 2
 Technical Higher Education Admission
 and Production Target By Level During
 Seventh Plan period

S.N	Name of Institute	Admission Target					Production Target				
		Low	Certifica te	Gradua te	P.G	Ph.D	Low	Certific ate	Gradua te	P.G.	Ph.D.
1.	Agri.and V.S.I.	2610	610	650	_	_	2370	530	500	_	_
2.	Engineering I	1480	3282	288	_	_	903	1463	131	_	_
3.	Medical science.i.	1625	1500	300	30	_	1100	785	1550	20	_
4.	Forestry. I.	100	990	200	-	-	80	700	175	-	-
5.	S. and T.I.	_	15100	4000	1500	50	0	3020	1600	1200	50
	Total	5815	21482	1530	50	4453	6498	2456	1220	50	

Table 3
 Technical Higher Education Admission
 and Production Target During
 Seventh Plan period

S. N.	Name of Institute	1985/86		1986/87		1987/88		1988/89		1989/90		Total	
		adm.	prod	dam.	prod	Adm.	prod.	Adm.	Prd.	Adm.	Prod.	Adm	Prod.
1.	A.and V. Science.I	690	420	680	560	840	755	820	715	840	850	3870	3300
2.	Engineering.I.	778	186	798	415	1122	397	1166	562	1186	937	5050	2497
3.	Medical Science.I.	691	411	691	411	691	411	691	411	691	411	3455	2055
4.	Forestry.I.	150	135	285	155	185	155	285	255	285	255	1290	955
5.	Science and Technology.I	3310	910	3660	1030	4110	1170	4560	1310	5010	1450	30650	5870

	Total:	5619	2062	6114	2571	7048	2888	7522	3253	8012	3903	34315	14677
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1.(a) Agriculture and Veterinary Science Institute

The objective of this Institute is to prepare agricultural technicians necessary for conducting agricultural development programmes. The programme to implement programmes for preparing middle level and higher level technical manpower for agricultural development was under way during the Sixth Plan period. The certificate level and graduate level education on agriculture was undertaken during the plan period. The target of the Seventh Plan is to keep existing programs going and also to undertake agricultural extension and research works. During the Seventh Plan period, additional physical facilities will be installed for Rampur Campus, Paklihawa campus and Lamjung campus. B.Sc. (veterinary Science) campus at Rampur and J.T.A. level training on agronomy and veterinary science in Paklihawa and Lamjung will be conducted.

(b) Student admission and production :

The target of the Seventh Plan is to provide admission to 3870 students in various campuses under the Institute of Agriculture and Veterinary Science, including 570 at J.T.A. level, 2040 at I.Sc. level, 250 at I.Sc. (Agri) level, 360 at B.Sc. (Agri) level and 650 at B.Sc. (Livestock) level. The Plan has the target to produce trained manpower of 570 at refresher and in service training, 1800 at J.T.A. Level, 210 at I.Sc. Level, 320 at I.Sc. (Agri) level, 400 at B.Sc. (Agri) and (Livestock) level. totaling up to 3300. The plan has the target to produce minimum manpower at middle and higher level.

About the admission and production is given in appendix 1.

2. (a) Engineering Institute

The Engineering Institute has been producing middle level and higher level technical manpower in engineering and related subjects. During the Seventh plan, necessary infrastructure will be built up for post graduate studies in electrical, Mechanical and architectural subjects. The Plan includes targets to extend various physical and educational facilities. There is also programme to make necessary physical improvements in the Thapathali campus.

(b) Student admission and production

In the various campuses under the Institute, 5050 students will be admitted, including 1480 in trade course, 3282 at certificate level and 288 at graduate level. The target is to produce minimum manpower of 2497, including 903 in trade course, 1463 at certificate level and 131 at graduate level.

Details of admission and production are given in Appendix 2.

3. (a) Institute of Medicine

The objective of the Institute is to prepare medical technical manpower at various level necessary for extension of health services. The Institute conducted studies for medical doctor, nursing subjects, etc. During the Seventh Plan period, these programmes will be extended and strengthened. Hostels, residential quarter will be constructed and, physical facilities extended for various campuses under this Institute. feasibility study will be conducted for the extension of Ayurvedic treatment and, if feasible, Ayurved will be intergrated with other systems of medicine and necessary steps will be taken to upgrade it.

(b) Student admission and production

Under the programmes to be undertaken by this Institute, 3455 students will be admitted, including 1625 at low level, 1500 at certificate level, 300 at graduate level and 30 at post graduate level. A minimum medical manpower of 1100 at low level, 785 at certificate level, 150 at graduate level and 20 at post graduate level will be produced. .

The admission and production figures are given in appendix 3.

4. (a) Forestry Institute

The objective of the Forestry Institute is to increase middle level skilled manpower necessary for forest conservation, soil preservation, erosion control, protection of forest animals etc. for the promotion of national welfare. So far the Institute has been producing middle level manpower from its campuses in Pokhara and Hetauda. During the Seventh Plan period, programmes will be undertaken to meet manpower needs for forest development. There are programmes to increase various physical facilities in Pokhara and Hetauda campuses.

(b) Student admission and production

During this Seventh Plan period, admission will be given to 990 students at certificate level, 200 at graduate level and 100 foresters, totalling 1290 students. A total of 955 manpower will be produced including 700 at certificate level, 175 at graduate level and 80 at forester level, to upgrade foresters by means of in-service

training.

Description about this is given in appendix 4.

5. (a) Science and Technology Institute

Studies are under way from certificate level to research level under this Institute to meet the needs of manpower in physical science, botany geology and general science. These study programmes will be conducted during the Seventh Plan period. Necessary physical facilities will be expanded and emphasis will be placed on strengthening laboratories.

(b) Student admission and production.

Under this Institute, admission will be provided to 15,100 students at I.Sc. level, 400 students at R.Sc. level, 1500 students at M.Sc. level and 50 students at Ph. D. level, a total of 20650 students. A total of 5870 students will complete their training, 3020 at I.Sc. level, 1600 at B.Sc. level, 1200 at M.Sc. level and 50 at Ph. D. level.

A detailed description is given in Appendix 5.

6 . Education Institute

The main objective of the Education Institute is to meet the needs of trained teachers at primary, lower secondary and secondary level. Programmes under this during the Seventh Plan period included provision for strengthening and upgrading training, processing good education materials, publishing and distributing, increasing the number of teachers and improving laboratories and physical facilities.

7. Management Institute

The objective of this Institute is to produce basic, medium and high level manpower for business administration, commerce, public administration and management. Existing programmes at various level will be maintained and various resources for promoting management skill will be studied. Programmes will be undertaken accordingly.

8. Law Institute

The main objective of this Institute is to produce manpower for legal profession necessary for the country. To fulfil this objective, basic and higher level manpower for legal profession will be produced during the Seventh Plan period.

9. Humanities and Social Science Institute

The objective of this Institute is to produce basic, middle level and higher level manpower in humanities and social sciences. It will be the policy of the Institute to increase the utilization of the manpower in this respect and to provide for admission and production of skilled manpower only as necessary for public and private sector in the country.

10 . Sanskrit Institute

This Institute has been providing Sanskrit education at various level. During the Seventh Plan period also, it has the programme to produce basic, middle level and higher level manpower.

11. Economic Development and Administration Centre

The objective of the Centre is project preparation, evaluation of development trend, studies of investments in regional development and impact of development activities on the national economy, research on employment and income distribution aspects, rural development studies, population and socio-economic development studies, processing text books and to help the policy makers in these matters, Programmes in these respects will be undertaken in the Seventh Plan period in order to conduct action, oriented research in accordance with the objective.

12. Nepal and Asian Research Centre

This Centre will conduct various research projects and ensure research coordination during the Seventh Plan period. Programs have been included for studies on cultural heritage, social change and development, Himalayan affairs, political affairs of Nepal and Asian and South Asian affairs. The Centre has programmes for joint training by Nepali and foreign experts, exchange of experts, information and publications and joint research projects.

13. Science and Technology Research Centre

It is the objective to integrate science and technology with the entire development process and to fulfil

national needs in the process. During the Seventh Plan period, this centre will conduct various research projects to fulfil this objective. The research programme will concentrate specially on fulfilling the basic minimum needs of the people like food, clothing and shelter. In order to fulfil the national development goal, emphasis will be given to the use of practical science and appropriate technology in agriculture and industry. The solution of the problem of unemployment and semi-employment by the use of appropriate technology. Therefore, research will be conducted practical science and efforts will be made to develop appropriate technology in order to increase employment by the maximum use of local skill and efficiency.

14. Education Development and Research Centre

The objective of the centre is to conduct research on subjects relating to the determination of policies of national importance, programme implementation and evaluation to support the process of bringing qualitative development in school and higher education during the Seventh Plan period. The centre has the target to conduct research on education and rural development, curriculum and teaching, teaching technique, educational planning and evaluation.

15. National Development Service

Since the national development service will be conducted mainly in rural areas, arrangements will be made for the participation of local panchayats as necessary.

In order to make NDS programme effective, provision will be made for the students to go to remote rural areas, work for a specified period with responsibility, to contribute' at the local level and acquire useful experience. The cost of this programme will be partially met from concerned project.

APPENDIX 1

**Admission and Production Target of
Agriculture and Veterinary Science
Institute**

Programme	1980/81		1981/82		1982/83		1983/84		1984/85		Total	
	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.
1. I. Sc. (Science)	50	25	50	35	50	40	50	50	50	60	250	210
2. " " (Agri.)	160	80	100	90	100	150	-	-	-	-	360	320
3. B. Sc. (Agri.)	100	45	100	75	100	85	100	95	100	100	500	400
4. " " (Vet.)	-	-	-	-	50	-	50	-	50	-	150	-
5. J.T.A.	310	200	360	290	420	360	490	440	460	570	2040	1800
6. Agriculture Training	50	50	50	50	100	100	100	100	150	150	450	450
7. In-service Training	20	20	20	20	20	20	30	30	30	30	120	120
Total:-	690	420	680	560	840	755	820	715	840	850	3870	3300

APPENDIX 2

**Admission and Production Target
of Engineering Institute**

Programme	1980/81		1981/82		1982/83		1983/84		1984/85		Total	
	Ad.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.
Trade Course , Low	200	7	200	203	360	151	360	271	360	271	1480	903
Certificate Level	530	167	550	197	714	229	734	262	754	608	3282	1463
Graduate	48	12	48	15	48	17	72	29	72	58	288	131
Total:-	778	186	798	415	1122	397	1166	562	1186	937	5050	2497

APPENDIX 3

Admission and Production Target
of Institute of Medicine

Programme	1980/81		1981/82		1982/83		1983/84		1984/85		Total	
	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.
Certificate	300	157	300	157	300	157	300	157	300	157	1500	785
Graduate	60	30	60	30	60	30	60	30	60	30	300	150
Post-graduate	6	4	6	4	6	4	6	4	6	4	30	20
Low level	325	220	325	220	325	220	325	220	325	220	1625	1100
Total:-	691	411	691	411	691	411	691	411	691	411	3455	2055

APPENDIX 4

Admission and Production Target
of Forestry Institute

Programme	1980/81		1981/82		1982/83		1983/84		1984/85		Total	
	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.	Adm.	Prod.
Certificate	110	100	220	100	220	100	220	200	220	200	990	700
Graduate	40	35	40	35	40	35	40	35	40	35	200	175
Training	-	-	25	20	25	20	25	20	25	20	100	80
Total:-	150	135	285	155	285	155	285	255	285	255	1290	955

APPENDIX 5

Admission and Production Target
of Science and Technology Institute

Programme	1980/81		1981/82		1982/83		1983/84		1984/85		Total	
	Adm./	Prod.	Adm. /	Prod.	Adm. /	Prod.	Adm. /	Prod.	Adm. /	Prod.	Adm. /	Prod.
Certificate	2500	500	2700	540	3000	600	3300	660	3600	720	15100	3020
Graduate	600	240	700	280	800	320	900	360	1000	400	4000	1600
Post Graduate	200	160	250	200	300	240	350	280	400	320	1500	1200
Ph.D.	10	10	10	10	10	10	10	10	10	10	50	50
Total:-	3310	910	3660	1030	4110	1170	4560	1310	5010	1450	20650	5870

Education Development Expenditure

(In Million rupees)

1. Primary and adult education	-	302.4
2. Other educational program	-	526.0
3. Art and Culture	-	17.0
4. Higher education	-	750.0
5. District level projects	-	1341.6
		2937.0

CHAPTER 40 INFORMATION AND PUBLICITY

Audio-visual medium is very effective to familiarize the illiterate rural people below poverty line and in remote areas with development trends and to make them conscious citizens. Therefore, since the last plan period, attention has been given to the development of information and publicity media by familiarizing the majority of the illiterate rural people with development trends in the country and to make them participate in the all-round development of the country. National Communication Plan was prepared and has been in implementation since 1971 with the aim of communications for development. Programmes relating to the development of information and publicity media are also being conducted in accordance with the National Communication Plan. Achievements in this direction during the past period are encouraging.

Progress Review of Sixth Plan

Various projects were conducted during the Sixth Plan period for the development of information and publicity sector, including (1) Radio Nepal (2) His Majesty's Government Press, (3) Information Department, (4) National News Agency, (5) Gorkhapatra Corporation, (6) Ratna Recording Corporation and (7) Royal Nepal Film Corporation. During the Sixth Plan period, there has been good progress in the programmes conducted under Radio Nepal, Information Department, HMG Press, National News Agency, Gorkhapatra Corporation and Royal Nepal Film Corporation.

Under the Information Department programs, the Sixth Plan had the targets to produce 10 coloured pictures, 18 black and white pictures and 72 documentary pictures and to procure equipment for film showing. Achievements during four years of the plan period include the preparation of 8 coloured pictures and 7 black and white pictures, 76 black and white and 6 coloured documentary pictures, showing of these pictures and the purchase of one movie van. In the final year of the Sixth Plan period, 1984/1985, 18 black and white documentary pictures, 3 coloured pictures and 2 black and white pictures are expected to be prepared.

Under HMG press programme, the targets were to do all HMG printing works within the country itself, to make necessary arrangements for machinery and appliances for this purpose and to complete, preliminary works, for the establishment of preservative printing. During the first four years of the plan period, one each of mono-caster and letter press was purchased and installed for operation. Besides, composing and press binding appliances were also purchased and brought to use. Block making machinery and appliances have also been purchased. But there has been a progress in preservative printing as per the plan target.

Under the radio broadcasting services development committee (Radio Nepal) programme, medium wave broadcasting centre was established in Pokhara and Kathmandu to make broadcasting audible in the entire country. From the 55 percent people have been able to listen to the Radio Nepal medium wave broadcasting service. The Sixth Plan had the target of improving the transmitter, renewing and adding more facilities and improving studio and outside broadcasting. During four years of the plan period, appliances were procured to improve transmitter and studio equipment. Multi-band communication receiver and professional tape recorder were purchased for the establishment of receiving and monitoring cell. VHF link equipment were purchased for studio transmitting link and 46 technical personnel have been imparted training in subjects relating to studio, antenna, and transmitter.

Under the Gorkhapatra Corporation programme, the targets were to purchase mono-caster machine, cutting machine and 100k. w. generator, one delivery van to distribute papers in time. During four years of the Plan period, two unit photo compose machine were purchased and brought to use. Two unit wave offset machine, two key boards for photo compose equipment, one delivery van and one Russian jeep were purchased. During the final year of the plan period, one set of photo compose machine and two sets of offline keyboard will be purchased and one building will be constructed.

The main objective of National News Agency is to make arrangements for collecting, distributing and exchanging information of local, national and international importance to familiarize the general public with various trends within and outside the country in an impartial and authoritative manner with national approach in mind. Various projects conducted during the past plan with this end in view have increased the physical and other facilities of the Agency.

Under the National News Agency program, 45 percent of the works for the establishment of monitoring, documentation and training unit and workshop and installation of offset duplicating equipment have been completed. Work has been started for making available necessary teleprinter equipment for the establishment of teleprinter service between Nepalgunj and Kathmandu. Under the building programme, first floor of the building in Nepalgunj has been completed, works for adding floor to the central office building and construction of garage and compound wall have been completed. The Janakpur Zone office building has also been completed. Regarding the building to be constructed with people's participation, 75 percent of the construction work in Birgunj and construction works up to lintel level in Lahan have been completed.

Under the Ratna Recording Corporation programme, it was the objective to, P1a_e easily available to tile general public the songs with national feeling and to broadcast and publicize them. The programs in the Sixth Plan included provisions for the preparation and publicity of cassette tapes, preparation of disc records of Nepali songs and tunes and the installation of recording machine and necessary appliances in the studio building. During the first four years of the plan period, preparation of cassette tape and disc records of 236 folk Songs, 117 folk tunes, 168 modern songs and 31 religious songs was completed. In the final year of the plan period, preparation of cassette tape and disc records of 168 songs and tunes is expected to be completed.

Movie picture is an effective communications medium. The Sixth Plan provided for the preparation of 3 movie pictures, 3 coloured pictures, construction of studio building and audio appliances. During the first four years, 2 movie pictures and 2 coloured pictures were prepared. Works for making available editing appliances and audio appliances have also been completed. In the final year of the plan period, the preparation of one movie picture and one coloured picture is expected to be completed.

Financial Progress

The financial target was to invest Rs. 95.8 million in various programs and projects to be implemented under publicity and broadcasting. During the first four years of the plan period, Rs. 174.969 million was spent at current market prices. In the final year, 1984/85, Rs. 5.317 million is expected to be spent. Thus during the entire plan period, Rs. 180.285 million is expected to be spent. The main cause of the financial investment exceeding the target is the establishment of medium wave broadcasting centre for Radio Nepal.

The financial target and investment for various programmes implemented by various agencies under publicity and broadcasting are given in the following table:

TABLE 40.01
Financial Target and Investment under Publicity and Broadcasting in the Sixth Plan
Progress, 1980-85

Financia: 1

IExpenditUI'_ target at during first constant four years price

Head	Financial target at constant price	Expenditure during first four years	Estimated expenditure in FY 1984/85	1980-85 Estimated expenditure at current price
1. Information Dept.	10.600	15.490	2.010	17500
2. HMG Press	7.600	1.707	-	1.707
3. Gorkhapatra Corp.	2.200	3.380	0.872	4.252
4. Radio Nepal	63.825	144.494	-	144.494
5. National News Agency.	2.075	1.680	0.200	1.880
6. Ratna Recording Corporation	1.800	1.479	0.690	2.169
7. Royal Nepal Film Corp.	7.700	6.739	1.545	8.284
Total:	95.800	174.949	5.317	180.285

Source.. Communication Ministry.

Objective, Policy and Program of Seventh Plan

Objectives :

The objectives of the Seventh Plan for the development of publicity and broadcasting are the following:

1. To create necessary atmosphere for active participation by the people in the development of the country by making publicity and broadcasting media more effective and by enhancing national feeling among the people in various parts. of the country.
2. To develop publicity and broadcasting service so as to enhance the glory and prestig_ of Nepal and the Nepalese in National and intemational field and to support the development, promotion and preservation of national art and culture.

Policies

The policies to be adopted to fulfil the objectives of the Seventh Plan are the following:

1. The development of publicity and broadcasting media that help to promote national feeling will be emphasized and existing media and- service will be strengthened and made effective. Besides tourism

development approach will also be adopted in publicity and broadcasting.

2. Special priority will be given to raising the qualitative standard of publicity and broadcasting service and wide publicity and broadcasting of economic and social development programmes.
3. Publicity and broadcasting units will be well organized to make them more efficient. The corporation engaged in these works will be made self-reliant.
4. Works for the development of the media necessary for the promotion and dissemination of the country's art and culture will be maintained. Various units in this sector will be activated.
5. More attention will be given to carrying to the general public the information on national and international trends and to broadcasting and publicity on development.

Working policies

Following working policies will be adopted to make the above policies effective for the attainment of objective:

1. In order to make radio broadcasting more effective and qualitative, attention will be given to the period, coverage and interesting of the broadcasting. Besides, in order to carry the broadcasting service to the corners of the country, the area of medium wave broadcasting service will be gradually extended.
2. The works of HMG press and National News Agency will be activated and efforts will be made to reach Gorkhapatra to all parts quickly.
3. In order to support the development of the country's art, and culture the programmes of Royal Nepal Film Corporation, Ratna Recording Corporation and Radio Broadcasting Service will be coordinated;
4. Training programmes will be conducted with a view to produce within the country the necessary low level and medium level manpower for publicity and broadcasting.
5. The coloured printing of Gorkhapatra daily will be gradually developed and efforts will be made to increase the number of subscribers.
6. Necessary manpower will be produced for raising the qualitative standard of publicity and broadcasting service.

Physical Targets

Physical targets for publicity and broadcasting during the Seventh Plan periods are the following:

- (a) to prepare 42 publicity picture for information development,
- (b) to make arrangements for additional equipment to increase the printing capacity of HMG press,
- (c) to bring about qualitative improvement in radio broadcasting service and to make a study for the establishment of a medium wave radio station.
- (d) to increase Gorkhapatra sales and distribution from the existing 32 thousand to 100 thousand copies.
- (e) to make available necessary equipment for information collection and printing for the development of National News Agency,
- (f) to produce cassette tape and disc record of 200 Nepali songs and tunes minimum for the development of recording service,
- (g) to produce 20 pictures on various national aspects for the development of movie sector.

Programmes

Following programmes and projects will be undertaken to attain the objectives of the Seventh Plan.

(1) Information Development

The main objectives of the Information Department as a HMG agency is to familiarize the general public with the policy, plan, development programme, etc of His Majesty's Government, to represent His Majesty's Government in the publications sector and to maintain necessary contacts with the journalist community. In order to fulfil those objectives, the Department has been publishing books, booklets, posters, etc. and preparing and showing development documentary pictures and movie pictures.

During this plan period also, this Department will undertake the preparation and showing of pictures about the crown, the system, religious, historical, cultural, economic, social and various aspects of development. It will adopt the policy of preparing documentary pictures on various important functions, conferences, seminars, etc. movie pictures about the crown, system, religion, art, culture, public life, development, etc. and making slides of great sayings of great men of the Nation. About the showing of movie pictures, the Department will send teams to remote areas and fairs for film showing. Besides, films will be shown through Government and social organizations and in cinema halls. Films will be made available to Nepalese embassies in foreign countries.

If the biographic and posters of great national figures dedicated to nation building are published and widely distributed, the national feeling will be generated among the general people and inspiration will be provided for moving ahead in nation building works. Therefore, during this plan period, the policy of preparing

and distributing publications that introduce such, & feat men. and promote and develop national feeling will be maintained.

In view of the above mentioned objectives and policies, during the Seventh Plan period, 22 black and white documentary pictures, 10 black and white movie pictures and 10 coloured movie pictures will be prepared and shown in various parts of the country. Besides, there is programme to publish and distribute 25 thousand copies of posters of various greatmen.

(2) Press Development

The HMO press is operating with an objective to print all kinds of publications of His Majesty's Government. In view of the increasing volume of demand for printing work!!, its printing capacity needs to be increased. Therefore, during the Seventh Plan period, arrangements will be made for various kinds of additional printing equipment to increase the printing capacity of the press. Buck construction, building arid storage construction will be undertaken for the press. Besides" feasibility study will be; completed for preservatory printing.

(3) Radio Broadcasting Development

It is the main policy of His Majesty's Government to make radio broadcasting- easily accessible to all the people of the country- Target has been envisaged to, make necessary studies for establishing medium wave radio station to enable the maximum number of people to listen to the radio broadcasting clearly- and properly.

Programmes have been envisaged to develop tape library for qualitative improvement of radio broadcasting service, to build advertisement house, to establish news monitoring centre and to develop training system. Qtb,er: targets are to improve studio and transmitter, add facilities and undertake renovation works.

(4) Gorkhapatra Development

The Seventh Plan includes targets to add printing equipment to fulfill the physical targets of the, Gorkhaparta Corporation and to procure a delivery van to distribute the daily publication in time. Besides, the old building of the Corporation will be repaired and. renovated.

(5) Development of National News Agency

The Seventh. Plan provides for targets to add,' floor to the central office building of the National News Agency, to expand accommodation, and to complete the constlluction of building in Hetadua and Doti with people's participation. further, tape recorder, typewriter, stencil paper cutting machine and duplicating machine. and. other, necessary equipment far collection and printing of informatio.1L will also be made, available.

(6) Recording Service< Development

During the Seventh. Plan period, steps will be- taken- to- make Ratna Recording Corporation self-reliant from financial point of view. In accordance with policy to operate the corporation commercially, special attention will be given to provide loans through financial institutions for useful and feasible projects. Besides, coordination will be maintained among Royal Nepal Film Corporation, Radio Broadcasting Service Development Committee (Radio Nepal) and this Corporation.

During the Seventh Plan period, there are targets to record 200 songs and tunes and produce disc record and cassette tape. Further, record library will be established with the corporation's own resources or loans and machinery will be procured for producing and assembling cassette tape.

(7) Film Development

The Royal Nepal Film Corporation has been providing. appliances and experts at concessional rates to encourage and activate film producers in the private sector and has started joint production works by formulating joint production policy in collaboration with interested parties in the private sector. This joint production policy will be maintained in the Seventh Plan. Further, necessary atmosphere will be created to make the corporation self-reliant from financial point of view. In this connection, the proposed film production and coloured lab appliances projects will be conducted commercially with loans from financial institutions.

(8) Television development

Television is becoming increasingly important in modem communication media. In our country also, television service can prove very helpful in enhancing the glory of the crown, the panchayat system and the constitution of Nepal and in familiarizing the people effectively with national and international trends, economic, social and other subjects of national interest and education, health, agriculture and other useful subjects. Therefore, during the Seventh Plan period, feasibility study for television service will be completed and, if found feasible, arrangements will be,m1.de to provide television service with provision to extend it gradually.

Financial Investment

The target for financial investment for various information and broadcasting projects proposed to be implemented during the Seventh Plan period amounts to Rs.16.1million In this figure, the amount to be invested by corporation and committee has not been included. The amount allocated for agencies that provide information and broadcasting services is presented in the following table:

**Proposed Investment for the Development of
Information and Broadcasting Service in the Seventh Plan**

Heads	in Million rupee
a. Information Department	3.700
b. Gorkhapatra Corporation	0.900
c. HMG Press	2.500
d. Radio Broadcasting Service (Radio Broadcasting service development committee)	3.700
e. Royal Nepal Film Corporation	3.500
f. Ratna Recording Corporation	0.800
g. National News Agency	0.900
h. Television Service	0.100
Total	16.100

Note: This does not include the amount to be borne by the corporation's from its internal sources.

CHAPTER 41

HEALTH

Health service is the basic needs of the general people. The production of healthy manpower has an important role in the health sector. The periodical plans have been giving attention to develop the country's health sector in a consistent and planned manner and to raise the level of health standard. With a long-term view in the development of health sector, a 15 year perspective plan was adopted with effect from the Fifth Plan. Accordingly, special emphasis was placed on providing basic health services to the maximum number of people during the Fifth and Sixth Plan periods; During these periods, important achievements have been made according to targets specified by the plans. In some areas, implementation has not been able to proceed as specified. Therefore, during the Seventh Plan period, health service needs to be made more service oriented by means of primary health care and it is equally important to ensure implementation to reach targeted goals and fulfil objectives specified in the plan.

The Seventh Plan which is the final plan in the IS-year perspective of the long-term health plan is based on the same context. Further, the long-term objective of providing health services to everybody by the year 2000 has been taken as the main basis of the Seventh Plan.

Progress Review of the Sixth Plan

The Sixth Plan emphasized on the development of basic health services with a view to providing minimum health services to the general public. Accordingly, in order to provide health services at the local level through the medium of health posts, the Sixth Plan included a target of establishing 467 health posts during the plan period. About 211 health posts are expected to be established during the plan period. The plan provided for adding 1250 rural health workers in health posts. By the end of the plan period, only 511 rural health workers are expected to be added. In order to provide health services exceeding the level of health posts, community health program has been implemented. During the Sixth Plan period, this programme as implemented in 13 districts according to target. For this purpose, 3400 workers have been provided training during the plan period as against the target of 3000 workers. By the end of the Fifth Plan period, integrated community health program was implemented fully and partially in 23 districts. The Sixth Plan had the target to extend it in additional 25 districts. The integrated programme has not been implemented in the additional districts on a district wide scale as per target. In 23 districts where the programme has been implemented, 450 health posts have been converted fully or partially into integrated health posts. Further, 2 district public health service offices and 3 regional training centres have been established as per target.

Following past plans, the Sixth Plan also emphasized the development of preventive health services. There was the target to reduce the number of malaria victims to one per thousand by the end of the plan period. Achievement is estimated to have been reduced it to 1.4 per thousand. Because of the malaria epidemic in South Asian region, Nepal has also been affected and the number of malaria victims has increased. Efforts have been made to make the number of victims constant by means of effective malaria control program. There were targets to implement extended vaccination in 63 districts and give DPT vaccination to 13,600,000 children below five years of age, BCG vaccination to 1,233,000 infants below the age of one year, cholera vaccination to 500,000 children and tetanus toxide vaccination to 1,250,000 pregnant women. This program has been extended to 35 districts and DPT vaccination has been given to 383,449 children below five years of age. BCG vaccination to 762,481 infants below one year of age and anti-tetanus vaccine to 873,785 pregnant women. Further, 67,208 children have been provided polio vaccine, 247,419 persons have been provided anti-measles vaccine and 22,886 persons have been inoculated against TB.

The Sixth Plan envisaged targets to conduct tuberculosis survey of 3,091,000 people, to make spittle test of 10 percent of this number of suspected cases, to give treatment to 11,600 persons among the identified cases, to give BCG vaccination to 1,697,600 children below 5 years of age. During the plan period, tuberculosis treatment was provided to 15,000 patients whose spittle was found positive and children below the age of five years were given BCG vaccination.

The work of identifying leprosy patients throughout the country and providing treatment to them was continued in the Sixth Plan period also. Under this, there were targets to make survey of 980,000 infants and adults, to impart health education to 2,560,000 persons and to construct regional office building in Rajbiraj, Jhapa and Janakpur. Survey was made of 264,833 persons, health education was imparted to 1,500,000 persons and sub-regional centre building was constructed in Baglung. Further treatment has been made of lepers by means of ultra-modern multi-drug therapy, mobile clinics have been operated in 12 places and health technicians of various level have been imparted training relating to leprosy.

For rabies control, the Sixth Plan included targets to provide antirabies vaccination, to reduce the number of stray dogs, to register domestic dogs and to commence vaccine production in the country itself. During the Plan period, programmes were conducted to register domestic dogs, reduce stray dogs and to provide

free vaccination.

Because of delay in the construction of hospital buildings and quarters, the targets of adding hospital beds have not been fulfilled. The Sixth Plan had the target to establish 15 bed hospitals in 25 districts and to add 1434 hospital beds including those to be added in existing hospitals. During the plan period, 15 bed hospitals were under construction in 20 districts and construction works have almost been completed in 8 places, including Darchula, Bajhang, Bajura, Jajarkot, Palpa, Lamjung, Taplejung and Panchther. In accordance with the programme to expand the capacity of existing hospitals, construction works are under way in Dhankuta, Birgunj and Biratnagar building. In order to develop Bir Hospital as a hospital of international standard, the construction of outside patient department and other related building has been almost completed and arrangements have been started for necessary equipment and appliances and for manpower training.

Because of delay in construction works, the number of hospitals could not be increased and hospital beds could not be added according to specified targets. During the plan period, 675 hospital beds were added by establishing 9 hospitals and 451 beds were added in existing hospitals, thus increasing the total number of hospital bed by 1126 beds. The newly established hospitals have 15 beds in Lahan, 25 beds in Royal Military hospital, 50 beds in police hOSpital, 67 beds in Tokha Military hospital, 110 beds in Green Pasture hospital, 50 beds on mental hospital and 250 beds in teaching hospital, 18 beds in Biratnagar and 90 beds in Eye hospitals in Dhangarhi, total 451 beds have been added in existing hospitals including the Kanti children hospital, infections disease hospital, chest clinic, Kathmandu eye hospital and those in Chitwan, Patan, Bara, Rautahat, Taulihawa, Bhairawa Kailali and Dharan.

Ayurved Department was established during the Sixth Plan period to extend Ayurvedic service. There were targets to establish Ayurvedic hospitals, one each in two development regions and 50 Ayurvedic Aushadhalaya. During the plan period, 50 Ayurvedic Aushadhalaya was established and construction works were undertaken to establish a 150 bed hospital in Dang. Processing of medicine from indigenous herbs has been continued.

For family planning and maternity child welfare, there were target. to reduce crude birth rate from 42 to 40 per thousand and fertility rate from 6.3 to 5. 8. For this purpose, target was envisaged to provide family planning service to 900,000 couples. Family planning services were made available to 1,504,035 couples, including permanent vasectomy service to 276,196 and temporary family planning devices to 1,227,839 families. This includes the progress recorded by various bodies that provide family planning services including the Family Planning Association, Maternity and Child Welfare Projects and Integrated Community Health Services Development Project. For maternity and child welfare, the targets were to provide antinatal health services to 150,000 women and post-natal health services to 1,000,000 women and children. Under the family planning and maternity child welfare project, health services were provided to 521,568 women and 1,897,230 children. In order to make family planning programme effective, seminars, radio programmes, publications of papers and brochures and training works were also undertaken under information and publicity programme.

The population growth rate was estimated to remain at 2.3 percent during the Sixth Plan period. The census of 1981 revealed the rate to be 2.66 percent during the 1971-81 decade. In order to control this unexpected rate of population growth, permanent vasectomy and distribution of temporary devices were emphasized and steps like wage compensation, development bonds, educational facilities and maternity leave were also implemented in this direction.

Under the nutrition programme during the Sixth Plan period, 150,000 children below the age of 5 years were provided nutrition care, and under nutrition children were treated. About 11,900 children with malnutrition, 20,000 children with anemia, 15,500 children with diahrea and 70,971 children with worms were also provided treatment.

In order to prevent goitre, throat disease and cretinism control project was established. Under this, iodine vaccine was provided to prevent goitre in 29 districts in Himali and hilly region where throat diseases were widespread. Further, the distribution of iodized salt has been continued. Under this, during the plan period, 47,000 quintals of iodized salt were distributed and three godowns and three iodine ejection plants have been established.

With a view to treat blindness and other eye diseases, under the blindness control project, country-wide survey of eye diseases was undertaken and eye treatment was provided to eye patients by establishing eye hospitals, eye centres and conducting eye treatment programmes. For the treatment of the patients, arrangements have been made for the training of necessary manpower, for making available equipment and appliances and providing health education. For the prevention of junotic diseases, necessary survey was undertaken of vice encephalitis disease, blood samples of affected persons were collected for seriological test, and studies were made also of plague and poisonous snake bite.

Noteworthy progress has been made during the Sixth Plan period in the production of manpower for health. MBBS course has been started within the country and production of medical doctors has been started. This has led to the increase in middle level and high level manpower.

The health programmes implemented during the Sixth Plan period have exerted a favourable effect on estimated longevity, infant mortality rate and crude death rate which are the indicators of health status of the people. The target of the Sixth Plan was to reduce crude birth rate from 19 to 17 per thousand and infant mortality rate from 150 to 130 per thousand. By the end of the plan period, crude birth rate is estimated to have been reduced to 16.57 and infant mortality rate to 111.52 per thousand. Similarly, average longevity is estimated to have been raised to 51.49 years as against the target to raise it from 45 years to 48 years.

Problems That Came up in Implementations

Among the various difficulties that came up in the implementation of the health sector during the Sixth Plan period, the problem relating to the mobilisation and management of construction and technical manpower has proved to be the main hurdle. Budget is not disbursed in time; land acquisition is delayed; tenders and contracts are delayed; contractors do not complete works in time. These are the main problems relating to construction. For these reasons, construction works on health post, hospitals and various buildings of health organizations at central and district level have lagged behind every year. Because of hospital construction lagging behind due to delay in construction works, the work of establishing 15-bed hospitals as specified in the Sixth Plan was adversely affected. Problems have come up also in the production of higher and middle level technical manpower necessary for conducting and consolidating health services according to specified health post and hospital programmes. Further, because of the lack of medicines, equipment and appliances in health units, the program of providing basic health services to general public in rural areas as specified in the Sixth Plan could not be implemented effectively. Other problems relating to the development of health sector relate to management difficulties. The policies and working policies in the Seventh Plan have been designed with a view to gradually solving the problems that came up during the Sixth Plan period.

Background of the Seventh Plan

Encouraging progress has been made in the health sector as a result of the efforts made during past plan periods for the development of this sector. However, in view of the indicators of health status of the general public, Nepalese health standard is very low as compared to the standard of developing countries. During the Sixth Plan period, some improvements have been made in this direction. It is however, self-evident that more efforts are necessary in coming years to raise the health standard of the country. The Seventh Plan envisages targets to reduce crude death rate to 12.8 per thousand and infant mortality rate to 98.3 per thousand live births and to raise average longevity to 55.4 years. For this purpose, it becomes necessary to provide effective health services in a major part of the country.

It is possible only through primary health care to raise the health standard of the general public. This service is also the basic minimum need of the country. Therefore the Seventh Plan also like the Sixth Plan emphasizes the development of primary health service. In accordance with the national and international commitment to provide basic health service to everybody by the year 2000, the Seventh Plan will not only implement various health programme but also pay attention to nutritive food, pure drinking water, cleanliness, pure environment and appropriate health education.

While developing primary health service, special attention will be given to the mobilization of people's participation. In view of the problems that were experienced in the implementation of health projects, efforts will be made for effective implementation of programmes during the Seventh Plan

period. In this context, the objective, policies and working policies of the Seventh Plan will be the following:

Objective

1. To promote the physical, mental and community health of the general public and to prepare healthy manpower for the development of the country.
2. To provide the maximum number of people minimum basic health services on the basis of primary health service and to reduce death rate and increase average longevity by making available promotional, preventive and curative health services.
3. To control population growth by expanding family planning programme and to improve the nutrition status by rousing popular consciousness and extending maternity and child services.

Policy

1. To continue the integrated system now under way and to develop it gradually to provide general medical and preventive health services to the rural people by expanding basic health services.
2. Appropriate arrangements will be made up to Panchyat and ward level in the process of institutional development to carry basic health service to the doorsteps of the rural people.
3. In order to properly organize the incentive system for health units at different level for effective health services, gradual improvements will be made in the management system and physical facilities for hospitals at the national, zonal and district level and at health post level. Specialized services will be gradually developed in the hospitals at national level.

4. Maternity and child welfare programme will be made more widespread along with family planning service in order to control population growth in accordance with national policies and long-term goals. Equal emphasis will be given to vasectomy programme and the use of temporary devices.
5. Steps will be taken to encourage private sector to invest in the development of health service on specified policies and conditions without financial and other liability to His Majesty's Government.
6. Lower level and middle level manpower for health service will be supplied as necessary for health institutions and for this purpose technical manpower will be produced by maintaining contact and coordination among concerned agencies.

Working Policy

1. Health posts and Sub-posts will be developed and expanded as main medium to provide primary health service. In accordance with the policy to enlist people's participation in the development of primary health service, efforts will be made for more participation of the people while establishing health sub-posts.
2. For providing general medical and various preventive health services in an integrated form through the medium of health posts, district wide integrated programme will be conducted. Accordingly, in the joint effort of integrated community development project and malaria, family planning, extended vaccine and other projects, pre-plan will be prepared for necessary manpower, medicine and equipment for districts every year where the integrated programme will be implemented. The districts where the integrated programme has been fully implemented will be gradually brought under the health services directorate.
3. In order to develop medical service according to incentive system, services and facilities necessary for hospitals at zonal and regional level will be specified and on its basis provisions will be made for building, manpower, medicine, equipment and appliances in package form. In order to improve hospital system, management side will also be improved. Specialist service will be developed in national level hospitals. The hospitals at various levels will be made gradually self-reliant in operational matters.
4. Multi-sectoral approach will be adopted from the very beginning in multi-sided projects like family planning and nutrition. For this purpose, the system 'of evaluating projects in concerned bodies from multisided approach will be adopted.
5. According to the principle of decentralization, the district panchayat will undertake the implementation, supervision and physical maintenance and improvement etc of projects at the district level, including health posts and sub-posts, Ayurvedic Aushadhalaya, health centre, hospitals up to 25 beds, family planning and maternity child welfare and integrated community programme.
6. In accordance with the national basic policy for the development of medical service, services of hospitals of up to 15 beds minimum will be provided. If it is sought to establish and run hospitals with people's participation or private investment, permission will be given as necessary under policies and conditions specified by His Majesty's Government and without financial and other liability to HMG.
7. To bring about effectiveness in the distribution and supply of medicines in public health institutions and specially in hilly and remote areas, the existing system will be improved anti the policy of involving private sector or community effort will be adopted.
8. In order to prepare and implement health plan according to the need of the district to bring about improvements in management, and to supervise and conduct the projects, health directorates will be gradually established for development regions.
9. The work of regularly supplying and distributing medicines and equipment in health institutions will be given special attention and improvement in management will be emphasized.
10. In order to maintain healthy atmosphere in villages and to control infections and epidemic diseases, emphasis will be given to environmental soundness, pure drinking water and cleanliness.
11. Health works will be encouraged and services will be gradually made available up to the lower level.

Programme

Basic Health Service:

Basic health service includes existing health problem and appropriate education on its prevention, knowledge about food and dietetics, drinking water and clean environment, family planning and maternity and child health service, vaccination against infections diseases, primary care of common diseases, provision of essential medicines, etc.

Basic health service is being provided through the medium of health posts at present at the rural level in an integrated manner under integrated community health service development project. In those districts where the services have not been integrated, these services are being provided through different projects.

The objective of gradually integrating health projects and providing basic health services will be continued in the Seventh Plan and program implemented under various projects will be gradually integrated.

a) Integrated Community Health Service Development

Health posts have been established in the form of basic unit of health service with a view to making available minimum health facilities to the maximum number of people in rural areas. It is estimated that by the end of the Sixth Plan period the total number of health posts in the kingdom will be raised to 794 and each district area will have a health post. In accordance with the policy to gradually integrate health posts and to provide Promotional, preventive and general health services through a single unit, 450 health posts in 23 districts are providing integrated health services so far partially and fully. Under this, family planning service, collection of blood samples of malaria patients, treatment of tuberculosis and leprosy patients are provided in an integrated form along with various vaccines to children of 0-5 years and nutrition and other services.

While implementing integrated programme, the existing system of conducting in an integrated form selected health posts within the district will be ended and in the Seventh Plan integration will be adopted as a process to be implemented on a district wide scale. Accordingly, only after the various projects conducted at the district level are integrated, all the health posts of that district will make available integrated service. After the commencement of the decentralization plan, in close contact with the population and health coordination committee to be organized in district, the preparation of district health plan and health administration will be undertaken by district level units.

The target of the Seventh Plan is to study the services that will be integrated while implementing the interpretation programme, the need for technical and administrative manpower following the integration programme and to implement fully integrated service in additional 27 districts in a planned way during the plan period. Thus, inclusive of the 10 districts where the integrated service was implemented during the Sixth Plan period, the integrated service will be in operation in 37 districts by the end of the Seventh Plan period. In these districts, under the integrated programme during the Seventh Plan period, family planning service, vaccination to children, vaccination against malaria, tuberculosis, leprosy, nutrition and other services will be made available. According to the programme to impart training to health technicians under health posts, training of community health cadres will be conducted at the ward level.

In order to make available to the rural people less expensive and effective health services in the context of mobilizing people's participation, the Seventh Plan has programmes to establish sub-health posts in addition to health posts that operate at area level. Accordingly, in consultation with district panchayat, among health posts in the district one health post will be arranged as area level health post in every area. In order to make effective the health services to be provided by rural health workers at door steps at the Parichayat level, provision will be made for sub-health posts. Other health posts operating in the area will be converted into sub-health posts. Seventh Plan has the target to establish 1300 to 1400 sub-health posts of this kind during the plan period. These sub-health posts will serve as intermediatory between the area health post and the rural people and according to need, will provide service also at door steps in coordination with ward level health volunteers. While determining the site of health posts, the place with service centre will be chosen. In remote Himali and hilly districts it is difficult to establish health centre is and arrangements will be made for health sub-posts. Priority will be given to remote Himali and hilly areas for the establishment of health sub-posts.

In order to develop health service from the community level on the basis of more people's participation, arrangements will be made for ward level community health cadres in districts where the integrated program has been in implementation since the Sixth Plan. These health cadres will be provided short-term training. Since they have been helpful in increasing health consciousness at the ward level, during the Seventh Plan provision will be made for community health cadres with priority in districts where new health sub-posts will be established as necessary.

For the fulfillment of the objective to provide health services to everybody by the year 2000, community participation will be given highest role to provide primary health service at the rural level and these sub-posts will serve as intermediatory between the community and health posts. Arrangements will be made for providing primary health service at doorsteps through health cadres working at every ward of panchayat.

The availability of physical facilities is very important for the effectiveness of health services. The construction of health post building was, therefore, emphasized in every plan period. However, there has been no substantial progress in building construction. In the Seventh Plan, the health post buildings under construction at present will be completed with priority. The Seventh Plan has the target to 125 new health post buildings at the rate of five buildings per year. Local construction materials will be used as far as possible in constructing and maintaining health post buildings.

Programmes for the development of health sector have also been included in Mahakali, Karnali, Bheri, Rasuwa Nuwakot, Sagarmatha and the Kosi Hill are integrated rural development projects. During the Seventh Plan period, buildings and residential quarters will be constructed and arrangements will be made for medicines and equipment for 19 health posts, including 7 health posts in Dadeldhura and six each in Darchula and Baitadi under the Mahakah integrated rural development project. Medicines and equipment will be provided to health posts in Jumla and Surkhet under Karnali integrated rural development project, Under the Rasuwa Nuwakot project, them am provision for constructing eight health post and residential quarters will be constructed and

medicine and equipment will be provided for 19 health posts. Under Kosi hill area rural development project, building and residential quarters will be constructed for 14 health posts in Dhankuta, Bhojpur and Sankhuwa Sabha districts and arrangements will also be made for medicines and equipment.

b) Program under various projects:

In those districts where basic health programs have not been implemented in an integrated form health services are being available through various health projects. In the Seventh Plan also, these services will be provided through separate projects until the program is integrated.

Family Planning and Maternity and On Welfare

The objective of the family planning and maternity and child welfare project is to reduce the adverse effect of population growth in economic and social development of the country to control population growth in a planned way to raise the living standards of the general public and to protect the health of pregnant women and children.

On the basis of the long-term objective to reduce fertility rate from 6.3 to 2.5 per thousand by the year 2000 according to national population policy, the Seventh Plan has envisaged the target to reduce fertility rate to 4.0 per thousand and the population growth rate to 1.9 percent. For this purpose 2,925,000 couples will be provided family planning service during the plan period. The target can be fulfilled only if the permanent and temporary devices of family planning service are given equal importance and the program is implemented in a very effective manner. For this purpose, arrangements will be made to give maximum emphasis on target fulfillment through mutual cooperation and coordination among the concerned agencies.

The Seventh Plan has the target to make available family planning services to 1,547,100 couples including permanent vasectomy service to 300,700 couples and temporary device services to 1,246,400 couples. For this purpose arrangements will be made for 800 panchayat based health workers. Further, the program includes provisions for imparting training to 3,580 health technicians necessary for implementing the projects refresher training to 5,875 personnel now engaged in family planning service follow-up survey of couples adopting family planning, devices under research and evaluation program, fertility and family planning survey, and information and publicity works relating to family planning. Special program will be implemented to make available family planning services to young couples and resisting groups.

Under maternity and child welfare program health services will be made available to 289,400 pregnant and delivered women. BCG, DPT vaccination will be provided to children below the age of five years and gripe water and nutrition program will also be implemented.

Extended Vaccination

After small pox disease was declared to have been eradicated from Nepal in the year 1977, extended vaccination program was undertaken as a unit to provide preventive insulation. Under this programme children particularly of the age group of 0-5 years are given vaccination against tetanus, polio measles, whooping cough and other diseases and pregnant women are given tetanus toxoid. By the end of the Sixth Plan period, the program was implemented in 35 districts. During the Seventh Plan period, the extended vaccine program will be implemented in additional 30 districts. This by the end of the Seventh Plan period, 65 districts will have this program. Under this, extended vaccine program, about 15 lakh children will be provided BCG and DPT and polio vaccine, 15 lakh people will be inoculated against measles and about 33 lakh women will be provided tetanus toxoid during the Seventh Plan period, as per the target. The Seventh Plan also includes provisions for survey of diseases that can be prevented by vaccination to make arrangements for cold chain in necessary places, training and supervision, evaluation, etc.

TB Prevention

BCG inoculation was the main work under the tuberculosis prevention program that has been in operation since the year 1965. Since the Sixth Plan period, emphasis was given to investigating tuberculosis patients and giving them immediate treatment. For this purpose, institutional system will be arranged for the treatment of tuberculosis patients and facilities for treatment will be provided in hospitals and health posts. It is estimated that one percent of the total population of Nepal suffer from tuberculosis and about half of them are affected by infectious type of being tuberculosis. The policy of providing BCG vaccine through extended vaccine project and treatment through health units at various levels will be adopted also in the Seventh Plan.

By the end of the Sixth Plan period, tuberculosis program was implemented in 31 districts. The program will be extended to additional 26 districts in the Seventh Plan. Under this program, the spittle of 548,000 suspected patients will be tested and, if the spittle is found positive, the patients will be treated and old cases under treatment, and resistant and relapse cases will also be provided treatment during the plan period.

Leprosy Control

Leprosy control has been in implementation as a leading program since the year 1962. This program is under way in 48 districts of Nepal.

The Seventh Plan has the targets to conduct caw holding work in additional 12 districts, to apply the process of multi-drug therapy in additional 23 districts, to provide regular treatment to a minimum of 75 percent of the patients and to impart training about leprosy to health technicians at different level.

Health Education

This program has been implemented with a view to impart health education to the general public by means of information, publicity, training and seminar arrangements and to rouse, health consciousness among them. During the Seventh Plan period also as in previous plan periods, various programs will be conducted to make the general public conscious of health matters, to develop the educational aspect of programs implemented in the health sector to disseminate health education and to impart health education to the general public to enable them to tender cooperation in health programs. For this purpose, various works will be undertaken, including the production and distribution of education materials, strengthening of health education training seminars, information and publicity, cooperation to other institutions, inter-sectoral cooperation, etc.

Nutrition Program

The nutrition program has been in implementation since the Fifth Plan with a view to improving the nutrition status of children and women. Various surveys on nutrition reveal that majority of children below the age of five years have a very low nutrition standard. To bring about improvement in this situation, it is necessary to implement health as well as multisided programs. For this purpose, the production of nutrition food should be increased proper distribution and utilization of the production is necessary and the purchasing power of the general public should also be increased considering these facts, preliminary works was started in the final year of the Sixth Plan to conduct multi-sided program.

During the Seventh Plan period, this program will be implemented in 45 districts of Nepal through hospitals, MCH clinics and health posts of integrated districts. Accordingly, the Seventh Plan has targets to supervise the nutrition status of 59,000 children and to provide mal-nutrition treatment and 3,500 children treatment against worms to 22,000 children anti-blindness treatment to 8,000 children and treatment against anemia to 7,000 pregnant women. Further training on nutrition distribution of education materials will also be undertaken. In addition to the regular program, multisided nutrition program will be implemented on a model form under joint nutrition cooperation programmes during the Seventh Plan.

Medical Service

In order to raise the standard of health services, emphasis has been placed on the development and expansion of preventive as well as curative services. By the end of the Sixth Plan period, the number of hospitals in Nepal reached 81 and the number of beds reached 3,772. On the basis of the population figures for the year 1985, this means one hospital for a population of 4,768 people.

For the purpose of developing medical service during the Seventh Plan period, hospitals have been classified into central, regional, zonal and district hospitals. According to the level of hospitals, provisions will be made for beds, medicines, manpower, etc. the policy of making hospitals gradually self-reliant will be adopted. According to this, the management of central level hospitals will be undertaken by the all powerful managing committee working under the policies of His Majesty's Government. In order to develop Bir Hospital as a national hospital at the central level, the construction works now under way will be completed during the Seventh Plan period, 200 beds will be added and specialist services will be made available. Provisions will be made for essential physical facilities in the infections disease hospital at Teku. Out patient department, cabin family quarter and oxygen plant building will be constructed during the Seventh Plan period for Kanti Children's Hospital which is the only children hospital in the country. 200 bed services will be made available from the Indra, Rajya Laxmi Maternity Hospital during the Seventh Plan period. Hospital building and residential quarter will be constructed to add 50 beds for the Bhaktapur Hospital.

Provisions will be gradually made for regional hospital in all regions except the central region. These hospitals will be managed by managing committee under the direction of His Majesty's Government. For this purpose, the Seventh Plan will make additional provision for beds and facilities. According to this, the 25 bed hospital in Dipayal, the first 50 bed phase of 150 bed hospitals in Surkhet and Dhankuta, and residential quarter construction will be completed and the Pokhara Hospital will be developed as a regional hospital.

In the process of increasing beds and facilities in zonal hospitals, hospital building and residential quarters will be constructed for adding 100 beds, to Kosi zonal hospital in Biratnagar, 50 beds each to Sagarmatha zonal hospital in Rajbiraj and Narayani zonal hospital in Birgunj, 25 beds to Mahakali zonal hospital in Kanchanpur and 10 beds to Rapti zonal hospital in Dang

According to the policy to provide the services of at least a 15 bed hospital for each district, the number of districts with hospital facilities reached fifty by the end of the Fifth Plan. Construction works were under way for providing 15 bed hospitals in additional 20 districts during the Sixth Plan period. These construction works will be completed during the Seventh Plan period and hospital services will be started. Further hospital building will be constructed gradually to provide 15 bed hospital building will be constructed gradually to provide 15 bed

hospital services also in remaining five districts of Kalikot, Dhading, Syangja, Dolpa and Humla where hospital services are not available. District hospital will be the center of health post within the concerned district.

The Seventh Plan envisages a target to add 1030 beds by increasing the number of beds in existing hospitals and establishing new hospitals by the end of the Seventh Plan period. In order to make medical services effective by determining service and facilities according to the level of hospitals, necessary infrastructure for the development of medical services during the Seventh Plan period will be built up on the basis of overall program. According to this after the building construction works are completed for existing and new hospitals, necessary, necessary arrangements will be made from the first half of the Seventh Plan period for manpower, equipment appliances and medicines that are necessary for enabling hospitals to provide medical facilities. In order to develop and expand specialist services in hospitals on priority basis after studying existing services. In places where specialist services have not been available especially in remote areas, services will be provided through mobile teams.

Under various integrated rural development projects, provisions will be made for medicines and equipment for district hospital in Baitadi, Darchula, Jumla, Surkhet, Siraha, Udayapur, Dhankuta, Bhojpur, Rasuwa, and Nuwakot.

Health Laboratory

Health laboratory services have been provided with a view to making the diagnosis of diseases effective and to identify poisonous and infections germs in food items. The Seventh Plan has the target of making available the services of 23 district level laboratories and preliminary level laboratory services through 120 health posts during the plan period. The central laboratory in Teku will be developed at the national level and bacteriological, bio-chemistry immunological and vaseological services will be provided. During this plan period, 300 personnel will be provided training in laboratory services and necessary manpower will be supplied to laboratories at district and health post level.

Improvement of Nursing Services

The nursing services improvement program was started in the Sixth Plan period to mobilize in a consistent manner the services of nurses, sisters, assistant nurses and mid-wives who constitute an inalienable part of health service development, and to improve the standard of their services. During the Seventh Plan period, for the improvement of nursing services personal record will be prepared of nurses working in various health institutions and they will be provided in-service training and seminars will be conducted for them. In order to involve local women in health services, 1,200 women workers will be provided health training. In order to keep hospital environment clean, training will be conducted relating to this, and cleanliness program will be launched. In view of the lack of health personnel in hospitals, assistant nurse mid-wives will be provided necessary training and engaged in hospital services.

Ayurvedic Service

In accordance with the policy to develop Ayurvedic service as an integrate part of health service, efforts will be made to integrate this with basic health service. In the proms of developing and expanding Ayurvedic service, 125 Aushadhalaya have been working by the end of Sixth Plan period. The Seventh Plan has the target to establish additional 50 Aushadhalaya. Construction work for 15 bed hospital started in the Sixth Plan period will be completed and services will be provided from the hospital and the Seventh Plan period. Construction works for out-patient department and some residential quarters for the Naradevi hospital will be completed and the standard of services will be raised. To provide accommodation for Aushadhalaya, 50 Ayurvedic Aushadhalaya building will be constructed during the Seventh Plan period. In order to increase the supply of Ayurvedic

Medicines, the Singha Durbar Vaidyakhana was be developed and extended during the Seventh Plan period. Appropriate steps will be taken to impart training during the Seventh Plan period to supply manpower for the development of Ayurvedic system of treatment.

Health Promotional Service

Threat diseases and Criticism control :

The iodized salt distribution program has been in operation since the year 1972/73 in order to control goitre disease caused by the lack of iodine. In order to control goitre disease and to promote the physical and mental development of people from the goitre affected areas, this program is being implemented in 20 districts of Himali and northern areas where this disease is rampant. The Seventh Plan has the targets to distribute 75,000 quintal salt in districts of northern area, to establish Iodization, plant in six places, Birgunj Biratnagar, Bhiamwa, Nepalgunj, Dhangarhi and Janakpur, and to construct godown houses in 12 places in Janakpar, Taulihawa, Dhankuta Tikapur, Kailali, Dang, Dipayal, Dhangadhi, Helambu, Solu, Mustang, Achham and Chaurajhari Rukum.

Distribution of iodized salt alone is not sufficient for the control of throat disease; iodine vaccination has been started since the year 1979 for its immediate prevention and to save the infants to be born in the future from dumbness, retardation and conditions of mental devility. About 25 lakh people in the hilly region are estimated to have been provided iodine vaccination during the Sixth Plan period. The Seventh Plan has the target again to provide vaccination in 23 districts and to provide the service to 90 percent of the people in the northern region.

Blindness prevention project:

With the objective of providing treatment against blindness that is curable or can be prevented, the blindness prevention project has been in operation since the Sixth Plan period. The national blindness survey completed in the first year of the Sixth Plan revealed that 0.84 percent of the total population of the kingdom of Nepal were suffering from blindness.

The Seventh Plan has the targets to implement special program in areas where eye patients are, wide spread, to control eye diseases, and to prevent the jirophthalmia disease caused by the lack of vitamin A. For this purpose, new hospitals will be established, eye section at the tonal hospital will be strengthened, basic eye service will be provided in every district hospital and provisions will be made for eye assistants. In the Seventh Plan also just as in the Sixth Plan, programs will be implemented to impart training, conduct camps, provide education, and expand medical services for eye treatment, to establish eye bank and to start spectacles producing industry gradually in every development region.

Junotic disease control:

For the prevention of diseases that are communicated to human beings by birds and beasts, this project has been under way since the year 1979/80 to study, investigate and identify the disease contaminating parasites and to diagnosis, prevent and control such diseases. During the Seventh Plan period, survey will be conducted for vim encephalitis disease, the blood, samples of human beings and birds and beasts will be collected and tested, research will be conducted on the nature of the disease, insecticides will be used, vector mosquitoes will be studied and provisions will be made for appropriate vaccination. Pig vaccination will be conducted. Steps will be taken for serological survey of brucellosis disease, blood samples will be collected and tested and preventing measures will be taken. Program will be prepared for epidemiological survey and studies for the prevention of plague in Terai districts. Information and publicity works will be conducted and training, seminars and health education will be undertaken. Necessary laws will be enacted for protection from birds and beasts. Survey will be conducted and anti-snake venom will be made available for treatment of snake bites.

Rabies control:

Since the incidence of rabies disease is increasing because of mad animal bites, rabies control project has been under way since the Sixth Plan for the prevention of this disease. During the Sixth Plan period, programs were undertaken to register domestic dogs, eliminate stray dogs and to provide free vaccination. During the Seventh Plan period, this program will be expanded, cold chain system will be applied, and the service will be expanded by providing vaccine in additional districts, indigenously produced vaccine will be used in the treatment of rabies disease.

Environmental health:

With the objective of reducing the incidences of disease caused by environmental pollution, the environmental health program has been in operation since the Sixth Plan period. This program includes provisions for safe drinking water, elimination of evacuated articles and refuge, inspection of polluted food items and other provisions for the prevention of pollution. The Seventh Plan provides for making arrangements for refuge pits, urinals and evacuations, drainage system, helping maintain cleanliness in localities and streets and for necessary legislation for preventing dirt here and them, The cooperation of health posts, sub-posts and health cadres at ward level will be provided for helping in the work of maintaining personal cleanliness, for keeping hospitals and other health institutions clean and free from dirt, for maintaining environmental purity, etc. Cooperation and coordination will be brought about also in the activities of other sectors related with pollution control.

Infections diseased, information, diagnose and control:

The objective of this program is to save the general public from pre-mature death by controlling and preventing infections diseases, to study the status of the disease incidence, to collect statistics of differ, diseases, to develop health indicators and to provide necessary information of health status for project preparation and implementation. The Seventh Plan has programs to collect health statistics from 75 districts of the country, to make disease coding according to international practice in disease classification, to strengthen infections disease surveillance system in additional 15 districts and to implement necessary measure for preventing epidemic disease.

The disabled rehabilitation program:

The survey conducted in pursuance of the program of the international year of the disabled has revealed 4 percent of the total population of Nepal to be, disabled. Rehabilitation service has become necessary for most of them. The disabled rehabilitation project will be implemented during the Seventh Plan period for the rehabilitation of disabled people. The objective of this project is to identify the disabled persons at the rural and community level, to impart them education and vocational training, to provide treatment and artificial limbs and to make them capable and productive. The program will be started in Bara and Parsa, districts and extended to six districts during the plan period inclusive of Bra and Parsa. Under this, health workers will be trained, training materials will be prepared, and less expensive appliances will be produced and used. By the end of the program, about 5000 disabled persons will be provided treatment, artificial limbs and vocational training and will be rehabilitated. The private sector will be encouraged for undertaking activities to rehabilitate the disabled.

Deafness control:

The deafness control project will be implemented during the Seventh Plan period to prevent deafness and to enable the deaf to hear. A comprehensive survey has not been made of ear patients so far. During the Seventh Plan period, such a survey will be conducted, manpower will be provided for the treatment of the disease, and health education and preventive services will be provided for saving people from being deaf.

Medical provision

The main objective of this project is to make available to the general people effective medicines of good quality, to maintain standard and ensure supplies of medicines of high quality, prohibit the sale and distribution of poisonous and spurious drugs.

The Seventh Plan has program to implement medical laws and rules throughout the country, to prepare and implement national medical policy, to determine the quality of imported medicines and to register them.

In order to make available necessary medicines regularly to health institutions that are increasing in districts, zonal medical store will be established during the Seventh Plan period and arrangements will be made for medical supplies. Further, equipment necessary for health institutions will also be arranged by zonal medical store.

Miscellaneous Program

Health plan

This project has been in implementation since the Fifth Plan with a view to strengthening plan and program preparation of health sector, During the Seventh Plan period. Data Bank will be expanded, clearing house will be established and national health information will be developed and strengthened. Computer technology will be developed and strengthened to bring about effectiveness in program preparation and evaluation works. Provisions will be made for training studies etc. under special program to supply efficient and skilled manpower for planned development of health sector. During the Seventh Pan period, research and survey works will also be undertaken that will be helpful to health plan preparation and implementation.

National health Information service:

Health information service program was implemented in the Sixth Plan to make available books, papers and journals and information services necessary for enhancing the standard of research. The Seventh Plan provides for publishing documents and newsletter preparing list of articles on health, publishing articles on health and imparting training.

Medical research:

Medical research project has been undertaken with a view to helping in the work of strengthening health and medical services by conducting research to solve the problems that have come up or will come up in the future in medical and public-health sector. Under this project, approval will be given for research on priority basis after studying methodology, training and research proposal so as to avoid duplication in research and help bring about uniformity in research works. During the Seventh Plan Period research works will be published on various subjects relating to medicine and public health.

Construction of health institutions

Various problems relations to construction that came up during the implementation process in health service sector will be gradually solved. For this purpose organizational improvement in construction and maintenance during the Seventh Plan period.

In order to bring about effectiveness in the construction works for health institutions located in districts, construction units will be gradually established in every regional directorate. For this purpose, arrangements will be made for technical manpower, engineering machinery and means of transportation and the related manpower will be imparted training.

Health
Expenditure in the Seventh Plan

in million rupees

1. Basic health Service	950.000
2. Medical service	125.200
3. Ayurvedic service	20.000
4. Health promotional service	117.500
5. Medical supplies system	111.000
6. Miscellaneous program	20.300
Total	1,344.000

Out of the total amount, Rs. 430,384 has been allocated for district level health program.

Note: Since medical arrangements and development program has been separated from the Ministry of Forests and Soil Conservation and amalgamated with Health Ministry, the total health budget of the Seventh Plan has increased by Rs. 7 million.

CHAPTER 42 DRINKING WATER SUPPLY AND SANITATION

In view of the prime importance of the healthy manpower for the development of the country, the drinking water and sanitation programmes have been launched since the past periodic plans with the objectives of supplying the pure drinking water as the basic needs of the people and of creating the healthy manpower and clean environment. Specialty in the mountain regions, water sources are usually long way off and lots of time and energy are spent on fetching water. As majority of population are deprived of pure drinking water, special attention should be given to the supply of pure drinking water in view of its adverse effects on health. Though it was realized in previous plans, facility of pure drinking water could not be provided to the majority of people because of the scarcity of means and resources. In the context of our commitment to the "Health for all by 2000" and the "Drinking Water and Sanitation Decade, 1981-90" need to realize drinking water projects is obvious. In view of equal necessity of environmental cleanliness for the people's health, the sewerage and sanitation should be gradually extended within limited resources and means, specially in areas with increasing urbanization. Due priority should be given to create awareness to the need of sanitation even in the rural areas.

Achievement of the Sixth Plan

The Sixth Plan had targeted to provide drinking water facility to 4.13 million Population consisting of 3.87 million in rural areas and 26 million in urban areas. In rural water supply, projects under the Department of Drinking Water Supply and Sewerage provided drinking water to an additional 754 thousand and those under the Ministry of Panchayat and Local Development to additional 533 thousand populations within the first four years of the Sixth Plan. Thus 71.625 million litres of drinking water per day supplied to a total of 1,287 million people. In the end year of the plan, it has been aimed to supply 35.718 million litres of pure drinking water per day. Of this the Department of Drinking Water Supply and Sewerage was to provide water supply to 437 thousand and the Ministry of Panchayat and local Development, to 203 thousand population. Thus during Sixth Plan period additional 1927 thousand rural population will be served with 107.343 million liters of drinking water per day and achievement will be 49.8 percent in served population and 60.4 percent in water supply.

For urban population the target was to provide drinking water facility to additional 263 thousand population, while the facility extended to 222 thousand population in the first four years of the plan. In the final year of the plan it will be extended to another 41 thousand population and the achievement is likely to meet the target. Additional water supply in the plan period is expected to be 103.87 liters per day. This is 74.33 percent of the target.

Achievement of the Sixth Plan

Population in '000
Water in '000 litres/day

	Target		Estimated Progress		Progress percentage	
	Population	Water supply	Population	Water supply	Population	Water supply
A. Rural Drinking Water Supply						
1. Department of Drinking Water Supply and Sewerage	1,504	71,200	1,191	74,223	97.2	104.0
2. Ministry of Panchayat and Local Development	2,368	106,600	736	33,120	31.1	31.1
B. Urban Drinking Water Supply (Corporation)	263	139,650	263	103,807	100.0	74.3

Total number of population benefited from drinking water supply by the end of the Sixth Plan.

Rural Sector	-	27,88,000 (17.9 percent of rural population)
Urban Sector	-	9,50,000 (79.9 percent of urban population)
Total	-	37,38,000 (22.4 percent of estimated population in 1985)

Regarding sanitation, during the Sixth Plan the provision of model low cost toilets was targeted to serve 440 thousand population and 1500 school children, in rural areas. Within the first four years of the plan low cost sanitation facilities were provided to 15,000 populations. In the end year of the plan i.e. 1984/85, an additional 10 thousand population will be provided with this facility. In addition, by the end of the Sixth Plan the low cost sanitation facilities will be provided to 3 thousand populations through the Panchayat and Local Development ministry. Regarding sewerage facilities 313 thousand population in urban areas will receive this facility by the end of the Sixth Plan.

Problems in the Plan Implementation

In the Sixth Plan following problems cropped up during the implementation of the programmes, of water supply and sewerage:

- a. Lack of sufficient technical manpower for implementing the projects.
- b. Lack of financial resources.
- c. Lack of construction material resources and the problem of transport for the projects in remote areas.

During the Seventh Plan following efforts will be made to solve these constraints:

1. Special emphasis will be given to fulfil the needs of technical manpower and to mobilise them by arranging training and up-grading training.
2. Available air services in remote areas will be utilised to transport construction materials.
3. In the execution of water supply projects necessary construction materials will be made available and the projects made economical through the mass participation of the local panchayat and the beneficiaries in their implementation.

Objectives, Policies and Programme of Seventh Plan

The programme to achieve "Health for All by 2000 will be meaningful and successful only if potable water could be made available to all. Contaminated water and unhygienic environment are the root causes of almost all kind of diseases in developing country like ours. So, need to accord special priority to programmes of drinking water and sanitation is quite clear. In line with our commitment to the "Water Decade 1981-90" and incorporation of drinking water as one of the basic needs, its supply has been gradually managed within the limited resources and means. Yet, because of several problems the population covered by the facility of piped drinking water has stood at 22.4 percent only by the end of the Sixth Plan.

In the Seventh Plan, it is deemed essential that programmes be implemented to provide piped drinking water facility to almost all rural people. Hence the efforts will be made to provide drinking water facility to nearly 67 percent of the country's population according to the Drinking Water and Sanitation Decade targets by the end of this plan. In addition sewerage and sanitation programmes will be implemented.

Objectives

In the Seventh Plan, the drinking water supply and sewerage programmes have the following objectives:

1. In connection with the provision of basic necessities, drinking water facilities will be provided to majority of population.
2. To provide the sewerage system in urban areas and to communicate on environmental education in urban and rural areas.

For fulfilling the basic needs of pure drinking water following policies and strategies will be adopted during the Seventh Plan to attain the above objectives.

Policies

1. Efforts will be made to augment the supply of potable water which is one of the basic needs, and the programmes connected with it will be extended in scope and coverage. In this connection, priority will be given to those rural areas where water is not available.
2. Stress will be laid on the essentials of purification in drinking water projects of urban areas.
3. More co-ordination will be sought among agencies involved in drinking water projects.
4. Rural drinking water projects will be implemented more economically mobilizing local labour, skill and resource so as to benefit maximum number of people.

Working Policies

1. Arrangements will be made for the operation of village level small and medium-scale completed projects through local agencies.

2. Special attention will be given to curtail the operation expenses and the construction of the physical facilities while implementing drinking water projects.
3. Emphasis will be given in the execution of drinking water projects on the basis of local participation utilising local labour skill and resources and with the support of necessary construction materials and technical help and stress will be given to construct taps, ponds and wells.
4. For the Kathmandu Valley, long-term drinking water project will be designed and on its basis the programme will be implemented.
5. Emphasis will be put on the proper operation, maintenance and maximum utilization of the projects already commissioned. Pilferage will be controlled and prevented and legislative measures will also be introduced as required.
6. In prominent urban areas, sewerage system will be gradually installed and the drains of all houses will be connected with this system as far as possible through private participation.
7. Low cost waste disposal programmes will be taken up in the semi-urban areas. In order to arouse mass consciousness towards sanitation necessary publicity, information and motivation programmes will be launched.
8. Local panchayats will be activated to launch mass educational and informational programmes about public toilets in order for the town panchayats to run sanitation works regularly and systematically in the town areas.
9. Special attention will be given to the environmental conservation before any drinking water supply projects are implemented. Studies thereto will assess the impact on environment.
10. Due priority will be given to create awareness and to motivate people towards the necessity of hygiene in rural areas too.
11. Emphasis will be given to the distribution of private drinking water taps in semi-urban and densely populated rural areas.
12. In the distribution of public water taps specially in the mountain areas provision will be made to fix twin faucets in one tap using pressure action faucets in spite of immobile ones.
13. Approach will be taken to incorporate by stages the district level projects so far included in the central level projects while formulating annual plans and programmes.

Target of the Seventh Plan

While formulating the Seventh Plan special attention will be paid to the programmes of the Water Supply and Sanitation Decade and the facility of potable water will be extended to 69 percent of the population at the end of the Seventh Plan and from limited resources and means. According to the programme, 67 percent of rural areas and 94 percent of urban areas will enjoy the facility of drinking water. To attain the above objectives, 9,362 thousands of additional population will be provided with the drinking water facilities. Of this, the Department of Water Supply and Sewerage under the Water Resources Ministry will provide this facility to 4,508 thousand, the Drinking Water Supply and Sewerage Corporation to 300 thousand and the Ministry of Panchayat and Local Development to 4,464 thousand population. In addition to this, designs of rural projects commissioned in the Sixth Plan were made to serve for another 10 to 15 years both in respect of water supply and for increase in population. As a result, these projects will serve approximately 90 thousand of the, increased population in the Seventh Plan in the project areas. Thus during the Seventh Plan period additional 9362 thousand people will get the benefit of drinking water facilities, By the end of the Seventh Plan 13.1 million population will be benefited by the piped drinking water, supply facilities inclusive of 3738 thousand people having this facility by the end of the Sixth Plan. This comes to 69 percent of the population. Of the beneficiaries in the Seventh Plan, 9024 thousand people will be in rural areas and 338 thousand people in urban areas.

Outlines of the Programmes for Implementing the Seventh Plan

1. Continued Projects from the Sixth Plan (piped drinking water):

These 89 projects which were initiated in the Sixth Plan will be completed by the Seventh Plan. From these projects 261 thousand population will benefit. Furthermore 17 foreign aid projects in the Eastern Development Region will be completed and 63 thousand people will be provided with the drinking water facilities.

The present projects to be continued in the Seventh Plan are as follows:

1.	Manma	Drinking Water Project	Kalikot
2.	Charikot	Drinking Water Project	Dolakha
3.	Baramche		Sindhupalanchok
4.	Kandadaha Bagar		Bajhang
5.	Shankarpur		Darchula
6.	Lauthi		Humla
7.	Mukti Nath		Mustang
8.	Hagam		Singhupalchok
9.	Sakalakh		Taplejung
10.	Basarling		Baitadi
11.	Badachaur		Ropla
12.	Chandanpur		Lalitpur
13.	Gaidakot		Palpa
14.	Masta Mandu		Dadeldhura
15.	Pakribhanvar Danda		Doti
16.	Jagatipur		Jakarkot
17.	Liku		Dolpa
18.	Bagmara		Dang
19.	Satal		Dailekh
20.	Jamkot		Myagdi
21.	Madanga Tunikot		Syanja
22.	Gumdi		Dhading
23.	Yangpong Deurali		Bhojpur
24.	Imbung		Panchthar
25.	Chhatedhunga		Nuwakot
26.	Katunje		Nuwakot
27.	Thade		Nuwakot
28.	Seudini		Nuwakot
29.	Sanwa Gaon		Nuwakot
30.	Kuldev Mandu		Bajura
31.	Mirge		Dolakha
32.	Melamchi		Sindhupalchowk
33.	Batase		Sindhupalchowk
34.	Juguda		Bajura
35.	Sanegaon		Jumla
36.	Manakamana		Sankhuwabaha
37.	Salayan		Solukhumbu
38.	Thalkharka		Solukhumbu
39.	Timilsen		Achham
40.	Mangalsen		Achham
41.	Dipayal		Doti
42.	Mahelkuwa		Surkhet
43.	Malneta		Salyan
44.	Suikot		Salyan
45.	Majhkot		Pyuthan
46.	Birjuwar		Pyuthan
47.	Jyemakasala		Rolpa
48.	Litung		Gulmi
49.	Khidem		Arghakhanchi
50.	Kimdada		Arghakhanchi
51.	Waling	Drinking Water Project	Syanga
52.	Behukot		Baglung
53.	Ramrung		Tanahun
54.	Tavthali		Bhaktapur
55.	Naikap		Kathmandu
56.	Bhaimalgotatar	Drinking Water Project	Kathmandu
57.	Aanayakot		Kavre
58.	Diktel		Khotang

59.	Simpani		Khotang
60.	Balmata Salthumka		Udayapur
61.	Phikkal panchakanya		Illam
62.	Moharanga		Tehrathum
63.	Shrikot		Baitadi
64.	Sakhirnuwa		Rolpa
65.	Taksera		Rukum
66.	Lumdang		Dhankuta
67.	Sesawakhudi		Kaski
68.	Manapang		Tanahu
69.	Illampokhari		Lamjung
70.	Manakamana		Syanja
71.	Katuwa Chaudhari		Parbat
72.	Bhairabsthan Ridikot		Palpa
73.	Dapcha		Kavre
74.	Phulwari		Okhaldhunga
75.	Marpa		Panchathar
76.	Jimle		Illam
77.	Gwalekha		Baitadi
78.	Nandegaida		Achham
79.	Kawaswoti		Nawalparasi
80.	Nirmalbasti		Parsa
81.	Bardiwas		Mahottari
82.	Bbahundangi		Jhapa
83.	Chandraura		Kapilvastu
84.	Karmaiya		Sarlahi
85.	Kisan Nagar		Mahottari
86.	Bharatpur		Dhanusa
87.	Madhumalla		Morang
88.	Barahchhetra		Sunsari
89.	British Aided 17		Eastern Development Region

2. Tubewell Projects

Special emphasis will be placed on digging of the shallow tubewells, as the groundwater is easily available and dependable in the rural areas of the Terai region. During the plan period installation of shallow tubewells will further provide drinking water facility to 2600 thousand population. Consumers committees and local panchayats will be mobilised to implement these projects with the construction material and technical services made available. Moreover, deep tubewells will be installed and drinking water supplied in semi-urban and densely populated areas. In the Seventh Plan 133 thousand population will be benefited by drinking water supply after completing 9 on-going projects of the Sixth Plan and additional 5 deep tubewells.

3. New Rural Pipe Drinking Water Projects

During the plan period, the piped water from 13 new drinking water projects will be supplied to 1,325 thousand population. While implementing new projects of pipe water supply in rural areas, priority will be accorded to the feasible projects out of the projects studied for feasibility. In addition, projects for which feasibility studies have not been conducted, such studies will be conducted and feasible projects will be gradually implemented. In the implementation of such projects, rural areas with scanty supply of drinking water will be ordered priority.

Efforts taken by the got is not sufficient to provide the drinking water supply to the maximum number of people from the limited resolution. Therefore in the implementation of such projects, local labor, skill, resources and technology will be mobilised to the maximum. Consumers, committees and local panchayats will be involved in this endeavor. From the government level necessary construction materials and technical services will be made available for the implementation of such projects.

4. Reforms, Renovation and Extension

The traditional natural sources like taps, ponds, wells were meeting some of drinking water requirements in many parts of the Kingdom. It is necessary to conserve and improve these traditional sources and maintain their services. Thus during this plan period 50,000 populations will be benefited by the supply of

drinking water from the conservation and improvement of the on-going taps, ponds, wells and constructing others at suitable places. Necessary measures will be taken to control contamination of water from these sources. Besides, completed projects will be modified, reconstructed and extended to supply drinking water to additional 90 thousand populations. Only if these completed projects can be properly maintained, these projects can better contribute over a long time. The responsibility of maintaining these projects should be handed over to local units. Only then the government's limited resources and means can be utilised for the implementation of new projects and maximum number of people served. Therefore, the responsibility of operation of small and medium-scale projects will be handed over to the local level units. Besides, these provisions will be made for the renovation, extension and modification of the completed projects.

5. Feasibility Study

If probable projects for the coming years could be identified along with their economic and technical feasibility studies, feasible projects can be incorporated at the time of plan formulation and then implemented. As such detailed feasibility studies will be conducted for 500 projects in the Seventh Plan.

In addition to the pure drinking water, sanitation has equal importance in public health. In real sense it is the duty of all people to keep home surroundings neat and clean, but due to lack of publicity of public health and people awareness, most of the people have not paid due attention to hygiene. Hence, importance of hygiene on health will be widely publicized to awaken people's consciousness in co-ordination with the Ministry of Health during the Seventh Plan.

In order to arouse mass awareness towards sanitation programmes, 25 thousand low-cost toilets will be constructed as models. Necessary technical assistance and construction materials will be made available by the government for the construction of low-cost toilets. Of this, 10 thousand toilets will be constructed in the different schools to habituate people to use toilets. The remaining 15 thousand toilets will be constructed in the necessary places of the semi-urban and densely populated rural areas. This project will benefit 200 thousand populations.

Sewerage will be installed in densely populated urban areas and low-cost sanitation programmes launched in other urban areas. Up to the end of the plan, sewerage facility will be extended to 164 thousand population in the densely populated urban areas of the Kathmandu Valley. Similarly sewerage will be gradually introduced in the main urban areas of the kingdom like Nepalgunj, Bhairahawa, Butaul, Birgunj, Janakpur, Biratnagar and so forth.

7. Drinking Water Supply Programme in Urban Area

In order to improve the drinking water supply situation in the urban areas, the Department of Drinking Water Supply and Sewerage and the Drinking Water Supply and Sewerage Corporation are actively involved. For the fulfillment of the drinking water needs in urban areas, Greater Kathmandu, Pokhara, Biratnagar and Birgunj drinking water projects are under implementation with IDA loans and expected to be completed in the Sixth Plan. Under the very International Development Association Loan, third phases of Greater Kathmandu, Bhaktapur, Dharan, Biratnagar, Janakpur, Birgunj, Hetauda, Pokhara, Butwal, Bhairahawa, and Nepalgunj are targeted to be completed in the fiscal year 1986/87. After completion of this project the condition of the drinking water supply in these urban areas will greatly improve. By the end of the Sixth Plan 109 litres of water will be available in the urban areas per capita per day in average.

The problem now facing the drinking water supply in Greater Kathmandu is the lack of surface water sources. To solve this problem effort is being made to tap the ground water resources. After completion of third phase project in 1986/87 an additional 83 thousand cubic meter of drinking water will be available and will fulfill the water requirements of the population up to the fiscal year 1991/92. Regarding the supply of drinking water requirement after the year 1991/92, provision will be made in this plan to study and implement alternative ways and means. Furthermore a long-term plan of drinking water supply will be prepared for the Kathmandu Valley in this plan period.

In the context of the fast increasing urbanization along with the development works, feasibility studies for the renovation and extension of drinking water facilities are being conducted, for other urban areas like Mahendranagar, Dhangadhi, Birendranagar, Tribhuvannagar, Bharatpur, Rajbiraj, Lahan, Dhankuta, Dhadrapur, Illam and others in addition to the urban areas with on-going projects. In this plan period, these feasibility studies will be completed and arrangements made for their implementation.

In this plan period an additional 338 thousand population in the urban areas will get the benefit of the drinking water facility. Of this, 300 thousand populations will benefit from the Drinking Water Supply and Sewerage Corporation and 38 thousand populations from the Department of Water Supply and Sewerage. The quality and quantity of drinking water will be improved, in addition to the provision of the drinking water will be improved, in addition to the provision of the drinking water facility to the additional population and the plan aims to supply 200 liters of drinking water per capita per day.

8. District Level Project under Decentralization

During the Seventh Plan, the district level projects will be implemented according to decentralization plan. In the district level drinking water project, fall projects and impact of which is limited to a district and not within the domain of development committees. Within this category comes the pipe water projects, shallow tubewells, sanitation programme, supervision and maintenance, while formulating and implementing district level projects priority will be given to those urban, semi-urban and rural areas devoid of water supply facilities. And approach will be to implement these project at the local level mobilizing local labour, skills and resources and with the support of construction materials and technical services. This will increase the interest of the local panchayat and consumers in project implementation resulting in the completion of the projects at low cost and within a short duration. Only if appropriate arrangements are made for the operation and maintenance of completed projects, services from them can be derived for a long time. Hence, the responsibility of operation and maintenance of the completed projects will be handed over to local panchayats and local consumers themselves. The technical support locally unavailable will be made available from the central level. Thus, the role of local participation will be vital in the foirmulation, implementation, operation, and supervision works of the district level projects.

For the district level drinking water projects. Rs. 111.94 million has been set aside in the Seventh Plan in tune with the decentralization plan. Although, projects now incorporated at the central level, which should be incorporated at the district level will gradually be incorporated in the district level programmes.

Budget

For the implementation of the above programmes Rs. 989 million has been set aside in the Seventh Plan. Detailed budget is as follows,

a. On going projects from the Sixth Plan	180.0
b. Shallow tubewell and deep tubewell	120.0
c. Now projects	400.0
d. Renovation, feasibility study, sanitation, administrative expenses etc.	64.0
e. Urban drinking water supply	225.0
Total	989.0

Of the above amount, Rs. 111.94 million has been set aside in accordance with the decentralization plan for the district level projects.

Chapter 43
PANCHAYAT
Decentralization and Local Development
Policy and Programme

Background

After the advent of the Panchayat System, local panchayat bodies have been playing the role of political backbone and have been contributing towards raising the standard of living of the common men, fulfilling their basic minimum needs, mobilizing local leadership, activity, skill and resources and automating the process of development at the local level.

The panchayat sector that was being accorded the place of third sector in periodic development plans of the country since the third plan period was entrusted an even more important role in the Sixth Plan. Under the various kinds of projects including large integrated rural development projects have been implemented in the field of local development. A brief account of the progress during the Sixth Plan is given below:

Progress of the Sixth Plan

During the Sixth Plan period, progresses were implemented relating to drinking water, irrigation, environment, cleanliness, education transportation, and women's development. Similarly, programs were implemented also relating to integrated rural development, local development training, research and population education. Besides these, programs were conducted, also under special development grants, relating to various local development priority development projects by mobilizing local resources.

During the Sixth Plan period, 789 projects are expected to be completed, including 550 projects under rural development drinking water program, 65 projects under Rasuwa-Nuwakot integrated rural development project, 20 projects under Kosi Hill area rural development project, 25 projects under Rapti integrated rural development project, 27 projects under Karnali-Bheri integrated rural development project, 80 projects under Mahakali integrated rural development project, 148 projects under intensive hill-development project, 2 projects under Dhulikhel development project, 17 projects under resource conservation and utilization project. Drinking water projects have also been undertaken under tubewell program, Dhading integrated rural development projects, remote area development project, and Bhaktapur development project. Besides these, various projects have been undertaken also under development grants program, special program and Kathmandu Valley special program. Daily 3 crore 31 lakh liter, (33.1 million) water is expected to be supplied and additional 7 lakh 36 thousand (0.736 million) people are expected to be benefitted in rural areas by these projects.

Under the irrigation development program, 187 projects have been undertaken, including 35 projects under canal irrigation, 21 projects under Rasuwa Nuwakot integrated rural development project, 40 projects under Sagarmatha integrated rural development project, 19 projects under Rapti integrated rural development project, 13 projects under Karnali-Bheri integrated rural development project, 25 projects under Mahakali integrated rural development project, and, 34 projects under remote area development program. Further, it is estimated that Kosi hill area rural development project will provide irrigation facilities to 2134 hectare and intensive hill area rural development project will provide irrigation facilities to 825 hectare. Thus, inclusive of these two projects, under the local development program, irrigation facilities will be available to an area of 6699 hectare during the plan period.

Various projects relating to local development have been undertaken during the Sixth Plan period in order to develop transportation system in the rural sector. During the first four year period, 1472 km. of roads have been constructed, including 674 km. under remote area development program, 524 km. under integrated rural development program and 274 km. under food for work program. In the fifth year of the plan period, additional 351 km. of roads is estimated to be constructed under these projects. During the plan period, 1823 km., road will thus be constructed under local development program. Further, in order to facilitate rural transportation system, 150 suspension bridges and 16 wooden bridges is estimated to be constructed during the Sixth Plan period.

The Sixth Plan had the target to conduct training and seminars for 7231 persons, including panchayat secretaries; technical assistants, drinking water mechanics, roofing mechanics, administrative officers and other gainful employment oriented training. Training and seminars for 4294 persons were completed during the plan period through six panchayat training centres. Similarly, there was targets impact training relating to consumer committee, agriculture, rural women, technical vocations, community volunteers, etc. through five women training centres. During the plan period, 6287 persons were imparting training.

For the development of backward tribes, they were targets to complete 135 projects relating to economic, educational and social development in some village panchayats of Dhading, Makawanpur and Chitwan districts. The target has been fulfilled.

For the development of women, various programs have been completed for skill development under various integrated projects. Besides these programs, 85 training and seminars and credit programs were also conducted under women development program. During the Sixth Plan period, under women's judicial services project, achievements include the establishment of 3 offices, free legal services to 1703 women legal literacy imparted to 1650 women, expansion of library, etc.

Besides these programs, 238 primary schools are expected to be provided roofing as against to target of 1000 primary schools. About 4173 persons are estimated to be imparted training 7 bulletins to be published, 24 textbooks to be produced under population education program. Training and seminar participation will be provided to 1479 persons under nutrition and child care project. Research and survey is estimated to be conducted on 9 different subjects under research and evaluation project. Various programs were under taken relating to afforestation, road construction, school cooperation, temples and monasteries, buildings, drainage and urinals, drinking water, etc. also under Dhulikhel development project, Kathmandu valley special program and Bhaktapur development project during the Sixth Plan period.

Under development grants program, there were targets to undertake 39409 projects on the basis of the mobilization of people's participation during the Sixth Plan period. Against this target, 14,377 projects were undertaken during the period, Among these projects, those completed during the first four year period included 3052 drinking water, irrigation, trails, tracks, suspension bridges and other projects. No information is available as to where and what number of projects were undertaken under special program.

Progress Review and Problems

The description given above shows that achievement of many projects undertaken during the Sixth Plan period were equal to or exceeded the targets, and there were also many projects whose achievements are not satisfactory. The programs have lagged behind from the point of view, of financial resources, number and benefits to be obtained. These projects have problems relating to preparation, follow-up, physical and financial resource mobilization, manpower skills, coordination, mobilization of local resources, training, etc. Therefore, it is necessary to make necessary arrangements for solving these problems in the process of preparing the Seventh Five Year Plan.

In this context, the implementation of the Decentralization Act has started in the Kingdom. Various provisions have been made under this Act and the rules framed under this Act. Provisions have, been made for consumer committees to play an active role, for the role of various bodies in the mobilization of financial and physical resources, accounts and auditing, etc.

It is necessary to intensify and make effective the mobilization of local resources which is an important dimension of people's participation. For the purpose, policies conducive to people's participation will be adopted and implemented.

It is not possible to provide effective support in policy, physical and technical matters without, periodical follow-up of the implementation of various projects. It is necessary to have a consistent and institutionalized system of project preparation, progress reporting and evaluation.

In the context of integrated rural development projects, it has become necessary to make inter-ministerial coordination effective. It has not been possible to benefit the targeted people. Investment of resources has not been possible to the desired extent. It has become necessary to prepare projects in a mutually complementary and supplementary manner. The role of the donors has been increasing and, as a result, the objectives, organization and nature of investment of various projects have been undesirably diverse. For this reason, in this context also appropriate policies should be adopted with relevance to decentralization.

Accordingly, appropriate policies should be adopted for panchayat training, conducive to the needs of rural development and decentralization. Further, in order to overcome the problem of lack of skilled manpower at the local level, local people should be imparted necessary skills by means of training. Appropriate policy should be adopted also to raise the standard of project design and the process of preparing the outlay.

In the context of preparing local development program for the Seventh Plan, the achievements and the problems described above have been taken into account and the objectives and policies have determined accordingly.

Objectives, Policies and Program of the Seventh Plan

The Seventh Plan has adopted following objectives and policies in order to ensure the institutional development of panchayats and decentralized process of plan preparation and implementation, to mobilize local leadership and local resources, to fulfil local felt needs, to raise the standard of living of the people on the basis of plan preparation according to priorities and to stimulate self-sustained development.

Objectives

1. To increase the productivity of agricultural and non-agricultural sector to promote economic development by removing the backwardness of local economy, especially rural economy, and by utilizing the creative power and organized genius of the local people.

2. To bring about maximum increase in employment opportunities in order to enable the local people to improve the existing conditions of under-employment in the rural sector and to participate widely in the process of improving their economic conditions.
3. To increase the level and extent of social services by mobilizing local resources for meeting the basic minimum needs of the people.
4. To control environmental deterioration and maintain appropriate balance for the economic and social progress of the local people by mobilizing their organizational ability and by means of appropriate soil conservation in the rural sector.

Policies

During the Seventh Plan period, following policies will be adopted to fulfil the objectives:

1. To make the process of local development self-sustained by the institutional development of local panchayat in accordance with the policy of decentralization.
2. To adopt the policy of decentralized and integrated plan preparation, implementation, follow-up and evaluation at the local level in accordance with the policy of decentralization in view of the mutual dependence of local development projects.
3. To coordinate local development plan with regional and national development plan and to make them mutually complementary and conducive.
4. To go on making the local resource base more and more extensive for maximum mobilization of local resources in local development endeavor and to facilitate such local resource mobilization proof the local level for the maximum fulfillment of the needs of the local people.
5. To make institutional arrangements for coordinating the preparation and implementation of local development plan in view of the need to conduct multi-sectoral program for local development.
6. To protect and promote environment by adopting an appropriate soil conservation policy with the framework of local level planning in view of the growing environmental unbalance.
7. To make maximum use of available local technology, knowledge and skill and to search, study and disseminate new appropriate technology.
8. To develop dynamic and conducive relation between urban and rural areas by establishing mini-urban (service) center in necessary places in rural areas in order to bring effectiveness in the preparation and implementation of rural development plans and to expand the effectiveness emanating therefore.

Working Policies

In order to achieve the various objectives and policies stated above, following working policies will be adopted under the panchayat sector during the Seventh Plan period.

1. Necessary policies and programs will be designed in order to increase the resource utilization ability of local panchayats and to mobilize maximum resources from the local level.
2. In order to complete rural development plans effectively and in time and to mobilize maximum resources for this purpose from the local level, to inspire competition feeling among panchayats in this respect, and while preparing the basis for giving grants to various panchayats, to regard as basis the consideration as to whether or not the projects were completed in time and effectively and the quantum of local resource mobilization. Necessary arrangements will be made for this purpose.
3. To enable local panchayats to prepare, implement and evaluate local development plans effectively and continuously and to increase their capability in this respect by imparting necessary training.
4. To relate research works to program needs in order to make local development research meaningful and to use the results therefrom in the preparation and implementation of local development program preparation and implementation.
5. In order to make panchayat training program more meaningful and to enable it to contribute to local development, the programs under the Ministry of Panchayat and Local Development will be encouraged to mobilize their own resources and use the same in conducting training programs.
6. In view of the shortage of skilled manpower at the local level and the increasing number of various local construction projects, arrangements will be made for improving the construction works and to enable local workers to undertake the construction works under the guidance of the limited skilled manpower. Arrangements will be made for increasing the number of technical personnel by means of training program.
7. With a view to maintaining, a good qualitative standard of construction materials and to ensure the availability or reliable construction materials to the local people, arrangements will be made as far as possible to allow the purchase of only those materials that are recognized by the HMG Institute of Standard.

8. In order to effectively implement various central and district level projects under local development program and to provide timely support to the program, arrangements will be made for effective follow-up and evaluation and the reporting system will be strengthened.
9. In order to make rural development services easily accessible to village panchayats, service centres will be established ordinarily in 9 places, in the district according to the policy of decentralization and services will be made available in various sectors.
10. The integrated rural development projects implemented in various districts and to be implemented in the future will be within the framework of district development plan and under its process accordingly.
11. Appropriate development programs, will be implemented to raise the economic standard of poor communities because of geographical, social and economic causes.
12. In order to strengthen the monitoring and progress reporting system for projects at the district level under the Ministry of Panchayat and Local, Development, the role of regional directorates, under the Ministry will be changed and arrangements will be made to collect progress report through them. For this purpose, reporting schedule for use from village level to central level and necessary forms will be prepared and arrangements will be made accordingly.
13. To encourage the timely completion of projects to be implemented with development grant and other sources and to prevent the misutilization of resources, policy will be adopted to proceed according to the principle of financial discipline regarding resources to be furnished to local projects. Necessary steps will be taken to stop the projects that could not be completed in time without valid reasons and to have compensation of the amount already spent. In order to bring the system and the decentralization acts and rules in practice, necessary amendments and improvements will be made on the local project agreement format.

Program

Local resources will be mobilized to the maximum extent possible according to decentralization rules. Efforts will be made to meet the felt needs of the local people on the basis of local leadership and people's participation. Accordingly, the overall district level development work to be implemented in the village, town and district level has been called district development plan. Following projects have been included under district development plan:

1. Projects to be implemented with the resources of the village, town and the district.
2. Projects to be implemented on the basis of grants obtained from His Majesty's Government Majesty's Government.
3. Various development projects specified by His Majesty's Government for being implemented at the district level.

The projects at the district level under the Ministry of Panchayat and Local Development as outlined above will be prepared implemented and evaluated within the framework of district development plan in each district.

In the context of above policies and bases, the projects to be implemented under the Ministry of Panchayat and Local Development during the Seventh Plan period will be as follows:

Central Level Projects

During the Seventh Plan period, following projects will be implemented at the central level.

1. The projects according to the command of His Majesty the King during informal visits to regions from time to time.

2. Training program

a. Institutional training

The training program has been going on since the third plan period with a view to develop local leadership according to Panchayat system to produce manpower that can directly help local level projects, to prepare low level technical manpower that is necessary for rural development. This programme will be made more extensive and effective during the Seventh Plan period. Accordingly, in order to support the implementation of rural development program during the Seventh Plan period, various training programs will be undertaken to improve necessary skill and knowledge, to make the local people self-reliant, and to bring about their economic and intellectual development as well as to support various rural development endeavor. Along with this, necessary programs will be implemented also to strengthen and make effective the local planning process in accordance with the principle of decentralization envisaged in the Seventh Plan.

The main objective of this training program in the Sixth Plan was to produce manpower that will be directly helpful to local development projects and to prepare low level technical manpower necessary for rural development. The objectives of the training program in the Seventh Plan are to provide support to rural development according to decentralization plan, to prepare low and medium level technical manpower for local level development projects, to impart knowledge to the rural people about panchayat system and rouse political

consciousness among them, to promote staff performance capabilities, to familiar political workers with their role in the development of the country, etc. Along with this, the training program will give priority also to raising capabilities for office management at the local level, accounting and planning, monitoring and evaluation, etc.

During the Seventh Plan, various training programs will be undertaken in groups through various men and women training centres to fulfil the above objectives. Accordingly, special emphasis will be given to village panchayat secretary training, village panchayat Pradhan Pancha training, consumer committee staff training, service centre and other local development personnel training and local development officers and planning officers training in the process of decentralization. Besides these, the training centres will conduct training also for technical assistants, indigenous technology development training and political training programs. These come under various program groups to be undertaken by six panchayat training centres in the process of training for men. Similarly, for women training five women training centres in the Kingdom will undertake women workers training, gainful employment training, rural women skill development training, spinning and weaving training, mobile training, backward women training, women cadre training, political training, etc. In this way, during the Seventh Plan period, 25002 men and 4395 women will be imparted training through men and women training centres.

Among the programs proposed above for the Seventh Plan, in connection of training related to various programs and projects and in order to make the training conform to their requirements, the resources provided for the training according to policy in those projects and programs will be mobilized and arrangements will be made to train their manpower according to their requirements.

Any training program is not an end in itself. It is a means to impart skill and knowledge to participants. Research and evaluation are necessary to make it effective. Therefore, in addition to conducting training programs through various training centres under the training program, provisions have been made for research as well according to time and needs. During the plan period, 45 research projects will be undertaken by various training centres and physical improvements will also be made of the training centres.

Besides the above, population education project has also been under way under panchayat training program since FY 1978/79, The main objective of this project is to bring home to the rural people the problem of population growth and to rouse in them the positive feeling for preventing population growth. Since the project has a remaining period, of one year only, it will go on only for the first year of the Seventh Plan period. This program includes provisions for 120 district level training seminars, population education camps for 1400 persons, population education technology training to 25 persons at the central level, 2 national advisory seminar, 1 case study and production of 10 textbook bulletins.

(b) Training materials production centre:

The main objective of this project is to produce, collect and distribute training materials necessary for the training program. This project envisages targets to prepare 20 training materials, publish 20 issues of Panchayat Darpan magazine, publish 30 training news bulletin and 6 progress reports, to prepare 5 audio-visual media, conduct textbook development seminars; for 75 personnel and to construct one building.

3. Research Program

During the past plan period, the main objective of the research program was to ascertain the impact of various panchayat training and local development works on living condition of the Nepali people. Accordingly, the Sixth Plan had the target to undertake 17 researches programs on different subject progress could not be made according to the target, Special emphasis will be given to undertaken 17 these programs effectively in the Seventh Plan.

Research works will be undertaken during the Seventh Plan period that will prove helpful for preparing policies and programs to make more effective the local development programs based on decentralization. Research works will be undertaken on local resource mobilization, people's participation in plan preparation, implementation and evaluation, institutional development, coordination and integrated approach, etc. This will also include evaluation of various projects and the process of bringing within the framework of local development program by developing methodologies for monitoring and evaluation. Since it is a very important task to make provisions for healthy drinking water in all parts of the kingdom, research will be undertaken also to find out as to how many people have so far been able to have healthy drinking water, the status of them projects, and policies necessary to be adopted in the future in this respect.

In order to fulfil these objectives, provisions have been made in the Seventh Plan for undertaking 12 research studies on various subjects, including the effectiveness of training program, effectiveness of people's development program, people's participation in rural development, local resource mobilization, institutional development, effectiveness of various local development projects, etc. These studies will be conducted in contact with National Planning Commission.

4. Remote Area Development Program

Remote Area Development Committee was formed in 1968, in view of the difficulties in movement in northern areas as compared to other areas because of the geographical bottlenecks, lack of economic activities in

the area, etc., with a view to fulfilling the basic minimum needs of people of remote areas, supporting regional balance and to gradually go on raising the economic standard of the people of the region, After the formation of the committee, 18 district of the country were declared to be remote and, with effect from FY 1968/69, special programs with additional investment have been underway in these districts. During the Seventh Plan period, special attention will be given to making these programs more efficient and effective. During the plan period, in accordance with the decision of the Remote Area Development Committee at the centre and the Decentralization Act and Rules, 200 projects will be undertaken relating to drinking water, physical facilities for schools etc., irrigation facilities will be provided to 300 hectare, and 300 km of horse trail will be constructed. Besides this, 250 local Lama Leaders will be taken on country observation tour and books and posters of 50 different local languages will be published, Along with this, other development matters will also be given increasing priority to tap the possibilities of all round development in these remote areas, and attention will be given to preparing necessary policies and coordinate a programs for making development process self-sustained and automatic in these districts.

A total amount of Rs. 122 million has been allocated in the Seventh Plan for implementing local development programs of centre level.

District Level Projects

The district level projects of the Seventh Plan to be implemented by district level offices according to decentralization program are the following:

1. Development grant

It is the objective to push local panchayats and people ahead by mobilizing maximum local labour and resources with financial and at the district level, Therefore it has been the standing practice to give government grants for local construction works through the medium of local panchayats.

During the Seventh Plan period, grants amounting to Rs, 1000 million will be provided by His Majesty's Government for this purpose and an equal amount of local resources will also be mobilized. Necessary arrangements will be made in the Seventh Plan in accordance with the policies and working policies described above to ensure that projects to be undertaken with development grants are implemented in time, repair and maintenance be undertaken in time and reliable records an maintained on then matters.

2. Other programmes

Besides the above, other development projects and program, and specified for being undertaken at the district level by His Majesty's Government according to Decentralization Act have also been included. Accordingly, the district level projects under panchayats, are rural drinking water, environment and cleanliness, irrigation, integrated rural development projects resource conservation and utilization project, Bhaktapur development project and basic services for local development, etc. These entire projects according to decentralization will be implemented after these are decided by the concerned district assembly to be a part of district development plan. An amount of Rs. 612.8 million has been allocated in the Seventh Plan for such district level projects.

The Seventh Plan (1985-90)

Name of Project	Status	Physical Target	Expenditure Estimate in million rupees
1. Central Level Projects			122.000
1.1. Training Program			70.000
1.1.1. Panchayat Training Center (sixth center)	Under way	Training and seminar for 25002 persons	
1.1.2. Women Training Center (5 centre)	Under way	Training and seminar for 4395 women	
1.1.3. Panchayat Development Trainig Center (Development Committee)	Under way	Administration works to support	
1.1.4. Tra ining materials production Center	Under way		
1.2 Remote Area Development Program	Under way		50.000
1.3 Research	New	To undertake research on 12 different subjects	2.000
2. District level project in different districts			1612.800
2.1 Development grants	Under way		100.000
2.2 Other programs	Under way		612.800

CHAPTER 44
HOUSING AND PHYSICAL PLANNING

If land utilization goes on in a right manner in accordance with geo-physical structure of the country, it will exert favorable effect on a natural environment of the country and will prove helpful in accelerating the pace of development. Besides this, as a result of industrialization, urbanization and residential growth, new towns come up fast and haphazard habitation creates various residential problems. Therefore, in order to control and solve in time the problems relating to residential housing that result from the process of development, it is equally necessary to give attention to the development of residential housing.

Although Nepal has been giving attention to this from the very commencement of development planning, much still remains to be done in this respect. The Sixth Plan too has undertaken various programs with substantial objectives and policies for the development of residential housing and civil construction. Progress achieved during four years of the plan period is assessed below.

Sixth Plan Programme

The objectives and policies of the Sixth Plan for residential housing and civil construction were to prepare necessary basis for the development of urban areas, to develop residential areas in a scientific manner, to support the development of tourism, to expand employment opportunities, to maintain the original nature of various area, to keep the planned development of rural centres and district centres that are important from commercial administrative and other points of view, to develop scientific urbanization program at the national and regional level, etc. Similarly, other objectives of residential housing and civil construction were to provide residential facilities for low and middle income families, to bring about uniformity as far as possible in the design and construction of Government building, to conduct research on the use of local construction materials and to develop necessary technology for less expensive and more durable construction works, to maintain an up-to-date record of government building and make arrangements for proper repair and maintenance, etc.

In accordance with policies and objectives of the Sixth Plan, various programs were undertaken, including regional center development, urbanization program, Singha Durbar Secretariat reconstruction project, construction materials research centre, government housing projects, government housing record, sewerage disposal project, Lumbini development project, etc. Progress made in these programs during the first four years of the plan period is given below:

1. Dhankuta town, development projects

This project was undertaken in 1972 with a view to developing, in a scientific manner, Dhankuta which the centre of eastern development region in the hills. Development works undertaken during past plan periods have proved very helpful. During the Sixth Plan period, the project provided for preparation of land use plan, renovation and maintenance of tourist spots and places of historical and architectural importance, maintaining healthy atmosphere in urban areas, construction of roads, houses and parks, marketing arrangements of goods produced by cottage industries, and town construction and development works. Progress has been made as follows.

During the first four years of the plan period, land use plan was prepared for the project, 21.06 hectare of land was acquired, 2 houses, 2 urinals, 3 water tanks, one bathroom, 3 galleries, and one culvert were constructed and one building was purchased. One inn and two slaughter houses have also been constructed. Bricks have been laid on 35,746 ft of 6-foot road and Panchayat link roads and other roads around the urban area have also been constructed. Repair and maintenance works have been conducted for 1 munch, 2 inns, 3 temples and 2 resting places. Electricity has been provided up to the town and Thursday Hath Bazar and retention walls have been constructed in different places. Preparation of report for multi-sectoral development of 3 village panchayats around Dhankuta town panchayat has been completed.

During FY 1984/85, 0.71 hectare of land will be acquired, road construction will be undertaken in the resettlement area, electricity and drinking water will be provided in the resettlement area, Dhankuta royal camp will be constructed, and various other houses and sheds will be constructed and renovated.

2. Kathmandu Valley town development project

This project has been under way since the year 1976 for the planned development of Kathmandu valley which occupies a leading place from the economic, social and administrative points of view and is full of places of historical, religious and architectural importance. In addition to Kathmandu which is the largest and most important town of the country and the capital of the kingdom and centre of central development region, the valley includes important towns Patan and Bhaktapur as well. During the past plan periods, various development, construction and renovation works were undertaken for the project. In the Sixth Plan period, the project envisaged targets for the preparation of land use plan of urban area in Kathmandu valley, construction of roads, residential houses, parks gardens etc, marketing arrangements for cottage industry goods, development of tourist spot, preservation and renovation of places of historical and religious importance,

etc. During the first four years of the plan period, progress as follows was made under the project.

Construction of Tribhuban Memorial, Bhaktapur Surya Binayak Park, Kumari club building, And Lagankhel bus park and office quarters, renovation of Lalitpur Pulchowk pond, preservation of Mahakali temple and vegetable marketing arrangements were undertaken under the project. During the year 1984/85, the construction of office building for Bahktapur town development committee, market arrangements, Iekhnath memorial building construction, environmental improvement works around Mahalaxmi temple, park construction in the southern side of Siddha Pokhari and Changu Narayan steps construction are expected to be completed.

3. Pokhara town development project

This project was undertaken in 1973/74 with a view to develop this centre of western development region as a green park town, to ensure planned development of Pokhara town with the second tourist centre next to Kathmandu, to construct government quarters and residential area, to preserve land the banks of Fewatal, and to maintain the originality of environment around Pokhara. The Sixth Plan envisaged targets to prepare land use plan for the project, to repair, maintain and renovate places of historical and architectural importance and to make the urban area healthy.

During first four years of the plan period, 3.5 km. of Nagdhunga Khahare road was blacktopped, 1.5 km was graveled, 1 review hall, 2 quarters, 3 km. of drainage, 4 resting places, 1 park, 1 staircases, 2 ghats, and 138 tree guards were constructed, And 13.74 hectare of land was acquired and trees were planted. Further, survey work for preparing master plan for governmental residential area was also completed. During the final year of the plan period FY 1984/85, works expected to be completed under this project are the barbed wire laying up to the length of 3900 ft around residential and guest houses construction of surface drainage from Chiple-Dhunga to Prithvi Park, construction of 200 tree guards and tree plantation, fencing works for government office area, residential area and for the preservation of public places, survey and alignment of road from Barahi temple chowk to Khahare, survey and earth works on link road between Fewatal bank blacktop to Khahare road.

4. Birendranagar project

This project has been underway since the year 1972 to develop Birendranagar as the centre of mid-western region. The objectives of this project are to coordinate various development units within the project area, to develop necessary basis for the promotion of private and public sectors, to protect and improve physical facilities, to make arrangements for economic, social and physical facilities for urban dwellers, etc. The construction of Kohalpur-Surkhet highway has accelerated the pace of development of this town. These projects in the Sixth Plan provided for the preparation of land use, plan, and construction of roads, parks and gardens, development of tourists spots, repair and renovation of historical and architectural places, keeping the urban area healthy.

During first four years of the Sixth Plan period, regional secretariat, second floor of DSP building, one go down, etc. were constructed. One roofed house and one water tank were constructed in Bulbule garden. Bridge construction at Dasarath Path and 78 ft steps construction along Bhanu Path were completed. Two km of earth road has been constructed and 25 km. has been repaired. Construction works have also been undertaken for kitchen house, one safety tank, water tank and culverts. Along with other small construction works, tree plantation, water pipe fitting and acquisition of 6.77 hectare of land have also been completed. During the year 1984/85 works expected to be completed under this project are construction of the remaining part of pipe drain along Dasarath Path and 2.5 km. earth road in private residential area, repair and maintenance of road in the urban area, soil erosion control at Pipara, sanitary fittings and electric installation in guest house, construction of 600 ft compound wall for the protection of district office and repair and maintenance of staff residential building and committee building.

5, Dipayal town development project

Planned development of Dipayal town, the centre of the Far western development region, has been underway since FY 1981/82 in accordance with the command of His Majesty the King on the occasion of His Majesty's informal regional tour of the Far western development region in December 1981. The project in the Sixth Plan envisaged targets for the preparation of master plan for the Dipayal area, site mapping, office building and quarters construction for establishing town planning office, and land acquisition at Kot Bhairav village.

During first four years of the plan period, about 17.75 hectare land acquired, plans were prepared for office building, one building was prepared and three quarters were constructed, In the final year of the Sixth Plan FY 1984/85, works expected to be completed under this projects are the construction of office building, sanitary fittings and electric installation, control of soil erosion, road construction in the government area and purchase of 12.72 hectare of land.

6. Urban project

This project has been underway since the year 1974 for the planned development and extension of urban areas through physical planning in view of the negative effects of urbanization and industrialization in

these areas, The project in the Sixth Plan included provision for preparing physical development master plan for town panchayat areas and rural centre of the Kingdom, to hand over the plan to concerned bodies, to prepare necessary base map for various urban and rural areas, to implement housing projects in Biratnagar, Birgunj, Hetauda, Bhairahawa and Janakpur and to construct residential tours for sale and distribution to low income groups.

During first four years of the Sixth Plan period, master plans were prepared for Janakpur, Biratnagar, Birgunj, Lahan, Nepalgunj, Butwal, Ghorahi, Gorkha, Jiri and Tulsipur. Land use and housing construction rules were prepared for Janakpur, Birgunj and Biratnagar. In the final year of the Sixth Plan FY 1984/85, works expected to be completed under the project are the preparation of preliminary master plans for the physical development of Bharatpur and Tansen and Kohalpur rural area, preparation of base map for Itahari master plan and undertaking workshop.

7. Singha Durbar Secretariat renovation project

This project was undertaken with a view to bringing to a single place the ministries that had to be scattered in different places after the Singha Durbar fire. Foundation stone was laid for the first chowk of the Singha Durbar Secretariat in the year 1974. Master plan has been prepared with a target to provide accommodation for 20 ministries within the Singha Durbar compound during the five year period. In the Sixth Plan, the project provided for rethinking on the master plan and preparing new action oriented plan and completing ongoing works.

Under this project, the first chowk of Singha Durbar was completed during the first 4-year period of the Sixth Plan. The building for the Ministry of Water Resources is under construction. The work to be undertaken in the final year of the Sixth Plan 1984/85 are to start the construction of building for the Ministry of Works and Transportation, basement construction in the north western and south western corner of Singha Durbar first chowk, to complete studies for strengthening the existing western aid and to complete earth work and drainage construction along the eastern road of Singha Durbar compound

8. Construction materials research project

This project has been underway since the year 1975 with a view to utilize maximum local resources, to undertake research on various construction materials and technology, to develop these and also to render cooperation in housing construction for low and medium income groups. The project has been undertaking the collection of statistics and samples of construction materials found in various parts of the country and research works related to these. The objective of this project is to ensure the maximum utilization of local resources. This project on the Sixth Plan provides for the establishment of laboratory, production of construction materials and training for necessary technicians.

Under this project, collection and testing of local construction materials was done during the first four years, Five different reports were prepared, including research works on the production of various construction materials from local raw materials, laboratory expansion works, survey of far western region earthquake area, and use of pre-cast, bamboo and cement for roofing purposes. A seminar was organized on construction material, works to be completed in the final year of the Sixth Plan period 1984/85 are the construction of one low cost demonstration house each in Surkhet and Pokhara, to complete studies for clay processing and to prepare project proposals according to the demand of low and middle income groups for residential construction in Kathmandu Valley.

9. Government buildings project

This project was undertaken with the objective of preparing designs and cost estimates of buildings required for various ministries, departments and offices. The Sixth Plan envisaged targets for preparing design and cost estimate of national level buildings, to construct such buildings, to make available standard design and cost estimate for building at the district level, and to provide necessary technical cooperation for construction work. During the first four years of the plan period, cost estimate and designs were prepared for various 338 government office buildings. Design and cost estimate works were under way also in the final year of the plan period FY 1984/85.

10. Lumbini development project

This project has been under way since the year 1970 for the development of Lumbini, the holy birth place of Gautam Buddha. The development of this holy place started with a donation from His Late Majesty King Mahendra on the occasion of Fourth World Buddhist Conference in the year 1955. Its design was prepared by the world famous architect Prof. Kenzo Tange. Donations are being received from various nations and institutions of the world for this project to be constructed with international cooperation at international level. Targets envisaged for this project in the Sixth Plan were to complete the works that remained during the Fifth Plan period, to undertake works according to the Master Plan, and to continue architectural excavation, investigation and research.

During the first four years, Bhairahawa-Lumbini road was constructed, Bharahawa airport was extended, and electric installation works were completed. Further, 27.23 hectare has been acquired. Besides these, 233 hectare has been afforested, 5.9 km. road has been constructed, 23 hume pipes have been lain, 2 box culverts have been constructed, and 9 staff quarters and 2 other buildings have been completed. Renovation, excavation, research and preservation works are under way in Kapilvastu, Devdaha and Lumbini. A 30-minute movie picture has been prepared. In the final year of the Sixth Plan 1984/85, works expected to be completed are to distribute compensation for acquisition of land that has legal problems, to protect trees that have been planted, to lay gravel on 2 km of periphery roads, construction of 5 culverts, 1 slab culvert, bridge across Talar river, roads in staff colony, drainage, 2 km. of pipe laying works, electric power distribution, land waking, 1 material testing laboratory, 1 B grade, 1 C grade, 1 E grade quarter, 1 special guest house, and one store house, tour and publicity in various entries for donation collection, preparation of picture on the progress of Lumbini development, to invite various donars for Lumbini observation, to remove population of the southern side of Mayadevi temple, fencing around Tilaurakot ancient wall, construction of office buildings, stupas, excavation and renovation in Debdhara Ramgram, acquisition of 3.39 hectare land, etc.

11. Sewerage disposal project

This project has been under way since the year 1969/70 with a view to creating healthy atmosphere in the three towns of Kathmandu Valley, to improve public health conditions of the urban people, to collect refuse from areas within the town panchayat in an organized manner, to produce farm manure from it and substantially cooperate in increasing agricultural production, to construct public urinals in various places in view of the physical conditions and environment of the urban area, to increase employment, and to improve environmental conditions. This project in the Sixth Plan made provisions for removing the refuse from the three urban areas in a planned manner, to produce farm manure from the refuse thus collected to establish a compost plant on the bank of the Bishnumati river, and make a preliminary study of refuse situation in various urban areas of the Kingdom of Nepal.

During the first four years of the plan period, necessary land was acquired for compost plant and other construction works. Besides them, 2 office building, 2 workshops, 3 garage (including dodger-shed), 3 guard quarters, 5 service yards, 1 compost plant, 1 pond 1 urinal and 17 containers were constructed and improved. Setting up of soil test dumping site and necessary shed, road construction and land filling were completed in Gokarna. Walls have been constituted in three places and study report has been prepared on fencing and tree plantation, works to be completed in the final year of the plan period 1984/85 are drains construction at the dumping site, leached pump construction, electric arrangements, publicity works on cleanliness and public health, compost plant improvement, cleaning 33 ward of Kathmandu town panchayat, 22 wards of Lalitpur town panchayat and five wards of Bhaktapur town panchayat, to make full fledged services in 12 wards of Kathmandu town panchayat and 8 wards of Lalitpur town panchayat, to construct service yard in 2 wards in Kathmandu town panchayat, 2 wards in Lalitpur town panchayat and 1 ward in Bhaktapur town panchayat, public urinals in 2 wards in Kathmandu town panchayat and 2 wards in Lalitpur town panchayat, one slaughter house each and 2 bathrooms each in Kathmandu and Lalitpur, 300 access road along the bank of Bishnumati to install 50 containers and to purchase necessary equipment, construct 1 storing of office building, garage, workshop and compound wall in Bhaktapur, to make a survey of refuse condition in Pokhara, Janakpur, Hetaud and Bhairahawa, to construct 200 m approach road and retention walls along Bagmati and to acquire 0.15 hectare land for various works.

12. Government building record project

This project has been under way since the Fifth Plan with a view to maintaining records of government buildings in various districts of the Kingdom. The program during the Sixth Plan period was to make record of government buildings constructed up to the year 1974/75 and thereafter. No progress was made.

Financial Progress

Expenditure target for residential building and civil construction project during the Sixth Plan period was Rs. 180 million. An amount of Rs. 100 million was spent during first four years of the plan period. In the final year 1984/85, Rs. 42 million is estimated to be spent. Thus the total expenditure estimate during the entire plan period is Rs. 150.722 million at prevailing prices. Detailed description of expenditure is given below;

TABLE 1
**Financial and Civil Construction of Residential
 Building and Civil Construction Project
 In the Sixth Plan, 1980-85
 At Prevailing Market Price**

in million rupees

Name of Project	Target	Expenditure during 4 yrs	Budget for FY 1984/85	Total
1	2	3	4	5
1. Dhankuta Town Development Project	15.000	7.839	3.480	11..319
2. Kathmandu Valley Town Development Project	20.000	13.038	4.581	17.599
3. Pokhara Town Development Project	15.000	12.489	1.788	1.429
4. Birendranagar Town Development Committees	20.000	7.924	1.610	9.534
5. Dipayal Town Development Project	-	5.979	2.394	8.373
6. Urban Project	25.000	1.410	260	1.670
7. Singh Durbar Secretariat reconstruction project	20.000	15.423	7.750	23.173
8. Construction material research project	3.500	1.331	206	1.537
9. Various Government building project	1.000	0.698	0.149	0.747
10. Government building record project	0.100	-	-	-
11. Lumbini Development Project	33.600	15.111	5.333	20.444
12. Sewerage Disposal Project	27.800	27.531	14.418	41.949
Total	180.000	108.753	41.969	150.722

Source: Residential Building and Civil Construction Dept.

Note: Financial target and expenditure for Bhaktapur project his not been included.

Hurdles and Problem

The main problems relating to residential building and civil construction project in the Sixth Plan are the lack of responses to tenders, delay in contracts, lack of amins and other problems of administrative nature. The works under various town development committees have proved to be haphazard. Some small works done by town development committees are of the nature that could have been done by local town panchayats. In development instead of being engaged in small construction works, town development committees should be active in master plan preparation and major development works of the town. Building to be constructed with grants in Lumbini development project have not been constructed because of the lack of bricks. Further, archaeological excavation works have also lagged behind targets because of the lack of technical manpower and adequate resources. Lack of coordination has proved to be the handicap in the implementation of Kuleswor and Dallu projects to be undertaken under Kathmandu Valley town development project.

Objective, Policy and Program of the Seventh Plan

Many things remain to be done for residential buildings and civil construction in view of the current status of the project. During the last two decades, urban population has increased tremendously. The population growth in urban areas has been caused not exclusively by the natural rate of growth. Migration from the hills and

Terai rural areas because of the social and economic opportunities and other facilities in town has also caused the growth of urban population. Along with this, increase in the density of population in various towns of the Kingdom, unplanned settlement and unplanned expansion of urban areas, housing inadequacy, unhealthy environment, wrong pattern of land use, etc, have also emerged as problems. It is necessary to tackle these problems of inadequate housing, pollution and unhealthy environment and to preserve and protect the places of historical, cultural and religious importance in the country. In view of these facts, following objectives, policies and programs have been adopted in the Seventh Plan.

Objective

The main objective of the Seventh Plan in this respect is to expand and develop urban areas in a planned way on the basis of land use pattern that is also conducive to the development of rural areas in the country, to increase residential, cleanliness and other facilities and to keep urban environment healthy.

Policies

Following policies will be adopted to achieve the objectives:

1. To adopt the approach of urbanization and rural development as complementary to each other and to undertake programs with attention to gradually developing development centres Dhankuta, Pokhara, Birendranagar and Dipayal as modern towns.
2. To bring coordination among various institutions concerned with various aspects of town development and to make necessary institutional arrangements to support town development in a planned way.
3. To take necessary steps to activate town panchayats in the preparation and implementation of town development plan in view of the important role of local panchayats in this respect.
4. To adopt the approach of gradually developing important settlement areas of the Kingdom as sub-towns.
5. A housing financing institutions will be established for the development of residential areas and residential housing.
6. Priority will be given to solving the residential problems of low and middle income families by encouraging private sector investment in the process of implementing residential plans and programs in some major towns of the Kingdom.

Working Policies

The working policies to be adopted in accordance with the policies objectives stated above are the following;

1. The expansion and development of towns and sub-towns will be according to the land use plan based on the urban development process prepared on the basis of physical survey of various areas.
2. Local panchayats will be activated to prevent unplanned residential construction in urban areas and to ensure planned residential construction according to land use policies and rules under the town master plan.
3. Various public services being provided by various Government bodies in urban area, including drinking water, drainage, electricity, roads, telecommunications will be coordinated and special attention will be given to have these services provided according to Master Town Plan.
4. Necessary improvements will be made on the existing organizational system to make town development plans and programs more effective.
5. Necessary arrangements will be made to enable private sector to play a leading role in an institutionalized manner to meet the increasing demand for residential houses and to solve residential housing problems in urban areas.
6. In order to develop the towns of Kathmandu Valley as a metropolis, the existing master plan will be reviewed and will be made the basic point and programs will be undertaken accordingly.
7. Studies will be made and substantial projects will be prepared to extend to other towns as well as the sewerage disposal service which is at present limited to Kathmandu town panchayat area only.
8. Research will be made to encourage the increased use of local construction materials in residential constructions and special measures will be taken for their increased use at the public level.
9. Arrangements will be made to impart training to local town panchayat staff on town plan preparation and implementation and urban development manuals will be prepared, central level bodies, including the residential buildings and civil construction department, town development committee, civil construction teams, etc. will be ordinarily limited to the preparation of civil construction project for town. Besides this, the role of town panchayats will be emphasized increasingly according to decentralization act in conducting development works related to town panchayat.
10. Concrete measures will be taken to complete the reconstruction of Singha Durbar Secretariat as per time bound schedule of operations.

11. Master plan will be prepared for important places like Lumbini and Tilaurakot connected with the life of Lord Buddha and arrangements will be made for implementation accordingly. Lumbini development fund will be established to make arrangements for finance and determine policies for the development of such places. Under the Fund Managing Committee, one unit will be formed for administration and implementation and another unit for preservation. The rights, duties and responsibilities of the committee and the units will be specified.
12. Plan will be prepared to furnish manpower and specialists for excavation, preservation and maintenance and will be implemented accordingly. Archaeological findings from important places around Lumbini and Tilaurakot will be preserved in the museum there. Emphasis will also be placed on the complementary type of investment that will help the general people around the area to make social and economic progress from the Lumbini investment.

Priority

Program

The order of priority of the program to be implemented according to the above objectives and policies will be as follows:

1. Uncompleted projects implemented during Sixth Plan period.
2. National priority projects and Lumbini development project.
3. Town development works of towns that are regional centres.
4. Housing plan and programs.

Program

Projects proposed to be implemented to fulfil the objective of the Seventh Plan are included under the following programs:

- a. Development and expansion of towns that are regional development centres.
- b. Town development plan preparation, studies and training.
- c. Singha Durbar Secretariat reconstruction.
- d. Construction materials research, use and publicity.
- e. Lumbini development project.
- f. Miscellaneous.

a. Development and expansion of regional development centre towns.

The Kingdom has been divided into five development regions with a view to making proportionate social and economic development in various geographical regions of the country. In the process of meaningfully removing the imbalance between population and resources distribution, the imbalance between developed and backward areas and the gap between people's living standards and development investment, regional planning plays an important role and attention has been given to this from the past plan period. In this context, in order to implement regional development works and make these more effective, a centre has been established in each development region. These development centres have remained important from development and administrative points of view. The policy has been adopted to develop these regional development centres as towns. In view of this policy, projects have been prepared and implemented for the economic, social and physical development of development centres for planned land use, to provide physical facilities, make marketing arrangements for cottage industry goods, parks and residential housing, for repair and renovation of historical archaeological and religious places, to create healthy urban environment and similar works.

The Seventh Plan also has the objective to develop regional development as medium towns and also to support rural development in each region. The development of these towns will prove helpful to reduce the migration of the people around the area to large towns for employment and other purposes. Therefore, five projects have been included for implementation in this plan period under this program, including (1) Dhankuta town development project (2) Kathmandu Valley town development project, (3) Pokhara town development project (4) Birendranagar town development project, and (5) Dipayal town development project.

1. Dhankuta town development project

Keeping in view the recommendations of the report prepared by multi-disciplinary team after making a comprehensive study for the development of Dhankuta town and surrounding village panchayats, substantial programs will be prepared and gradually implemented. This project in the Seventh Plan envisages targets for the expansion of physical facilities, for construction of roads linking various land use areas and internal 7 km stone track, electric installation and distribution in public residential areas, to construct 700 cum. retention wall and check dam within the town area for soil and nature conservation, tree plantation, construction of five residential staff quarters, Dhankuta palace reconstruction, improvement of old royal camp and construction of new royal camp, land acquisition for resettlement purposes, aerial map preparation of 141 square km. physical survey of 78

hectare of land use area and electric power and drinking water program preparation for 78 hectare residential area, etc.

2. Kathmandu Valley town development project

Program has been prepared in the Seventh Plan in view of the increasing population density in Kathmandu Valley, increase in population density, increasing residential demand, historical, religious and archaeological places and various aspects. Policy has been adopted to involve to an increased extent Kathmandu, Patan and Bhaktapur town panchayats in Kathmandu valley town development works.

This project makes provision for construction of parking, road widening and footpath construction, bus stop construction, preservation of historical, religious and archaeological places, development of Changu Narayan area, Swayambhu area and Bajrabarahi area, completion of remaining works on Siddha Pokhari, Lekhnath memorial building, minimarket office building, etc. Besides these, for the development of Kathmandu ring road command area, arrangements will be made for construction of internal roads on the basis of specified entry roads and for the development of residential areas and services will be provided through multi-purpose activities in ring road plan. Further, practicable town and sub-town plans will be prepared for Kathmandu, Patan and Bhaktapur town panchayats and the Kathmandu valley town development master plan will be evaluated again and refined. In accordance with the objective to solve low and middle class residential problem, Kuleswar, Galfutar and Dattu residential projects will be completed.

3. Pokhara town development project

This project purposes to complete 6 km. gravel road in Baidam area 3 km. in government residential area and the alignment of Barahi-Khahare road. Other targets are to install 11 water tanks in government staff quarters, to acquire 2.04 hectare land for bus stop, to prepare cadastral survey map and land use maps for town area, to complete comprehensive land use physical survey on 35.61 hectare, to prepare area plan of 76.31 hectare in government area, staff residential area, corporation area, Baidam area, etc.

4. Birendranagar town development project

This project makes provisions for constructing 5.5 km. fair weather road inclusive of 1.5 km. in Birendranagar area and 4 km. on town expansion area, Four km. ring road is proposed to be constructed under roads department. Soil conservation works in 7 hectare area in Bulbule and Deute will be undertaken. Regional office buildings for National Planning Commission and guest house construction will be completed. Six hectare land will be acquired for settlement and Park area. Boundary alignment and tree plantation works will be completed in 120 hectare in various land-use area for area development purposes.

5. Dipayal town development project

This project provides for construction of 5 km. fair weather road and culverts, 1000 cu.m. retention wall and 2800 embankments and 20,000 tree plantation in land-use areas, construction of 4 staff residential quarters, acquisition of 17 hectare of land, barbed wire fencing along 2.5 hectare, etc. Other targets are to prepare comprehensive master plan for Dipayal town planning area and area plan for resettlement area and to frame building rules.

6. Town development plan preparation, studies and training program

Because of processes of industrialization and urbanization in urban areas, specially large towns, of the kingdom of Nepal, population has increased rapidly and urban area has expanded in an unorganized manner. The objective of this program is to develop and expand these areas in an organized manner. In view of these objectives, following works will be undertaken in the Seventh Plan.

1. Preparation of land-use plan

It is very important to prepare land-use plan for organized development and expansion of towns. Therefore, during the plan period, base map and land-use plan will be prepared for nine towns including Bhadrapur, Rajbiraj, Dama, Illam, Banepa, Jaleswar, Bharatpur, Kalaiya and Taulihawa.

2. Construction manual preparation and study

In order to organize government and private sector construction works in town panchayat areas, it has been the policy to prepare and make available construction manuals. This will be helpful for control and supervision of construction works in local town panchayats. The Seventh Plan has the targets to prepare construction manuals for Birgunj, Janakpur, Butwal, Nepalgunj and Bhairahawa towns.

3. Town planning and implementation training

In the decentralization act and rules, provisions have been made for resource mobilization by local panchayats for town development at the local level. Therefore, town panchayat staff will be imparted training on subjects relating to town, development and management and land-use implementation.

4. Urban and development studio and residential projects preparation

Statistics and information will be collected on the development and actual status of various town panchayats of the kingdom and reports will be prepared after studying various aspects of urbanization fit view of the increasing problem of housing in urban area, housing plan will be prepared for some town panchayats.

C. Singh Durbar Secretariat reconstruction project

In accordance with the objective to accommodate the ministries and ministry level offices within the Singh Durbar compound, this project has been undertaken. Singh Durbar Secretariat master plan has been prepared with the target to construct 20 ministry building within the Singh Durbar compound.

During the plan period, the remaining portion of building for water and power ministry and public works and transportation ministry will be completed. The building construction work for industries ministry will also be completed. Among the various ministry buildings proposed under the master plan, construction works for four will be started. Internal roads, drains and footpath will be constructed for physical infrastructure.

D. Construction materials research and use

Under this project, low cost model houses will be constructed for demonstration purposes. These low cost houses will be constructed in Surkhet, Dhankuta and Dipayal. Research works will be continued on construction technology and low cost construction, materials on the basis of local raw materials. Besides this, works will be completed also for expanding laboratory for using various kinds of construction materials.

E. Lumbini development project

Lumbini development project is very important from national and international points of view. This project was started in Rupandehi of Lumbini Ozone in the year 1956. However, steps were taken to activate the project only the year 1969. During the past decade, the progress in physical infrastructure and other works by His Majesty's Government for Lumbini development is satisfactory as compared to targets.

During the Seventh Plan period, construction works will be completed for the periphery and internal roads and staff quarters and other buildings, Arrangements for water and power distribution will be completed. Works to be implemented with donation will be conducted. Master plan will be prepared for excavation works on Lumbini Tilaurakot and Ramgram that are important and connected with the life of Lord Buddha and excavation and preservation works will be undertaken accordingly. Archaeological findings from excavations in important places around Lumbini and Tilaurakot will be preserved in the museum there. Lumbini development fund will be established, implementation units will be organized, and their rights, duties and responsibilities will be specified.

F. Miscellaneous

Following two projects have been included under the miscellaneous program.

1. Sewerage disposal project

This project in the Seventh Plan makes provisions for Bhaktapur office building construction and extension, to complete remaining construction works for dumping site; to construct 15 service yards and container sites, slaughter houses and vegetable cleaning places, Besides this, public urinals will be improved and constructed. Cleaning works will be conducted in 3 towns. Survey will be made of refuge status in some towns and feasibility studies will be completed for a small recycling plant and rural compost plant.

2. Government building services

Under this project, services will be provided for supervision of design, cost estimate and construction works on national level government buildings. The existing record of government buildings will be revised and updated. Further residential houses will be built in Manang (Chame) for government staff, based on local technology and materials, and amenable to collective use.

Financial Target

An amount of Rs. 158.1 million has been proposed to be spent for the above projects in the Seventh Plan; Allocation of this amount for various projects is given below;

Financial Target For Residential Building and Town Development In the Seventh Plan, 1985-90

Name of Project	in million rupees
a. Development and Expansion of Regional Development Centre	61.581
1. Dhankuta town development project	
2. Kathmandu Valley town development project	
3. Pokham town development project	
4. Birendranagar town development project	
5. Dipayal town development project	
b. Urban Development Plan Preparation studies and training	7.000
1. Land use plan preparation	

2.	Construction manual preparation and studies	
3.	Town plan and implementation training	
4.	Urban area development studies and housing plan preparation	
c.	Singha Durbar Secretariat Reconstruction Building side	30.000
1.	Water resources ministry building	
2.	Public works and transportation ministry building	
3.	Industry ministry building	
4.	Four other ministry building	
	Miscellaneous construction	
1.	Internal road, drain, etc.	
2.	Land acquisition and studies, etc.	
d.	Construction Materials Research and Publicity	2.000
1.	Low cost model housing construction project	
2.	Construction materials development research and publicity	
3.	Laboratory expansion	
e.	Lumbini Development Project	32.500
1.	Lumbini area development construction	
2.	Archaeological excavation, preservation and promotion	
3.	Construction works under donation	
f.	Miscellaneous	
I.	Sewerage disposal	20.019
1.	Construction and maintenance works	
2.	Cleaning works	
3.	Studies	
II.	Government building Project	5.000
1.	Design, cost estimate and supervision of government buildings	
2.	Updating government building records	
3.	Staff quarters construction	
	Total:	158.100

CHAPTER 45

ADMINISTRATIVE REFORM

Administration is one of the significant aspects for the country's development, as are other different aspects. For the effective implementation of development programmes efficient and firm administrative machinery is a must and efforts are on towards the reform of administration since the start of the planning.

Achievements of the Sixth Plan

Target of the Sixth Plan were to conduct organization and methods study, group classification and position description, civil employees' records, administrative training under the administrative reform; and internal training and setting-up of a press under the Public Service Commission.

As against the target of conducting administrative survey of 20 offices, 5 special studies, offering consultancy services to 5 corporations and implementing 20 recommendatory reports, administrative survey of 12 offices, 4 special studies, were conducted, consultancy services to 4 corporations offered and 15 recommendatory reports implemented within the first four years of the Plan. Group classification and position description of postal services, agricultural services, forest services and engineering services were completed. Under civil services' records, employees' records of 68 offices have been prepared and the building under construction will be completed by the year 1984/85. Under, administrative training, the Ministry of General Administration is conducting two types of training-gazetted and nongazetted. As against the target of training 800 gazetted third class officers, administrative assistant training of 1500 non-gazetted employees and typing training of 1750 under the Sixth Plan, 675 gazetted employees and 4148 non-gazetted employees have been imparted training up to the year 1983/84.

Nepal Administrative Staff College which has been imparting training since 1982/83 has trained 81 gazetted third class officers recommended by Nepal Public Service Commission as against the target of 72 in the first year of its inception and trained 77 in the year 1983/84 as per target in basic pre-service training.

In Addition to this, the Staff College is conducting various workshops in-service training, training of corporation managers, seminars, studies and researches. Under the Nepal Public Service Commission internal training programme 232 employees have been imparted training and a mini-press has been set up.

In order to boost up the mobilization of domestic resources instilling skill to the employees involved in revenue administration and accounts, Revenue Administration Training Center has been imparting training to the gazetted and non-gazetted employees since 1981/82 only 330 employees have been trained against the target of 856. But in the years 1982/83 and 1983/84 progress was more than the target with the training of 1024 and 1511 employees as against the target of 965 and 1435 in the corresponding years.

Outline of the Seventh Plan Programmes

Administration plays a significant role in the successful implementation of country development programmes. Hence to gear up the Administrative machinery towards overall development of the country making it more people and development-oriented, administrative reform plays more significant role. On the other it is also the clarion call of the day to develop the administrative capability of His Majesty's Government in tune with the increasing development activities and growing responsibilities.

Objectives

1. To make development administration more capable and firm, and supportive in the successful implementation of development programmes.
2. To enhance the efficiency and effectiveness of administrative units and make the general administration more people and development oriented and productive.

Policies

1. Taking into account the intent of Decentralization Act, duties and responsibilities of the employees ascertained and delegation of authority delineated.
2. The policy of tying up the achievements in the development projects with evaluation of administrative machinery and career development of the employees will be stressed.
3. In order to do away with the various constraints in the implementation phase, present work procedures and regulation will be reviewed and amended so that these problems do not recur.

Strategy

1. After the detailed study of development ministries and department scheme of administrative reform will be prepared and position classification plan gradually implemented.
2. A manual with detailed definition of duties responsibilities and authority of employees at each level will be prepared and implemented

3. Temporary gazetted employees working in development projects will be gradually made permanent and posted in a pool of positions then deputed to development projects.
4. For the welfare of employees various facilities will be provided and present acts, and rules will be amended as needed.
5. To rectify the recurring problems in the implementation of development projects as tendering, land acquisition and its compensation, wage rates engineering inspection and other administrative procedures, appropriate amendments will be made in the relevant acts, rules and procedures.
6. For the effective mobilization of resources and to maintain the updated accounts of government expenses, concerned units of the Ministry of Finance will be strengthened.
7. For the efficient investment of resources and for the continued monitoring and follow-up of economic policies and development programmes and projects, the units of the National Planning Commission concerned ministries and organizations will be similarly strengthened.
8. To bring about the uniformity in the training being imparted to the civil service employees to make them more job-oriented and efficient, efforts will be made to impart such trainings from one organization. For this stress will be given to strengthen Nepal Administrative Staff College.
9. Arrangements will be made to maintain and update the employees' records scientifically through the use of computer.

Programmes

As there is an imperative need to enhance the capability of development administration for the successful and effective implementation of development programmes, topmost priority will be accorded to create an active and efficient development administration. In the Seventh Plan period, attention will be focused on strengthening some ministries charged with the implementation of economic and productive development programmes.

A. Administration Reform Related Studies

1. Detailed Organization and methods study of ministries, departments and other organization of His Majesty's Government will be conducted and reports presented. Evaluation and follow-up studies will be conducted in the implementation of above studies. Such five follow-up studies will be conducted in the plan period and priority will be given to the ministries as above mentioned.
2. Special studies will be conducted on administrative matters of national importance so as to make them timely, practical and economical and at the same time scientific. In Plan period 10 such special studies will be undertaken. For this manual, tables and directories, as necessary, will be prepared and published.
3. Public corporations play a significant role in the implementation of policies of His Majesty's Government. Hence programme of management consultancy services to these corporations has been initiated. Under these programmes, some of the corporations offering basic services will be studied for the reform in their management practices and consultancy services will be provided also with the study report.
4. To solve ad-hoc administrative problems, advisory services will be offered as and when necessary on matters of development administration.
5. Civil service employees have numbered more than 80 thousand. To offer health services to these employees and their dependants, a feasibility study of a separate such hospital will be undertaken. If found feasible, necessary steps will be taken towards its institution.

B. Personnel Administration Reform Studies

1. Services instituted under the Civil Service Act, 1956 are missing still today. It is desirable to assess and review how appropriate are the intent and purposes of the services then instituted to the present day government administration in context of the changed circumstances, In addition, solution has to be sought regarding the practical problems in the management of services and groups as a result of absence of job descriptions of various positions in the civil Service. In technical services, groups have been classified and job descriptions prepared for some services, but their implementation has not been so satisfactory. In administrative services, though there are accounts group and groups of Foreign Service personnel, classification of groups and job descriptions of positions are in initial stages. A study will be undertaken to see how and to what extent position-oriented services can be instituted to create an effective personnel system for the present day governmental operations.
2. Complete review of the Civil Service and acts and rules pertaining to it will be conducted. Similarly, various non-technical and technical services, groups and sub-groups will be studied and reviewed. For this, a task force will be instituted to study appropriateness of groups under non-technical services instituted by the Civil Services Act. With the recommendation of this task force the Civil Services will be made more timely and reformed. The task force will be instituted under the Ministry of General Administration and with representatives of the Nepal Public Service Commission, the Ministry of Finance and the Secretariat of the

National Planning Commission. From the stand point of timely reforms, it is desirable to review the acts and the rules pertaining to the administration of the civil service personnel every five years. Hence, complete review will be made in these acts and rules in the second year of the Plan i.e. in 1986.

After reviewing the classification in the last plan period of technical services into groups and sub-groups, a follow-up will be done to know in how many organizations position description of officers were, implemented, how effective they were, or why could they not be implemented or they were not brought into effect. Based on facts from the follow-up they will be implemented effectively. While preparing the position descriptions of the administrative services these facts will be taken into account.

Position descriptions with clearly spelt out duties and responsibilities have been prepared for technical positions. During this plan period position descriptions with duties and responsibilities will be prepared for the administrative services and also for gazetted positions. While preparing position descriptions, required educational qualification and skill for each position will also be determined.

3. If management can not attend to personal and individual problem of the employees in view of their special role within the organization and treat the employee as mere employee it will tell on the work performances of the incumbent. There is still no organization within His Majesty's Government to assess, and help solve the grievances of the employees. It has become essential, however, to check in time the possible environment of dissatisfaction among the employees, through sheer ignorance of ever growing complexity of personnel administration. In this context, possible role of a guiding and counseling system to motivate and redirect the employees to their work, will be studied and appropriate steps taken.
4. For clear and effective personnel administration, personnel records should be secured and made up-to-date. In view of the growing number of employees and complexity of personnel administration it has been essential to keep the records more scientific and in an effective way. With this in view computerization of civil service records will be studied and appropriate steps taken.
5. In order to make the selection procedure more scientific in the selection of employees required for the development administration, timely reform will be brought about in the examination procedure of the Nepal Public Service Commission.
6. A high level Manpower Coordination Committee with representation from the National Planning Commission Secretariat, the Tribhuvan University, the Ministry of General Administration, the Ministry of Education and Culture, Concerned Ministry and the Nepal Public Service, Commission will be set up for the coordination in the demand and supply of short term and long term manpower required for the development administration of the country.

C. Enhance the Administrative

Capacity of Ministries

With the objective of enhancing the administrative capability of ministries with economic and productive programmes and for their effective involvement in development, a unit will be set up to deal with administrative reform works in such ministries, with cooperation of the Ministry of General Administration, following points will specially be taken into account in the work of the unit.

1. Implementation schedule will be prepared for the implementation of approved study reports prepared with a sole purpose of administrative reform of concerned ministry.
2. The officer entrusted with the work of the unit will represent the Ministry of General Administration. He will help in the organization and methods study, collect the information on changes in or deputation of manpower and analyze it, up-date the internal administration manual, up-date the organization manual of the concerned ministry and in close liaison with the Ministry of General Administration help in the correct use of the formats designed for information exchange.
3. If the organization, activities and procedures of the concerned ministry are deemed necessary to be changed or reformed, he will submit an analytical report with recommendations.
4. He will ensure coordination between the concerned ministry and ancillary projects and vice versa.
5. With a view to improve the administrative performance he will help in the supervision of the organization and methods, work performance, records management, office management, personnel motivation, and help set up regular, systematic and effective operations.

D. Administrative Training

Training is an essential element to upgrade the skill of employees. If complete and up-to-date job-related knowledge could be imparted to the employees their skill will evidently increase. Hence it is essential that employees' training is conducted in a continuous basis and their skill, increased.

Uniformity is a felt need in training programmes conducted by different organizations of His Majesty's Government. For this, it has been deemed appropriate to run all trainings under the one roof and the Nepal Administrative Staff College will, hence, be strengthened. This organization will be so strengthened as to

coordinate internal trainings conducted by different organizations and directly affecting different programmes of His Majesty's Government and to coordinate with international training organizations for training needs of His Majesty's Government.

In the plan period, different training programmes will be conducted through the Nepal Administrative Staff College to bring uniformity in the administrative trainings. In so doing the Nepal Administrative Staff College will run these programmes in co-ordination with the Ministry of General Administration, the Nepal Public Service Commission and other organizations.

Miscellaneous

A. Following programmes will be conducted under the Nepal Public Service Commission:

1. Printing Press Facility: In view of the growing amount of printing materials and their confidentiality, the existing press will be equipped with other facilities. In the plan period, monotype composes and casting facilities will be provided to the press.
2. Reform of Examination Procedure: Necessary arrangements will be made to wall plan examinations of the Nepal Public Service Commission.

Budget sanction procedure and accounts management will be simplified and timely reforms brought in. In addition, the Revenue Administration Training Centre will impart in-service training to the employees engaged in revenue and financial administration.

Budget

General Administration

In million rupees

1. Administrative Reform	4.50
2. Administrative Training	38.00
3. Nepal Public Service Commission	4.00
4. Revenue Administration Training	10.00
Total	56.50

CHAPTER 46
PLANNING AND STATISTIC

1. General Background

The role of systematic plan formulation, effective implementation and evaluation are significant for the success of a plan. For the formulation of development programmes and projects in accordance with the aims and objectives of a plan up-to-date and reliable statistics collection, processing, analysis and publicity are essential. Subsequent to the formulation of development programmes and projects, another important process is their implementation. Even though programmes and projects are good, if they are not correctly implemented, planning won't have any meaning.

Since the Seventh Plan period, central and district level programmes and projects have been formulated on the basis of the Decentralization Act, Rules and the procedures there to. Accordingly, projects were selected and assessed for those classifications. In this exercise of programme and project selection, assessment of formulation, besides the National Planning Commission, central level ministries and departments, local level panchayats have a major role to play. In the programme and project formulation at the district level, local panchayat and district level offices have to be more active as per the Decentralization Act.

2. Achievements of the Sixth Plan

On progress evaluation of programmes and projects under planning and statistics in the Sixth Plan, in planning, basic needs study has been completed and report submitted under manpower development study, demand and supply of manpower under His Majesty's Government, government corporations and under transport and industry in private sector have been studied and report prepared. For impact evaluation of development projects and employment and basic needs study of the Fifth Plan surveys have been completed but the report writing is pending. Under library and review room, library is being strengthened and cataloging being conducted. Besides these programmes not included in the Sixth Plan but needing urgent study like mid-term review, long-term agriculture plan, long-term food plan, long-term land use plan and impact study of primary education, review and follow-up studies have been implemented. In statistics, of the projects included in the Sixth Plan, National Census 1981, National Agricultural Census 1981, Industrial Census 1982, and Cottage and Small Scale Industries Survey, and Index of Agricultural and Industrial production are being implemented. For national accounts and deflator system development requisite statistics were developed and up-dated though the progress in this work was far from satisfactory. Similarly resultant of cottage and small scale industries survey could not be used due to various anomalies.

3. Objective of Planning and Statistics in the Seventh Plan

Policy decisions and plan formulation rest primarily on up-to-date reliable statistics. Hence the main objective under this heading will be to make the collection, promising analysis and storage of statistics more scientific and applicable to coordinate the activities of different organizations, involved in this work and make them more capable; systematize the information and data exchange, and thereby support plan formulation and policy making.

4. Policies

1. To fulfill the objectives above mentioned, following policies will be adopted - impact of past periodic plans on the general life style of the country will be studied in order to aid plan formulation. Studies of employment, income and expenditure status and basic needs will be carried out to bring improvements in the present state of affairs. And studies and research will be conducted for the meaningful implementation of national level policies as formulated by the periodic plans. The findings and recommendations of above studies will be gradually carried out.
2. Priority will be accorded as necessary for the, preparation of long-term plan and projection of a few important sectors.
3. Central Bureau of Statistics will be activated and made effective as a central organization to collect and maintain the quality of statistics, and to play a lead role in the field of statistics offering technical advice and help as necessary to different organizations.
4. Policy will be to make correct and reliable statistics available after the collection, processing, and correcting anomalies and duplication in course of analysis. Priority will be accorded to the collection of statistics of national importance and in other significant areas.

5. In this plan period emphasis will be given to the capacity-expansion and development of National Computer centre and necessary facilities will be provided for the computerization in government and non government sector for wider use of computer.

Programmes

A. Planning:

1. Employment studies of following topics

to be conducted on priority basis

- (1) Study and evaluation will be conducted on the kind and extent of employment opportunities created for different kinds of labours as a result to investment in different sectors in the Sixth Plan. This study will address how best policies and programme in future can be geared to the creation of employment opportunities.
- (2) For the achievement of top-priority employment objective of the plan, studies and research will be conducted to thresh out means of creating wide employment opportunities in non-agricultural sector.

2. Impact study of the Sixth Plan on the life style of the people

As it is desirable to take in stock of the benefits and impact that the development programmes of the Sixth Plan have on the life style of the people, such impact study will be conducted taking into account the study experience of the plans in the past.

3. Study for the meaningful implementation

of national level policies.

For the meaningful implementation of national level policies, necessary studies will be conducted through concerned ministry and organization.

4. Long term plan and projection

Long-term plans and projections will be prepared for important sectors from the stand point of national economy like agriculture, forestry, irrigation, hydro-electricity, education, health, drinking water and transport with long term perspective policies and objectives for the coming 15/20 years after up-dated review of long term plans so prepared. This will be done with a view to have clear long-term perspectives and objectives.

5. Study on the resource mobilization from

agriculture sector

Maximum mobilization of internal resources is essential for the economic development in a developing country like ours. Since agriculture sector occupies the prominent place among different sources of revenue, it is utmost essential to pay heed to the possibility of raising revenue from this sector. Keeping in view of the studies to date, main aim of the plan will be to study the present sources of revenue in agriculture sector, actual revenue collected thereof basis of raising this revenue, constraints there in the probable means to solve them.

6. Library development

For planning and research purposes, stress will be laid on the development of a fitting library and storage system in the National planning Commission Secretariate.

7. Achievement evaluation

Achievement evaluation will be carried out for some selected completed projects.

8. Review and monitoring

Necessary arrangements will be made to make review and monitoring more meaningful.

9. Mid-term progress review of the Seventh Plan

Evaluation and review of the progress achieved and the rate of progress against the targets up to the middle of the Seventh Plan will be conducted.

10. Training and study provision

To make planning effective

Internal and external study, training, and seminar provision will be made to upgrade the skills of manpower in the National Planning Commission, ministries, departments and other units engaged in the plan and programme formulation, policy making, analysis, evaluation etc.

11. Formulation and publication of the eight Plan

Arrangements will be made for the formulation and publication of the Eighth Plan.

Budget

For the implementation of programmes mentioned above, a total of Rs. 8.0 million is allocated.

B. Computer

For this plan period computer programme have been affixed as follows.

1. Expansion of computer facility and capacity

Computer services will be extended further for the maximal utilization of existing facility and capacity and additional facility added and capacity expanded as needed .

2. Computer education and training

To develop computer manpower, necessary training, seminars and workshops will be conducted.

3. Software developemnt and research

Softwares suitable for home use will be developed so as to be self-sufficient and will also be exported to foreign countries.

4. Computer repair and maintenance

A computer workshop with the repair and maintenance facility will be established and all computers-both hardware and software will be repaired and maintained.

5. Establishment, development and expansion of computer network..

With a view to establish and operate a computer network throughout the kingdom, efforts will be made to gradually connect out computer with the network of other countries in this region.

6. Establishment of national information system.

Statistics and informations of national importance will be stored, up-dated and re-trieved at times of need in a national information system to be created

7. Publicity and information

For wider publicity of different aspects of computer, publications, talk and radio programme and exhibits will be arranged.

8. Development of computer technology in Devanagari

Support will be provided to the efforts made to date in computer processing in Devanagari.

Budget:

For the implementation of above programmes a total of Rs 111.6 million is allocated.

C. Statistics

For this plan period, programmes relating to statistics are as follows;

1. Industrial census 1987

Studies and collection of statistics of number, condition, structure and contribution of existing industrial organisation of the country will be carried out and report thereof will be published.

2. Cottage and small scale industries survey

Defining the cottage and small scale industries so as not to recur the errors as found in similar past survey, detailed descriptions will be collected of such industries from all districts of the kingdom. Result of the tabulation will be published and report will be prepared after analysis.

3. Development of social statistics

After the analytical study of social statistics and indices social statistics will be published in an integrated form.

- 4. Co-ordination and strengthening of statistics and development of statistical methods and measurement**
In order to avoid duplications, correct anomalies and to upgrade the quality of statistics, rapprochement will be brought about among the organisations involved in statistics including the Central Bureau of Statistics and statistical works will be conducted as per the Statistics Acts and Rules.
- 5. Statistical publication and library development**
In addition to the regular publications of statistical reports, requisite statistics will be made available to internal and external organisations, and a library of statistics will be developed.
- 6. Indices of agricultural and industrial production**
Indices at constant prices will be compiled for the correct evaluation of progress in the field of agricultural and industrial production; their consumption stock and external trade;
- 7. Development of national accounts**
National income statistic is the main index among the economic indices. In view of the information requirements of the policy makers, planners, researchers and the general public, this statistics will be developed in current and constant prices and country's production, consumption, stock and external trade statistics will be prepared.
- 8. National agricultural census**
From this, statistics as to the number, areas, size and kinds of holding, land use and ownership will be derived and their result published.
- 9. Population surveys**
To monitor information on changes in the population statistics on significant aspects of population like fertility, mortality, and migration will be derived and their result published.
- 10. Analysis of population statistics**
After analysis of data of the population census, statistical changes observed in available population statistics and population projections will be prepared and published.
- 11. Preparatory work for the national population census, 1991**
As decadal national census of population is a major national event preparatory works will be carried out prior to the census .

Budget

For the implementation of aforementioned programmes a total of Rs. 15.3 million is allocated.

Of the allocated amount of Rs. 111.6 million for the computer programmes contribution of His Majesty's Government will be Rs 3.3 million and balance amount of Rs. 108.3 million will be borne out of its own resources.

Inclusive of Rs. 8.0 million for the programmes of the National Planning Commission Secretariat and Rs. 3.3 million for National Computer Centre (Excluding Rs. 3.2 million of National Science and Technology Council under the head of Science and Technology) the total allocation for planning is Rs. 11.3 million and for statistics, Rs. 15.3 million.

In sum, the allocation for Planning and statistics is Rs. 26.6 million.

Chapter 47 SCIENCE AND TECHNOLOGY

In the process of country's development capital, labour and materials have significant roles to play, so is the role of science and technology in the modernization of the country. Nepal being a small country, scientific and technical proficiency inherent in our country is almost known, knowledge of our latent capacity is important to know also from the standpoint of information as to the areas of technologies we have to import from other countries. We have to deliberate on the types of technology we import. No matter traditional or modern, we must have the knowledge of machineries of the technology and their component and their operations. If we also possess the capacity to repair them in case of breakdowns, we won't have to face the difficulties due to these machineries for development. Even among technologies, cost and benefits are of short and long term durations and worth our attention. In a predominantly agricultural country like Nepal, technological development should directly benefit the peasants class. In researches on other sectors, too, there should be frequent interactions between the researchers or innovators and actual users. This way results from the researchers or innovators and actual user. This way results from the researches would be such that could be utilized for the development works.

The country today faces difficulties in various areas, and research regarding their science and technology aspects is to be conducted. However, in view of the economic capability of the country the research and only to be limited to critical areas. If the research were not oriented to certain addition, programmes in these plan should be so formulated that they support determined national level policies of the Seventh Plan.

Achievement of the sixth Plan

Though area of science and technology was accorded a separate place only from the Sixth plan, one or other kind of work in this area had been taking place for the last six decades. Within last 25 to 30 years some educational and training organisations in the field of science and technology, organisations dedicated to the survey and analysis of country's means and resources, infrastructures, research laboratories and policy making bodies have been set up in the process of country's socio-economic development. With these programmes long dependence on foreign countries for the training of medium and high level technicians has been curtailed and high level manpower in some scientific and technological fields is being produced within the country. Collection of analytical statistics about some means and resources of the country had been accomplished. Service facilities and research activities have started in some areas. Similarly works have been started to arouse people's consciousness in science and technology. Though some efforts had been made to some extent in the country by various organisations in the field of science and technology, many more efforts are, of course, still to be done in this direction.

In the review of the efforts and achievements in the country made in this short duration, some thought provoking issues and a few problems have cropped up. In the talk and discussion programmes mainly following issues have been raised: development and application of science and technology has yet to help raise production and productivity and an appropriate relations still to be developed between the researchers and the users; reliable analytical data regarding country's means and resources is still to be made available; and in no-industrialization of the country, the continuing supply situation of necessary technologies in almost all sectors of development through imprecation, and without choice, evaluation and their modifications.

Keeping in view of this situation in science and technology, Royal Nepal Academy of Science and Technology (RONAST) established in November 1982 with a mandate of integrated development and extension of science and technology has been conducting programmes of national laboratory development, research and development promotion of science and technology, infrastructure for science and technology etc. since its inception.

Similarly, National Council for Science and Technology instituted in 1975 began to integrate and implement programmes of science and technology and thereby coordinate them with the process of country's development. Subsequently in the Sixth Plan it had been conducting, under the programme of appropriate technology development and extension, policy research & studies in various areas like agriculture, forestry, industry, power, construction materials that contribute to the basic needs fulfillment of the general public. Under survey and research of natural resources, survey of different natural resources (like cereal crops, building construction, solar energy) that are likely to fulfil the basic needs of the people. Under the choice of technology and evaluation system development programmes, evaluation of traditional industrial technologies, study of specialty of local equipment applicable in various productive areas, and choice and evaluation of foreign technologies that are in need of country's development are being carried out in addition to this, books on various aspects of science and technology have been published.

Objectives of the Seventh Plan

Compatible with the overall development objective of the country, objective will be to aid in raising the standard of living of the people through the maximum and better use of the country's means, resources and skills through the medium of science and technology and by meeting the basic needs requirements of the people .

Policies

1. For the development of vast water resources of the country and for the requisite industrialization and modernization of agriculture, a detailed scheme will be prepared to examine the appropriateness of technology available within the outside the country.
2. While conducting science and technology research national need and priority will be identified and researches that lead to quick result promoted. Coordination will be sought between such organization to avoid duplication of works.
3. Contribution of science and technology will be publicize among the general public.
4. A system of disseminating information on science and technology will be developed
5. Private sector will be encouraged in the promotion and application of science and technology.

Programmes

Royal Nepal Academy of Science and Technology and National Council of Science and Technology will implement national level policies of science and technology. Programmes of these two organizations are as follows.

A. Royal Nepal Academy of Science and Technology

1. In connection with the development of infrastructures in science and technology, necessary arrangement will be made to set up different national level laboratories. Aims of these laboratories are to aid in the activities of governmental and non-governmental organizations, practical works of higher level science students and also in its own research programme of the Academy. In addition to this, these will also contribute to the supply of basic needs requirement, savings in the foreign exchange, development of modern technology, transfer of appropriate technology (modification of imported technology to local conditions) and capacity enhancement of science and technology. Stress will also be laid on strengthening the existing ones while setting up such laboratories.
2. Under research and development, scientific and technological studies and research on different areas like chemical fertilizers, bio-fertilizers will be conducted and integration in these works set up. Such schemes have great significance in the context of the declining productivity of the land when Nepal is a predominantly agricultural country. Research will be so conducted that will enable to mainly fulfil the short term and long term national requirements. '
3. Under promotion and motivation programme, various activities like publicity will be undertaken to familiarize science and technology in the general public.
4. Necessary steps will be taken for dissemination of national and international information and knowledge on science and technology. From this researchers will find it easy to obtain necessary materials.

B. National Council for Science and Technology

1. Under the policy research on science and technology, study and research will be done to determine the long term perspective of science and technology programmes to develop scientific and technological capability of the nation.
2. Under scientific and technological publications programme, research and policy study reports, newsletters, annual reports, booklets on science and technology will be published.
3. Under mapping development, one national system will be adopted throughout the kingdom for the preparation of maps. Similarly, correction, evaluation, computer preparation and updated inventory of maps will be done and coordination in the preparation of maps set up.

Budget

Title	In million rupees.
1. RONAAT	70.00
2. NCST	73.20

CHAPTER 48 POPULATION

In order to strike out a balance between gross domestic production and population, to raise the per capita income in proportion to the growth in GDP and thereby, to upgrade the standard of living of the masses it is utmost necessary to regulate the population growth in a planned manner. Efforts to thrash out a balance between increasing population and economic development in the country were initiated since the Third period with the implementation of family planning programme. However, the past efforts and studies made in the field of population have pointed out to the bare necessity of intersectional and multi-dimensional approach in connection with the regularization of population growth, besides family planning. Accordingly, population policy with intersectional approach was first evolved in the fifth plan, but in the Sixth Plan, along with the population policy, population programmes were formulated with intersectoral approach, and implemented integrally with other sectoral programmes.

Achievement of the Sixth Plan

Special efforts were made on the population front in the Sixth plan to curb the present unprecedented growth of population in Nepal. National Commission on population that has existed as a central Level Organisation to formulate population policy and to oversee the implementation of population programmes in conformity with the national development objectives and policies, has been reorganized. Achievements of population -related programmes under National Commission on population and different ministries/departments in the Sixth plan are mentioned below.

According to the aim of the Sixth plan to educate about the population growth and its impact on different target classes and groups of people through population information, education and communication, seminars, newsletters, analysis of research articles and reports, radio information, video move show etc. have been conducted. Taking into account of the favourable impact, the women's development has on the success of the population control measures, pilot education programme along with scholarship was implemented in order to increase the number of female students in Kalikot, Jumla and Mugu district under women education programme. Similarly prize to schools enrolling more female student at primary levels have been arranged in 4 zones and training programme for women's employment conducted in Jhapa district. In tune with the Sixth plan's set objective of integration population and development due to the unfavorable impact of population growth on development, population programmes multipurpose pilot projects and training have been implemented in various productive sectors. In addition to this computer analysis of population statistics has started for the dependable analysis of population data. according to the objective of monitoring progress of various population programme and of institutional development and strengthening of evaluation system of the Sixth plan, progress monitoring and evaluation project has been implemented. In addition, trainings, seminars and studies on population have been conducted. In view of the impact, the internal and international migration have on population growth, detailed study on migration has been completed and report with recommendations published.

For the control of population it was targeted to provide family planning service to 900,000 couples in the Sixth Plan. Family planning and Maternal Child Health project, the main organization of family planning services, Integrated Community Health Services and Nepal Family Planning Association had provided family planning services to a total of 1,503,035 couples of which permanent services were provided to 1,227,839 couples.

According to the targets of the Sixth Plan, population education were imparted through the Panchayat Training Centre, the labour Department, the Sajha, the Cooperatives and the Ministry of Education and Culture. In order to know the exact condition of country's population vital registration system was to be extended to additional 29 districts according to the target of the Sixth Plan, it was extended, however, to only 19 districts to make it more effective. According to the target of the Sixth plan, national census of population 1981 was conducted and detailed demographic characteristics published under the Central Bureau of Statistics.

Background of the Seventh Plan

On projection of population on the basis of 1981 census, if no programme of fertility reduction were implemented, population of Nepal would register 26.4 million after seventeen years or by the year 2000 and by 2030 this is estimated to increase to 72.3 million as this unprecedented population growth has every likelihood of having unfavorable impact on agriculture, forests, education, drinking water facility, employment and thereby on the very development process, inclusion of population control and multisectoral approach for it in the system of Nepal's development has become more pertinent. According to the long term perspective of national population policy adopted to control population growth, demographic targets of zero growth rate by the year 2030. On assumption of Nepal's population of 25.1 million by that time, reduction of total fertility rate (TFR) to the replacement level or TFR 2.5 by the year 2000 is envisaged. Population policy and programmes in the Seventh plan are guided by these long term policies and programmes.

Objectives

The aim of the population policy in the Seventh Plan will be gradually lessen the unfavorable impact of the pressure of the uncontrolled growth in population on its size and distribution and to bring about a balanced between population growth and economic development

Policies

1. Family planning and maternal and child health services will be made easily available to the maximum under of couples.
2. Different individuals and communities will be appraised of unfavourable bearings of uncontrolled growth in population on individuals, families, society and various economic and social aspects of the nation, and concept and practice of small family norm will be promoted.
3. Women's participation in sectors like education and employment will be encouraged and social status of women will be up-graded.
4. Rampant migratory trend gradually be regularized and controlled.
5. Wide participation in population programmes will be sought through the medium of the Panchayats, class organizations and non-governmental organization.

Strategies

1. Young couples will be motivated towards family planning to meet the present unmet demand of family planning services
2. Family planning efforts will be concentrated in district and areas with higher fertility and population density.
3. Young couples will be encouraged to spacing of birth with the use of temporary measures.
4. Active participation of non-governmental organizations and other associations will be sought in the publicity of family planning and maternal and child health. Additionally, the panchayats, class organisations and non-government organizations will be encouraged to play active roles on the local and district population programmes.
5. Vasectomy and follow-up, distribution of temporary measure and maternal and child health services will be extended to hospital and health posts all over the kingdom.
6. To spread the use of temporary measures to village level, the sajha organizations, village shops and other organizations will be used as agents.
7. Population education will be extended widely through the medium of training programmes imparted to different groups involved in agriculture, forestry, rural development, cooperatives, cottage industries and other sectors.
8. Involvement of women will be encouraged in the village level population education programmes.
9. Evaluation and impact study of mode and methods of population education imparted to raise people's consciousness in population growth will be conducted and gradual modifications made.
10. In relation to women's education and employment, multi-sectoral step will be taken to increase literacy of women and to expand their employment opportunities.
11. in order to gradually control and regularise the uncontrolled immigration (international migration) and internal migration to the Terai region, concrete programme will be prepared and implemented.

Demographic Targets

In accordance with the long term perspective of the national population policy, the total fertility rate will be scaled down from 6.4 to 4.0 in the Seventh Plan. To attain this goal approximately 1,161,000 births have to be averted. For this, users of family planning methods should be 585,000 every year in average and a total of 2,950,000 in the Seventh plan period. to Achieve these targets, family services by methods to be provided each year are as given in the following table.

to arrive at a total fertility rate of 4.0 by the end of the Seventh Plan works to be done each year are as follows .

TABLE 48.01
Targets of each year of the Seventh Plan

Fiscal year/Methods	1985/86	1986/87	1987/88	1988/89	1989/90	total
Vasectomy Laprascopy etc.	79,000	110,000	114,000	136,000	141,000	580,000
Pills	97,000	123,000	129,000	156,000	163,000	668,000
Condoms	215,000	253,000	259,000	312,000	230,000	1,266,000
Loops	11,000	14,000	15,000	18,000	19,000	77,000
Injection (Depo-Provera)	28,000	41,000	48,000	58,000	59,000	234,000
Total	430,000	541,000	565,000	680,000	709,000	2,925,000

To bring down the TFR to 4.0 by the end of the Seventh plan, user proportion for pills and condoms should be 54 percent, and that for loops and Depo-Provera, 67 percent annually.

In order to attain the long term demographic targets in tune with the afore-mentioned objectives and policies various programmes will be conducted by different organization in an integrated manner.

A. Programmes under National Commission on population

1. Family Planning Area;

Local participation will be enhanced in arousing the interest of the general masses towards family planning communication then of unfavorable implications population growth have on nation, society, community and families. In view of the long-term perspectives, studies will be conducted for the management reform of family planning organisations.

Population and family planning education and services will be extended to 49 governmental corporations, royal army, police and governmental and non-governmental organisation. In connection with the incentives to be provided to small family units, free education facility will be provided up to the grade eight for the children of parents who have two or less than two children in 15 districts. Participation of women adopting family planning measures will be sought in 2 panchayats each of additional 25 district. Achievement and impact evaluation studies will be conducted for the family planning programmes. Necessary studies will be conducted for the home production of temporary measures of family planning.

2. Population Education, Information and Communication and Training:

After the study of the suitability of training and education materials, population and family welfare education will be expanded and consolidated. Effectiveness of the texts, text books and other educational materials used in formal, informal and adult education classes will be studied and model materials produced. In connection with the skilled manpower development in population education short term and long term training's will be arranged. In addition in each training with rural people as the target groups, population education will be compulsory included. Population clearing house will be made more capable: newsletters, magazines and research reports published and distributed; seminar and workshop conducted and impact of population education of fertility reduction will be studied.

3. Productive Sectors (Integration of Population and Development) :

In connection of integrating population with all aspects of development, population education programmes run by different ministries and dipartments will be extended and consolidated, and appropriate population programmes will be included in all rural development projects. Population and family planning education will be included in the training of forestry, cottage industries, panchayats etc. and population units set up population component in the curriculum of Institute of Agriculture will be consolidated.

Necessary support will be made available to the formulation monitoring and evaluation of present and future population programmes of different agencies under productive sector. A pilot project will be implemented in Narayani irrigation project and Phewatal watershed project and a modus operandi of integrating population and development will be identified. Form this experience integration process can be introduced in other development projects.

4. Women's Development:

In view of the fact that women's development are greatly supportive to the success of population programmes various activities will be undertaken; Area of operation of women's education project being implemented at present in 3 districts will be expanded to other districts; in remote areas, support will be given to

the women's hostel, scholarship and provision of free education; and effectiveness of present prizes to schools programme will be studied and consolidated.

5. programmes relating to panchayats, Class Organizations and Non-governmental Agencies.

To enable the class organizations and non-governmental agencies in the continued implementation of population programmes, a central fund will be created and formulation of population programmes will be included as an integral part of the district development plan , programmes implemented on participatory basis will be consolidated and expanded.

6. Statistics Monitoring and Research Programme;

different series of demographic data of various levels will be unified in a standard form and a system of population data will be developed to form a data bank of population statistics. After the second stage analysis of population data demographic maps will be prepared on the basis of demographic data series of various levels. To aid in the policy making and programme formulation on population, necessary research works conducted and technical support will be given to the agencies involved in the population programmes.

7. Development and Consolidation of Progress Monitoring and Evaluation system :

Present progress monitoring and evaluation system will gradually be developed.

8. Migration :

Necessary support will be provided in the effective implementation of migration policies and programmes.

9. Programmes under different Ministries, department and Agencies;

1. Ministry of Health; Integrated Community Health Services Development project and family planning and maternal and Child Health project among others under the ministry of Health will deliver the basic health services, and maternal and child services in addition to family planning services respectively. To attain the national objectives of family planning, besides these two organizations, family planning Association of Nepal is also involved in non-governmental sector.
2. Ministry of education and Culture : Population education has been incorporated in the school level and higher education curriculum under the Ministry of Education. Specifically, Curriculum Development Centre, Institute of Education and Adult Education Section will be involved in this programme.
3. Sajha Programme : Population education will be conducted as part of the sajha movement in districts where sajha programmes are implemented
4. *Vital Registration Programme under the Home Ministry* : This programme implemented to record the actual situation of births, daths and personal events will be further consolidated and collected statistics will be analysed and result published.
5. *Other Agencies*: Population related programmes are incorporated in programmes of other agencies as the Central Bureau of Statistics, Panchayat Training Centre. In addition, Population motivation programmes will be conducted through different organizations and associations under the Social Services Coordination Council in the non-government sector.

Budget :

For the programmes to be implemented under National Commission on Population, a total of Rs. 21.5 million is allocated.

TABEL 48.02
Some special Demographic Statistics

	Unit	1980	1985	1990
Growth rate of Population	per cent per year	2.3	2.553	1.97
Crude birth rate	per '000	42.0	42.81	34.40
Crude dath rate	"	19.0	17.51	14.70
Total fertility rate	for females aged 15 to 49	6.3	6.20	5.05
Life expectancy at				
Birth (male)	Years	47.5	51.88	54.13
" (female)	"	44.5	49.10	51.35
" (Average)	"	45.5	50.53	52.78
Infant mortality rate	Per'000 (live birth)	150.0	116.96	104.78

Source: National Commission of Population and Central Bureau of Statistics

CHAPTE (48) A

VITAL REGISTRATION SYSTEM

Population Censuses, population sample survey and registration of vital events as births, deaths and personal event are the main sources of demographic statistics. Though censuses are the main source to-date to derive demographic data, vital registration system has been introduced since the Fifth Plan to assist in this area. As vital population events are recorded everyday in this vital registration system, data from this source are up-to-date and provides an important basis to make the censuses taken every decade more reliable.

Achievement of the Sixth Plan

Till the end of the fifth plan, vital registration had been introduced to additional 28 districts. While the target in the Sixth plan was to extend this programme to additional 29 districts, it was introduced in 12 additional districts in the second and third years of the plan period. Towards the progress of registration in the Sixth plan period, 17 percent of the crude births, only 10 percent of crude deaths were registered and marriage, divorce and migration are registered in insignificant number. With a view to run this programme more effectively, efforts were directed to make it more effective than to extend to additional districts in the remaining years of the Sixth Plan. Accordingly, special programme was conducted in 50 wards of 25 Panchayats of 10 districts selected on the basis of sampling, from among the districts with vital registration system.

Objectives, policy and programmes of vital registration in the Seventh Plan are as follows.

Objectives

To obtain the factual information of changes in the structure of population through the systematic collection and analysis of personal events as births, death, marriage, migration, divorce etc.

Policy

1. As events like births, deaths, marriage, migration, divorce are significant locally and from the viewpoint of the nation, local panchayats will be mobilised in order to extend the registration of such events and make it more effective.
2. In order to arouse maximum of consciousness about the contribution of vital events, Panchayate, class organizations, social unions and associations also will be motivated and mobilized.

Strategies

1. Vital registration system will be made more effective and extensive.
2. Present legal basis will be modified and amended as needed to make the registration more effective so that vital registration can also become a legal compulsion

Programme:

Vital Registration System:

This programme started in 1977/78 and since then was implemented in 40 districts till the end of the Sixth Plan. Under this registration of births, deaths and other personal events continued, study and modification of programme implementation continued, and tabulation and analysis o statistics undertaken. To make the demographic data from the system more reliable, present registration of births, deaths and vital events will be developed into local level programme in the seventh plan. As necessary demographic statistics also can be obtained from this source of process to formulate district and Panchayat level programmes in accordance with the decentralization plan, registration system will be implemented gradually as an integral part of village panchayat programmes in all districts of the kingdom. Enlisting maximum participation this registration system will be made effective. To arouse people consciousness for this, publicity and communication will be done through the medium of pamphlets and posters.

For the conceptual change of mind of the masses for the registration of vital events, legal bindings will bwe introduced for the issue of relationship certificates, citizenship, certificates, for enrolment of children in schools, for sale and distribution of land etc. on the basis of registration of vital events as births, deaths etc.

For the monitoring and supervision of the registration system, monitoring and evaluation of activities of a district will be conducted, the problems there in studied and solved, and the system gradually consolidated.

Budget

For the registration programme of births, deaths and vital events, Rs. 6.4 million has been allocated in the Seventh plan

CHAPTER 49

SOCIAL WELFARE

For the uplift and welfare of the socially and economically weak sections of people, of different regions, social welfare programme has an important role in fostering development through the implementation of appropriate programmes and on the basis of the principle of social justice. Social welfare programmes can on the one hand arouse people's consciousness in uprooting social crimes, superstitions and malpractices and in discouraging exhibitory trends in social dealings, on the other can also offer social protection to the weak and the helpless in the social protection to the weak and the helpless in the society and provide concrete support to enable them to live on their own. Along with the government organization, active involvement of the social associations and societies and mobilization of local labour and resources and significant in themselves in the social welfare activities. As such with an objective of activating different organizations involved in different aspects of social welfare, stress will be given to coordinated development of social welfare sector in the Seventh Plan. Social Welfare programmes will be implemented under the Ministry of Labour and Social Welfare in the government sector and under social Services National Coordination council in the non government sector.

A. Government Sector

Achievement of the Sixth Plan

Social Welfare activities were being conducted in the country through different government offices and other organizations. With an objective of large scale operation of these programmes, Ministry of Labour and Social Welfare was instituted in the second year of the Sixth Plan. After the institution of the ministry, various social welfare activities have been incorporated and implemented in the government sector since the F.Y 1981/82.

Of the programmes implemented in the Sixth Plan under the Ministry of labour and social Welfare, Programmes of job-training social security career development, group marriages, survey, seminar and women's welfare are the main ones. Till the end of the plan 139 women from the backward tribes and communities have been trained under vocational training programme.

Under the social security career development programme, 430 students studying in the schools of traditional tribes as Koche, Meche Chapang, Chhantel, Jirel, Gaine, etc. have been awarded scholarships In order to conduct a socio-economic study of backward and weak sections of the society and submit recommendations to alleviate their living conditions, socio-economic studies of Raute, Majhi(fishermen), Dum and others have been conducted. Under different studies, feasibility study for the employment of educated urban unemployed has been completed. Similarly studies on children, beggars, old age home, Deuki, and Badi women, and backward tribes have also been conducted. To gradually uproot the present evil social customs, beliefs and wrongs, 5 seminars were conducted on different themes. With an objective of providing temporary hems, training-on-jobs and rehabilitating the socially displaced women, women's welfare home was set up a few women given shelter, and trained. to do away with the present superstitious thinking in the society, group marriages of 6 Deukis have been accomplished. In connection with the consolidation of present social welfare centres, depends in social service centres of Rajbiraj, Birgunj and Biratnagar were provided with residences and education. To monitor activity information on social development works in government and non-government sectors, works in government and non-governmental sectors, sectors, works relating to social development information have started.

Objectives

1. To protect the interests of the weak, helpless and socially and economically backward sections of the society.
2. To arouse mass consciousness sin order to root out the superstitions tradition of the society.

Policies

1. In addition to the government programmes, non-governmental organizations will be activated through the social Services National Coordination Council in the social welfare programmes.
2. Coordination will be maintained between various organizations involved in social welfare activities, their management strengthened and both curative and preventive programmes implemented
3. In order to implement people-oriented programmes rooted in a sense of devotion of service to the humans and the society, local means and resources will be mobilized to the maximum extent.

Strategies

1. Welfare programmes serving the economic and social intertests of the weak and backward sections and community of the society (weak and backward because of various reasons) will be implemented. And they will be mobilized as skilled manpower.
2. To curtail social backwardness, evil practices, superstitions, traditional thinking and social extravagance and to bring about economic reforms, seminars and other publicity medium through government and non-

government sectors will be adopted. For the effective implementation of these programmes the present acts and rules will be amended and, if necessary, new acts and rules also framed.

3. Target groups will be identified, and research and survey conducted to serve their interests.
4. Qualitative improvements will be made in the existing social welfare centers; orphans, helpless children and the aged also given shelter support extended their physical and mental development and scholarships offered for education of children of weak sections of the society
5. Shelters and skill development training will be arranged for the welfare of women, both helpless and forced into profession of disrupted.
6. Old age homes will be run smoothly to create an atmosphere for the helpless aged people of the society to live a life of respect and dignity.
7. Stress will be given for the integrated functioning of various non-governmental organization /association with necessary support from the government.
8. Social welfare centers and other projects presently run under the ministry will gradually be handed down to the non-governmental agencies.

Programme

1. Consolidation and Expansion of Social Welfare Centres ;

Social welfare homes are being run in Taulihawa, Fajbifaj and Birgunj for the management of shelter and feeding of the helpless, crippled and the disabled persons of the society. In past years efforts were initiated to strengthen these centers. These will be continued in the Seventh Plan, too. In addition, education and job related training will be arranged for physical and mental development of the children in those social welfare centers in the Seventh plan. Due to the difficult economic condition of the country many aged people have to go hungry and suffer in their old ages. As such, free food is being distributed to 200 old people at panch Dewal. In the Seventh Plan, those 200 helpless old people living at panch Dewal without any supporters will be shifted to an appropriate place with minimum of facilities. Similarly, a feasibility study will be undertaken to set up an old age home with payment of fees, in the form of welfare homes for the aged women.

2. Woman Welfare Homes:

Since the F.Y. 1983/84 women welfare home was run with the objectives of providing shelter, of importing vocational training to the socially displaced women and making them productive citizens. In order to safeguard the interests of the displaced women engaged in their occupation of disrupted, to enable them to be self-employed and live a life with dignity, 30 women every year will be given shelter and job-oriented training given in the Seventh Plan

3. Skill Development Training for the women of Backward tribes and Tribal People:

With the objective of bringing conceptual change in the traditional thinking of deukis, Badis and other backward classes and providing them with alternative employment opportunities, this programme was launched since the F.Y 1982/83. In order to provide appropriate kind of skill development training and to offer alternative employment opportunities to the distressed women of different calls and communities of the society subsisting below the poverty level, minimum of 75 women will be trained every year in each development region during the Seventh Plan, Necessary arrangements will be made to avail them of low-interest easy loan through the financial organizations for the utilization of their training and to find their markets for the goods produced. Efforts will also be made to create appropriate skills, resources and environment for the social and economic upliftment of women and their families like basis and dukis brought up in disgraceful culture .

For This, facilitative loans will be made available to them through the integrated rural development projects under the ministry of Panchayat and Local Development and in the basic needs delivery like drinking water, education and health coordinated programmes will be implemented. Regarding the actual areas where these programmes are to be implemented, the ministry of Labour and Social welfare will provide necessary information to concerned agencies.

4. Social reform seminars:

In order to do away with the social wrongs as tilak, dowry, gambling, drinking etc. that plague the social environment, seminars of this kind are being arranged to elicit active participation of social workers and volunteers. New Civil code, Social Customs Reform Act and similar legal codes framed with an objective of creating a welfare society based on social justice have played important roles though legal provisions are not sufficient in themselves to uproot the social wrongs. As long as changes are not brought in the traditional superstitions, social problems as evil social customs and practices cannot be solved altogether. To gradually eliminate such evils and wrongs from the society, campaigns organized at the people's level are more effective and fruitful. Therefore, in the Seventh plan period, a social reform seminar will be arranged in each development region with social workers from social and class organizations in the development region and zones under them as participants.

In addition to these social reform seminars, a workshop of representatives from social organizations, social workers and social volunteers will be held in each development region in order to activate them in various social activities, to impart related idea and information of such programmes and to train them in such activities.

5. Research Programme:

Researches have been conducted to identify social and economic problems of backward and weak tribes of the society and to bring improvements in their levels of living. Only if main factors necessary for the provision of employment opportunities at the village level bringing in reforms in social attitude, value and thinking towards the backward and worker sections of the society and if information as to the facts of how they can positively be solved are known through the process of research, can it contribute to the determination of policy-level objectives. Therefore, with the aim of assimilating backward communities into the mainstream of development providing them with necessary facilities socio-economic studies will be conducted in the Seventh Plan to know the number, area, inhabited and the socio-economic condition of backward tribals of the kingdom like Raji, Mashahar, Chhantel, Kami, Hayu, Koche, Meche, Jirel, Jhangad, Sunjwar, Tamang Matwali, Lhopi etc.

6. Social security career programme;

This programme is being implemented since the F.Y. 1983/84 with the aims of motivating the children to school of backward tribals like Koche, Mechi, Chepang, Chhantel, Jirel of traditional communities like Devki, and of tribes and communities engaged in occupations created out of social deformation. The programme also aims to impart job-oriented training and provide them with employment opportunities. In the Seventh Plan also, with the aim of enabling the members of such backward and weaker sections to live the rest of life as able and active citizens, financial support will be provided to 1000 students from the above mentioned classes, tribes and communities and studying in the classes 6 to 10

7. Social Development Information

The main aim of social development information are to collect information on social development from different government and non-governmental agencies at the national level and to aid in the formulations of social sector policies from the study of collected information.

B. Non - Governmental Sector

The role of various social societies and associations active in different aspects of social welfare in the non-government sector has been significant. These organizations are working under the Social Services National Coordination Council and different committees under the council.

Achievements of the Sixth Plan

In the Sixth plan period the Social Services National Coordination council provided necessary support in the programmes formulation of committees and organizations under the council in order to bring effectiveness in their implementation, maintained coordination between different agencies in implementation and also conducted periodic and annual evaluation of the programmes. In order to provide necessary workers in social welfare works, 103 persons were given training in the plan period. Support was made in the mobilization of internal resources through the different exhibitions organized in the Bhrikuti Mandap. The Health Services coordination Committee and organizations under it have provided family planning services to 97,109 persons, different health services to 838,942 persons and basic health services to 42,269 persons. The services coordination Committee for the Helpless and organizations under it have arranged for the education of 475 physically and mentally retarded children, provide employment to 33 and educated 76 blinds and 203 deaf children in order to make them able citizens, the Children's welfare coordination Committee provided 580 scholarships., brought up 1365 and offered patronage to 1365 for the development of helpless and orphan children. Under food distribution programme, nourishing foods were distributed to 108,203 children. Under the Women's Services Coordination Committee, besides different programmes for growth of women's income, training and literacy programme family planning services were offered and nursing centres set up in different districts in the plan period. Under the Community Services Coordination Committee, too, treatment of the patients, adult education and women's vocational training were conducted in the plan period. The youth Activities coordination Committee planted 595,300 tree saplings. In addition, literacy, temporary family planning services and radio programmes were conducted. In addition to above mentioned words, central funds created to mobilize internal resource and important achievements.

Programmes of the Seventh Plan

Programmes to be implemented under the Council and the committees under it are as follows.

1. The Social Services National Coordination Committee

The system of providing guidelines, financial assistance and of evaluating social, economic and character, development programs run under the council the different committee under the council and organizations under each committee by the Social Services National Coordination Council set up at the central

level for the formulation, evaluation and coordination of the social welfare activities in the non-government sector will continue as usual. In addition, special programmes will be implemented for community development in the Seventh Plan. training for the local level workers of the social organizations will be provided and income generation programmes will be implemented at the community level.

2. The Health Services Coordination Committee

The family planning Association of Nepal, Paropakar Society, Nepal Tuberculosis Association Netra Jyoti Association, Nepal Red Cross Society, All Nepal Homeopathic Association and Nepal Ayurvedic Society are under this committee.

Programmes of the Nepal Family planning Association in the Seventh plan are creating greater awareness about family planning, increasing vasectomies and distribution of temporary measures, expanding the programmes activities through participation of conscious groups. Aims of Ayurvedic Society are to operate Shankhamul, Banepa and Bagmatil medicine sections full time, set up primary treatment centres in Malta, Sainbu and Khokana and provide services in different development regions opening its branches. All Nepal Homeopathic Association during this period will prepare a list of Homeopathic dispensaries in the kingdom and provide treatment through opening up offices on the basis of regions.

Nepal Red Cross Society will provide primary health services, family health services through its district branches, regional communications services in Eastern, western and Mid-Western regions, ambulance services in 14 new places, treatment camps for blindness control, studies and relief works regarding accidents and disasters and community development works in the Seventh plan period. Her Majesty Aishwary Treatment Relief Fund at the district level and programmes of other societies under the committee will also be implemented in the Seventh plan period.

3. The services Coordinations committee for the Helpless

Different societies and organizations under this Committee will implement various programmes for the mental and physical fitness, and economic and social uplift of the physically disabled persons like the mentally retarded, the dumb, the deaf, the blind and the lame persons, in the seventh plan period. Under this committee fall the leprosy control Society, Society for the Blind and the crippled and the societies for the mentally retarded. This committee looks after the fund for the crippled in order to support the education, training and rehabilitation of the disabled from the interests of collected fund from different sources.

The leprosy Control society will emphasize on the education of students, residing in children's home and hostel for the sake of children's welfare, construction and maintenance of khokana and Malunga leprosy homes and the rehabilitation of the lepers in jobs. . The Society, will also dissuade their displacement from their homes and villages, educated the common masses with publicity of information on leprosy and health, and health, and implement income generating activities to meet the necessary expenses for the society's programmes in the Seventh Plan Period.

The Society for the blind and the crippled will consolidate and run to capacity the present activities and make the services easily available to the crippled in view of present population and the variety of the crippled in the country. The Khagendra Rehabilitation Centre under the committee will provide general education, vocational training, hostel, physiotherapy services and artificial limbs. In addition, it will manage for the special education and for crippled adults, adult education. The S.O.S. children's village nursing homes, (for the crippled children) and the rehabilitation centre for the seriously crippled persons will be run to their capacity in the Seventh plan.

In order to turn the mentally retarded children into active citizens by imparting them appropriate education, training and trade skills and rehabilitating them in the society, the welfare society for the mentally retarded will work for manpower development, setting up of a protection home and survey. Similarly, the programme of the society in the Seventh plan include the extension of the services through necessary construction and maintenance of Nirmal Children Development Centre, educating the general populace on probable reasons for mental retardation and awakening and alerting the guardians of such persons.

4. The Children's Welfare Coordination Committee

Under this committee, various programmes will be implemented for the mental and intellectual development of the helpless, orphans, and of the children.

Support is being made available for the overall development of children from the interest of National Children Development Fund under this committee. Within the seventh plan period fund capital will be raised to Rs. 3.5 million and from the interest there on 3,736 children will be supported in various ways besides administrative and other programmes

The programmes for the Welfare of the Children include extension of nursery schools, pre-primary schools, day care centers and expansions of nursing and educational services. To save the children from malnourishment, regular check-up and food distribution services will be strengthened. Orphans and poor children will be treated of the maintenance of their health and job-oriented training like stitching, weaving etc. offered.

5. The Women's Services Coordination Committee

For the involvement and increased contribution of women in different development regions and for the upliftment of women different programmes are under way through the Women's Services coordination Committee. Training on management skills, project formulation and evaluation will be imparted to 200 women from different regions. Education campaigns will be launched in 15 districts for the enhancement of literacy among women. As a result 10,000 women will benefit from it. Under publicity and information, a bulletin on women's development will be issued and radio programmes will be on the air. Similarly, family planning services will be extended to 1000 couples and income generating programmes conducted in 45 places. Under income generating activities, 2 nursery schools will be set up for the 50 girl students awarded scholarships in the plan period. Besides monitoring of programmes implemented in education, health, employment, agriculture, cooperatives, forestry and law, the Committee will also review and coordinate on the aspect of women's interest.

6. The community Services coordination committee

Under the Community services Coordination Committee, population education, health education and family planning services will be conducted through the panchayats. Main aim of this programme is to develop the villages in an integrated manner through the medium of local participation. Various activities will be undertaken to impart religious and ethical education and afforestation and their conservation will be annually conducted in the Seventh plan.

7. The Youth Activities Coordination Committee

Under the youth Activities Coordination committee various programmes will be conducted through different societies and organizations set up in districts, rural and urban areas with the objectives of aiding youths, supporting national programmes, assisting community development and supporting social workers with financial assistance.

Local clubs will conduct educational, cultural and sanitation activities supportive to the physical, mental, intellectual and character development of the youths. In order to foster self and overall development of youths leadership training, skill development training, employment and income generating projects will be implemented.

Local clubs will provide necessary support to national level government programmes of literacy, public health, afforestation and family planning. In addition these clubs will conduct programmes of public health and afforestation on their own auspices.

Some clubs are conducting programmes to provide with basic necessities as education, health, drinking water to communities inhabited mostly by the poor and backward classes. These programmes will be still continued.

As youth Welfare fund has been set up to support the interests of the youth social workers in cases of unforeseen circumstances and to provide financial assistance in social welfare works. This fund will also function in the seventh plan.

Budget

(a) for the government social welfare programmes, Rs. 8.1 million has been allocated.

(B) For the programmes of the social Services National Coordination Council, the Committees and societies and organizations under the council, His Majesty's government will provide a grant assistance of Rs. 70.00 million. In addition to this, the internal resources mobilized by the Social Services National Coordination Council, and the subordinate committees and societies and organizations themselves and the foreign assistance mobilized through the Council will also be allocated.

Chapter -50 PROGRAMME FOR CREDIT AND BANKING DEVELOPMENT

During the seventh plan period, activities of banking as well as financial institutions will be extended further. Similarly steps will be taken to make their services easily accessible and efficient. Apart from this, banking & financial institutions will be activated, so as to mobilize more savings, and to motivate private sector investment activities to the attainment of the objectives of the plan.

Commercial Banks :

(a) Credit Programme:

During the Seventh plan period, resources of commercial banks will be mobilized specially to augment private sector activities furthering production and employment. For this targets have been set as follows:

- (1) In the final year 1984/85 of the Sixth Plan Period, out of the total credit, the flow of credit of commercial banks towards productive sector was 25 percent. This proportion of credit flow will be increased gradually to 45 per cent by the final year 1989/90 of the Seventh plan period. In the credit for the productive sector, the demand for credit for agricultural, industrial, and export sectors will be given highest consideration.
- (2) In the year 1984/85, the credit disbursement to the priority areas of the productive sector was 8 percent of the total value of credit. The proportion will be gradually raised to 12 percent by the year 1989/90.

Intensive banking operation will be extended so as to conduct priority sector loan operations effectively. Coordination will be established between, credit programme of banks and programmes of various other concerned institutions. In this context, district level priority sector coordination committee will be constituted in each district with intensive banking programme. Moreover, coordination committee will also be constituted at local level where there is the branch of bank in operation.

During the Seventh plan period commercial banks will be activated to fulfill the demand for loans by exporters, as the role of commercial banks is significant to develop export trade by providing financial assistance to exporters. It is targeted to disburse a credit of net Rs. 150 million for export sector, during the plan period. This credit will be made available in the form of per-export loans and to export bills, loans to traders who are engaged in collecting, refining and exporting exportable commodities; A separate unit will be established in commercial banks to look after export trade. And steps will be taken to simplify the banking procedures regarding export loans. Hypothecation credit system will be gradually adopted in order to avoid the tradition of sanctioning loans against the security of movable or immovable property for expanding per-export credit and export bill credit. Appropriate arrangement will be made to guarantee the credits of this sort.

(b) Savings Mobilization programme:

During the Seventh plan period, an additional amount of Rs. 7570 million will be accumulated including savings and fixed deposits. In order to lure people to deposit their savings in banks, various measure of savings mobilization as well as programmes of advertisement will be conducted.

(c) Expansion of Bank Branches:

Up to the end of the Seventh Plan period, total number of bank branches will be increased to 634 by establishing additional 247 bank branches. If this target were fulfilled, one branch will serve 30 thousand people by the Mid-july 1990 whereas the ratio of bank branch to total population was 43 thousand per one bank in the Mid-July 1985.

(d) Consolidation of Bank Administration:

In order to make the services of commercial banks more efficient, reformative steps will be taken by reviewing the existing rules and regulation as well as the administrative system.

Industrial credit by Institutions:

During the Seventh Plan period, the objective set is to distribute additional net loan amount of Rs. 2560 million to industrial sector including cottage and small scale industries by commercial banks and financial institutions. Out of this total amount a net credit of Rs 1930 million will be disbursed by commercial banks, Rs. 260 million by Agricultural Development Bank and Rs. 370 million by Nepal Industrial Development Corporation.

During the plan period, target has been fixed to distribute gross financial assistance of Rs. 700 million including loan and share investment by Nepal Industrial Development Corporation. Since the loan collection will amount 330 million, additional net loan disbursement will be Rs. 370 million during this period. to achieve the investment objective of the Corporation, His Majesty's Government will invest an amount of Rs. 250 million in its share whereas Nepal Rastra Bank will make it available financial assistance of Rs. 194.0 million.

Investment policy of Nepal Industrial Development Corporation will be amended to make following arrangement:

- (1) To arrange for co-financing by adopting the second mortgage system;
- (2) only 20% of the cost will have to be invested by the entrepreneur while providing financial assistance.
- (3) to make the running capital available as needed,
- (4) regarding the industries of priority sector, arrangements will be made to promote such industries by the corporation itself or in participation with private sectors. But, while initiation industries in such a way policy will be to handover such industries to private sector as soon as possible,
- (5) to invest in the share of those industries, for seed capital, in which entrepreneur cannot invest initial capital,
- (6) to provide necessary guarantee for the purchase of machinery by the industry on the installment basis,
- (7) to initiate project management service, and
- (8) to invest on the construction companies also on the basis of feasibility study.

During the Seventh plan period, net credit Rs. 660 million will be disbursed to cottage and small scale industries. of this Rs. 540 million will be distributed by commercial banks and Rs. 120 million will be disbursed by the Agricultural Development Bank. There is a programme to make available loans to these industries under the intensive banking operation and cottage and small scale industries project. During the plan period, under the cottage and small scale industries project Rs. 330 million amount worth of credit will be disbursed. As loan collection will be of Rs. 190 million, the net amount to be distributed will be Rs. 140 million.

During the plan period, target has been set to provide financial assistance to additional 13 thousand cottage and small scale industries under the cottage and small scale industry project & intensive banking operation. A technical unit will be initiated in bank to provide consultative service to industries. His Majesty's Government will provide Rs. 250 million for the Cottage and Small-scale Industry refinancing fund with the Nepal Rastra Bank, the Nepal Rastra Bank will add a certain amount of the profits to the fund each year. As it is essential to augment the capital fund of the Credit Guarantee corporation so as to guarantee the investment done by commercial banks in cottage and small scale industries, His Majesty's Government along with the Nepal Rastra Bank will make available an amount of Rs. 50.2 million . Credit guarantee project, that is recently operating in the Nepal Rastra Bank, Will also be handed over on the Corporation, Programmes will be launched to impart training on project appraisal and monitoring to 1,200 officer staffs of commercial banks and training on industrial management and skills to 31,500 entrepreneurs.

Institutional Credit for Industries

	Mid July 1985	Seventh Plan Period			Mid July 1990
		Loan Disbursement	Loan Collection	Net Disbursement	
1. cottage and small scale Industry	276.1	1155.1	495.8	659.3	935.4
(a) Commercial Bank	216.8	952.6	414.8	537.8	754.6
(b) Agricultural Development Bank	59.3	202.5	81.0	121.5	180.8
2. Other Industries	1121.8			1902.0	3023.8
(a) Commercial Bank	586.2			1395.5	1981.7
(b) Neoal Industrial Development Corporation	476.8	700.0	331.5	368.5	845.3
(c) Agricultural Development Bank	58.8	230.0	92.0	138.0	196.8
Total Industrial loan	1397.9			2561.3	3959.2

Including share investment ¹

Institutional credit for Agriculture

During the Seventh plan period, total amount of Rs. 1500 million will be distributed in the form of agricultural credit which included Rs. 600 million from commercial banks and Rs. 900 million from the Agricultural Development Bank. But as Rs. 2530 million loan will be collected, the net amount of loan that will be disbursed will be Rs. 900 million. In order to assist agricultural Development Bank in this task, His Majesty's

¹ Loans to be distributed to agro based and cottage industries is not included.

Government will provide Rs. 500 million whereas Nepal Rastra Bank will make available assistance of Rs. 1130 million in the form of refinance.

As the implementation of small farmer's developments projects is satisfactory, total number of those projects will be increased to 230 by the final year of the plan by implementing additional 70 such projects during the Seventh Plan. In the year 1984/84, the number of groups under those projects was 3,504 and the number of members was 33,811. In the year 1989/90, the number of groups will be 5980 and the number of members will be 57,408. Target has been fixed to distribute credit of Rs. 660 million under the small Farmers Development Project. But net amount of loan disbursement will be Rs. 300 million because Rs. 360 million credit will be collected.

As the condition of Sajha Samsthans is unsatisfactory, efforts will be centered during the Seventh Plan period to make these institutions efficient by reforming them. by the final year of the Seventh Plan period, the total number of sajha societies will be increased to 750 by an increment of 26 societies. The number of members of these societies was 1399 thousand in the final year of the Sixth Plan. The number will be increased to 1415 thousand. During the plan period net distribution of credit will be Rs. 130 million as those societies will disburse total loan of Rs. 430 million against the loan collection of Rs. 300 million. National Sajha Organization with an authority to operate financial transaction will be constituted so as to develop sajha societies in more effective way by giving a definite direction to sajha programmes.

Institutional-credit for Agriculture

in Million rupees

	Mid July 1985	Seventh Plan Period			Mid July 1990
		Loan Disbursement	Loan Collection	Net Loan Collection	
Commercial Banks	243.8	1188.3	583.2	605.1	848.9
Agricultural Development Bank	974.2	3431.3	2531.7	899.6	1856.8
Total Agricultural Credit ²	1201.0	4619.6	3114.9	1504.7	2705.7

² Excluding the credit for agro-based industry & Cottage industries.

Credit Guarantee Corporation

Credit Guarantee Corporation will be more actively operated for providing guarantee to the loans that banks distribute for the priority sector, during the Seventh plan period. Total paid -up capital will annually be increased so as to total Rs. 106.0 million by the seventh Plan. In order to enable the corporation to better perform the task. out of the total amount of Rs. 50.2 million which is to be added for the propose his Majesty's government will bear Rs. 25.1 million and remaining amount will be provided by Nepal Rastra Bank.

Securities Marketing Center.

During the Seventh Plan period, the Securities Exchange Market will be further organised to simplify the process of capital transactions. The centre will be more activated to provide advice as well as assistance to entrepreneurs who intend to accumulate capital resources through the mobilization of savings. The number of investors who invest their savings in the government development bonds and the other securities will be augmented from 4 thousand to 16 thousand by operating market promoting activities in all the five development regions. Under the Securities Exchange Act-1983, management of professional brokers will be done and training programmes will be conducted to develop this profession.

PART II DISTRICT LEVEL

1. Introduction

The Present section is an integral part of the seventh plan and present the composite picture of His Majesty's Government assistance for the district level programmes to be implemented in each district of the Kingdom in accordance with the principles of decentralization. As an integral part of the Sixth plan also, panchayat Sector Plan under part II included local construction projects formulated at the village and district level projects of the national Plan. The present Seventh Plan incorporates financial resources to be made available from the center for almost all sectors under the periodic district development to be formulated at the district in accordance with Decentralization Act, its bylaws and the Basic Principles of the Seventh Plan and the Programmes to be financed by these resources.

The present Volume (Part II) of the Seventh plan seeks to present the district development plans to be implemented in the districts in their entirety. Following this objective, it was necessary in the task of formulating district development plan to ensure the completion of the plan formulation within the stipulated period of time in all districts as well as to maintain uniformity in the plans thus formulated. It is with this consideration that the National planning commission Secretariat, its Regional Planning Offices along with other agencies fielded their teams to participate in the district level Pancha Conventions that were held and zonal level seminars on decentralization to provide orientation on the plan formulation according to the Decentralization Act and its bylaws. Despite these efforts of the National Planning commission Secretariat to ensure the completion of Plan formulation in all the districts following Decentralization Act and its bylaws, the task could not be completed within the specified period of time because of several constraints. Major reasons responsible for it are as follows.

1. Failure to make available by line ministries the guidelines and information or resource forecast to concerned districts well in advance for sectoral programme for several reasons.
2. Failure to hold district assembly meeting in several district to deliberate on district development plan according to the Decentralization Act
3. In most of the districts where such meetings were held, authority was delegated to formulate plans to district panchayats but these district Panchayats were unable to complete the task in time and
4. Because of the lack of pertinent information such as on detailed cost estimates, district assemblies of several districts sent only a long list of projects reflecting their needs more than their objective priority of the districts.

It is because of these difficulties, the estimated financial resources to be made available by His Majesty's government during the Seventh Plan period and the programmes related thereto only are included in the part II of the Seventh Plan in the form of district level programmes. Consideration is being given to bring out a separate volume later upon receiving the district development plans from all the districts.

According to the Decentralization Act, every district is required to prepare its periodic development plan on the basis of which annual development plan is to be formulated every year for the following fiscal years within the specified period of time. The five year plan of the concerned district is to be the basis while formulating annual programmes by the district Panchayats. It is expected that the annual district development plan can be formulated more consistently than has had been the practice by integrating factual information on different projects, the extent of human and financial resources mobilisation of its own, grants-in-aid to be made available by His Majesty's Government or other institution and outlays and investments set aside by His Majesty's Government for district Plan

In the Present volume, the formulation of district development plan in the context of decentralization, the major policies on local development, the proposed Seventh plan investment pattern for district level programmes, the approaches to be adopted on the implementation of district development plan, the resource allocation policies of the Center along with the detailed information on district level projects as referred to earlier have been presented separately.

2. District Development Plan in the Context of Decentralization

Over the years of country's development, earlier periodic plans have adopted an approach of enlisting people's participation in the planning process for the mobilisation of existing human and financial resources. But in the present Seventh Plan, a stronger institutional mechanism has been conceived in the form of district level programmes on the notion that more useful and lasting would the projects be if undertaken through the medium of local panchayats reflecting felt needs of the local people, and based on local resources mobilisation as well as local initiatives and skills.

In the Sixth Plan also, the process of the Panchayat sector plan formulation was based on people's participation. The present Decentralization Act, 1982 has made provision for this in addition to propounding the policy of adopting decentralized planning procedure for the district level programmes in the Basic Principles of the Seventh Plan. Accordingly, a system of formulating periodic and district development plans in all the districts of the Kingdom and to establish their complementary relationship with those of the central level has been initiated.

Following the Decentralisation act, the responsibility to undertake entire development works in the districts for their development as well as for the common benefit and welfare of the people living in the districts has been entrusted to the local panchayats. On the other hand, His Majesty's government will undertake only the central and regional level projects as required. According to plan formulation system based on decentralisation, development plans to be executed in our country are to be divided into two parts the central and district level plans. While the central level projects are to be undertaken by His Majesty's government as usual according to the needs, districts level projects are those that are locally executed through districts panchayats by His Majesty's government development related district level offices with funds from His Majesty's Government and with the resources of the local Panchayats or with His Majesty's Government resources and grants. The aggregate structure of all district level development works to be undertaken in each district of the Kingdom is what is being referred to as district development plan which has been envisaged to be formulated on an annual and periodic basis.

District development plan in reality is the reflection of development aspirations of people residing in the districts. but because resources necessary to fulfill these aspiration are usually limited, limited, it is imperative to exercise optimum caution while formulating these plans. The main purpose of the district development plan based on decentralisation is to expand and speed up development activities by maximizing the mobilisation of local resources to meet the requirements of the local people. His Majesty's Government's role on these endeavors is limited to only that of partner. Accordingly, His Majesty's Government has issued to districts an estimate of financial resources likely to be available for district development plans during the seventh plan period and the needed guidelines on their utilisation. Thus, while formulating district development plans, the system emphasised the needs of the districts and the wishes of the local people on the one hand, and on the other, the effort is to institutionalise a healthy system of providing the needed support to plan formulation at the central and the regional level in accordance with the wishes of the districts.

Since the district development plan encompasses only the district level projects, the decentralisation by laws has laid down criteria for deciding on district level projects in different sectors. Chiefly, any programmes designed to provide benefits to the population of a given district are to be recognised as district level projects.

Based on these criteria, all the line ministries of His Majesty's Government concerned with district development have identified district level programmes and have provided information to all districts on the amounts or resources to be made available to each district for the implementation of these programmes during the Seventh plan period, the needed guidelines relating to the use of these resources, or the policies to be adopted. It was therefore intended to formulate periodic district development plans on the basis of these resources including those estimated to be locally mobilised by the district concerned on its own.

As regard priority setting also, the following project should be preceded all others in terms of priority while formulating district development plans:

1. Projects which provide direct benefits to the common people and fulfill basic needs,
2. Projects which contribute to increasing agricultural production,
3. Projects which can be executed with local resources and skills,
4. Projects which help increase productivity and employment opportunities,
5. Projects which are accorded priority in the national level plan and
6. Projects which preserve environment.

Besides those arrangements and information, the national Planning Commission has also prescribed methodology for adoption in the course of district level plan formulation. Although maturity in plan formulations

is something that is gained gradually over the years, it is believed that above guidelines have helped the districts take an important step forward toward this direction. While formulating district development plan, districts were invited to pay their attention on the need to determine their aggregate targets on the basis of the general assessment of the socio-economic condition of the districts, to the egalitarian distribution of the projects, to the necessity of the projects and investments to become mutually supportive and so on and so forth.

In order to enlist broader and wise and thoughtful participation in the task of plan formulation, five sectoral committees with members drawn from district level people's representatives including the Rastrya Panchayat members of the districts, chiefs of the district level His Majesty's Government offices and social workers are to be contributed and wide ranging deliberations on their respective sectoral programmes by these committees do form a part of the plan formulation process, furthermore, local panchayats enjoy the authority and responsibility to formulate all kinds of local level development plans and construction project to be implemented under the district development plan, to mobilise and disburse resources and to supervise and execute projects and evaluate its progress. Accordingly, His Majesty's government district level development related offices have henceforth been assimilated into the organisation of district panchayat secretariat with a provision that these offices are required to function within the policy guidelines as laid down by the concerned ministries and departments. As a Secretary of the district Panchayat, the Local Development Officer has to play the role of a co-ordinator. There are also provision for a separate planning cell and a planning officer to facilitate plan formulation and monitoring activities at the district.

While the present practice of formulating district development plan in the process of national plan formulations rather a novel and arduous task, full of constraints, past few months efforts in this regard have generated some very significant and positive experiences some of which are as follows:

1. People's representatives at the local level have now the opportunity to formulate district plan and disburse resources allocated to the districts by the sectoral ministries along with districts own resources in ways that reflect aspirations of people residing in the districts.
2. Since resources from the centre alone are far from adequate to meet people's growing aspirations, the need to mobilise maximum local financial and human resources has now become evident, and
3. Plan formulation and resources distribution process at the local level has made it possible to formulate plan based on the dispersal of projects in almost all parts of the districts, reflecting their needs.

Despite these achievements, some problems have made their appearance because the present practice of decentralised planning process represents maiden efforts and the prior experience is lacking in this regard. Future efforts should necessarily address to these problems in the following way:

1. While adopting the decentralised planning process, the local panchayats are required to conduct meetings of village assembly, village panchayat, town panchayat, district assembly, district panchayat and plan formulation committees systematically and in time.
2. The planning process is dependent upon the timely and clear-cut sectoral guidelines and resources estimates from the centre.
3. It is necessary to initiate measures designed to enhance local sectoral and macro level plan formulation capacity, and
4. Attempts are necessary to prepare economic, social and geographical profiles of each district with a view to obtain necessary information on development potentialities and resources of the districts. The centre must provide support of this activity.

In short, in line with the policy of the Seventh plan the decentralised plan formulation process, an attempt has been made to formulate district development plan as an integral part of the overall national plan. But the formulation of the plan is not the only important aspect of planning process; more important than that is the implementation aspect. Hence, the attention and efforts of all concerned would hopefully concentrate in achieving significant results in our efforts of socio-economic development of local people in line with the objectives of decentralisation policy through the gradual in line with the objectives of decentralisation policy through the gradual strengthening of both the plan formulation and implementation processes.

3. Objectives and Policies of District level Programmes

According to the Decentralisation Policy in the Seventh Plan(1985-90) each district of the Kingdom is required to formulated periodic and annual district development plans. This has already been explained in the preceding chapter.

Following the conception as contained in the decentralised planning process, the objectives and policies of the district development plan or for that matter of the district development programmers are necessarily to be determined by the distinctive economic and social situation of the district. The basic Principles of the Seventh Plan which is also based on decentralisation has also visualized the same process. It is in cognizance of this that a national level policy on decentralisation has been included in the Seventh Plan with a view to support districts in their efforts towards enhancing their plan formulation and implementation capacity at the district level.

Not that the district development plans to be formulated in various districts are enough to be viewed from the wider perspective, these are also equally important to be guided by national objectives and considerations particularly in matters of securing human and financial resources from the centre. hence, the following objectives and policies will be pursued in allocating resources from the central to the district level programmes to ensure that these programmes are not contradiction to the objectives of meeting the special needs and aspirations of the districts inherent in decentralised planning process.

Objectives

1. To increase production by maximising the mobilisation of locally available natural and physical resources for raising the standard of living of local people.
2. To create maximum employment opportunities.
3. To make available minimum basic needs facilities necessary for livelihood of the local people and
4. To maintain and promote balanced ecological environment.

Policies

The following necessary policies have been Provided in order to meet above objectives:

1. To achieve multi-sectoral development by means of district development plan to be formulated and implemented through local Panchayat institutions in a way consistent with the objectives of the decentralisation along with ensuring wider people's participation and coordination.
2. To enhance the capacity of the local government and panchayat institutions working at the grass root level in accordance with the objectives of decentralisation and to make them more responsible in the planning process.
3. To maximise local physical, human and financial resources mobilisation on the basis of local leadership and people's and people's participation.
4. To maximise the use of local technology, know-how and skills and to explore and develop new and appropriate technology.
5. To undertake programmes to enhance living standard of those community who are poorer owing to geographical, social and economic factors.
6. To execute integrated development programmes with a view to provide multi-development facilities to the local people by securing bilateral and multilateral assistance for local development.
7. To pursued, promote and preserve local ecological balance of the basis of appropriate land use policy and productive potentialities.
8. To establish consistency between district development plan and regional and national development plans, thereby ensure complementary relationship between them.]
9. Objectives, policies, programmes and guidelines of the national plan have to be made available by the center to the local Panchayats in order to strengthen plan formulation, implementation and evaluation system based on decentralisation. In addition the center has to make timely provisions for physical, financial and human resources for the local Panchayats, and
10. To develop skilled manpower at the local level.

The above objectives and policies will be reviewed from time to time in an effort to make them capable of fulfilling an increasing needs and aspirations of local people as reflected in the broad objectives of the decentralisation policy.

4. Approaches to be Adopted in the Implementation the District Development plan during the Seventh Plan Period

The local institutional arrangement, local leadership and local resources and skill have an important role to play in the development process in injection the element of dynamism in national development through sharing of benefits of development among common people and meeting to the greater extent the felt needs of the people. The system of plan formulation, implementation and evaluation at the local level have been designed with the purpose of decentralising the decision making process at the local level on activities necessary to identify and fulfill the actual needs of the districts. In pursuance of this principle, the local panchayat have been authorized to formulate plans according to their needs based on investment outlay set aside by His Majesty's Government for district level projects, grants in-aid of His Majesty's Government and the internal resources of districts, towns and village panchayats.

Decentralisation Regulation 1984 contains detailed provision will direct the process of plan implementation in the districts. Nonetheless, the following point are fundamental from the view point of policies to be adopted in this area .

1. Major role of local people in implementation :

One of the main proposes of decentralisation is that those people who are to be the beneficiary from any development projects are required to play major role in their formulation, implementation and evaluation. It is therefore necessary that village and town panchayats including consumers societies to play active role in the formulation, implementation and evaluation of the plan

2. Need for institutional development:

It is necessary to emphasise the development of local institutions for the self-sustaining of development process at the local level, for the fulfillment of local needs and for the plan formulation, implementation and continuous evaluation process to become automatic. The role of institutions above services centres is to support such institutional development at the panchayat level.

3. Monitoring and review:

All civil servants and people's representative working at different levels are required to be held completely accountable for the resources under their responsibility. Hence, to streamline financial administration at every level under the decentralized system, internal and other appropriate auditing will be conducted.

4 Monitoring and review:

Monitoring and review of all development plans under implementation will be properly undertaken. The village Panchayats and district Panchayat secretariats and service centres will be encouraged to take appropriate decisions on the basis of timely review of the plans under execution.

5. Manpower:

There has been a dearth of skilled manpower particularly at the local level for the smooth operation of development plans. It is evident that the scarcity of the manpower will be more acute because of the decentralised planning leading to increase in the number of the projects at the local level. It is possible to train gradually local people duly nominated by each consumer's society at its own cost fro the operation and maintenance of its projects. likewise, such training programmes can prepare manpower for undertaking projects at eh local level such as agriculture, livestock, forestry development etc. This might require some motivation at the village level. It is also vitally important for the success of this measure to institute a system in which the technical personal thus produced are provided with some honorarium by those people who make use of their services rather than paying them salaries by His Majesty's Government of district Panchayats.

5. Resources Policies in the Context of Decentralised District Development

Provision relating to resources prior to decentralization:

The practice so far has been to make provisions for resources in the budget of the concerned ministry itself for the formulation and execution of plans at the district level and to disburse resources to districts charging on the budget. In this system, it was not possible for any district to know in advance the magnitude of the resources that would be available for sectoral programmes in their area.

In an uncertain situation as this, there was no environment to necessarily pay attention to and to concentrate efforts for, the mobilisation of maximum resources at the local level for the fulfillment of unlimited needs of the districts in accordance with the priority laid down. Contrary to that, the emphasis of all the districts and even competition among them was on and for implementing development programmes of the districts with maximum of resources drawn from the central level. Delegations from almost all districts of the kingdom travelling all the way to the centre seemed to have been motivated by such tendency.

New Arrangement under the Decentralised System;

To switch over from erstwhile unhealthy system to new one some very fundamental policy prescription have been provided in the decentralised planning and implementation system in order to mobilise maximum resources from local sources for development. As mentioned in earlier chapters, every ministry concerned with district development is required to identify central and district level programmes depending upon their nature, on the basis of the criteria provided in the decentralisation regulation. following the procedure of resource allocation in the Seventh Plan, the amount of the resources to be earmarked for district level programmes will be determined and each district will be informed in time accordingly.

This kind of system to provide prior information on resources available and on this basis, to formulate district plan is likely to create an environment where people's representatives on public servants are compelled to take important but nonetheless difficult decision in their capacity as planners on district development plan and the resource disbursement. the decision is how to maximize returns throughout the disbursement of available scarce resources on the basis of priority laid down to the advantage of majority of the district population in the face of their unlimited aspirations and needs, no matter how painful these decision are, local people and public servants involved in the district development activities are bound to take these decisions under the present decentralisation system.

This system will create favorable impact on local resource mobilisation. It is but natural for different projects or communities to be indirect competition with each other in their efforts to draw an increasing share of limited resources, since these resources are limited any time in any districts whose necessities are unlimited. As a consequence, it is imperative to mobilise labor, cash or other resources to promote local development. Only in this situation can the increasing development works be initiated in accordance with the local people's aspirations. Hence, this kind of decentralised system will urge the local leadership to refrain from indulging in any cheapslogans of voluntary labour contribution or to levy taxes during the election times and instead, it will be encouraged toward the task of convincing people on the need to mobilise increasing resources in the form of taxes, donations, voluntary contribution etc. at the local level so as to speedily fulfill people's aspirations.

The awareness among the local people towards resources as a result of the present system will eventually pervade the central level disbursement process also. It is because resources to meet local aspirations are limited and so is the resource base usually, and therefore in their efforts to increasingly mobilise resources from the central sources, local people will be devoting their attention on the pattern of the priority-setting of the centre and the resources disbursement also. The local panchayats will thus act as the pressure group, gradually forcing the centre to adopt realistic pattern of priority setting and to pursue less expensive methods of development and to reorient these to a greater extent towards local needs.

It is because of the above reasons, that the provision of prior information on resources to be made available from the centre for the sake of local periodic and annual plan has been made under the decentralisation system. Furthermore, this is why according to the Decentralisation Act, 1892, any procedure of resources disbursement to the district level programmes are considered as irregular except in accordance with the district development plan. this will put an end to the practice of visiting the centre, be it as delegates or in any other way, to obtain additional resources for district development either through real or fictitious sources.

Nature of the recently formulated district development plan and works to be done:

Although district development plans have not been received from all the districts for the Seventh Plan, yet an analysis of those received from all districts has clearly revealed the tremendous gulf existing between needs and the availability of resources. The list of the proposed projects of the districts far exceeded the estimates of His Majesty's Government of financial resources for different projects. Amongst these projects, most of them lack cost estimates, and as such it was not possible to ascertain the exact size of investment from the list of the districts. Despite these, on the basis of what priority are the limited resources allocated to the

districts to be disbursed amongst unlimited needs is the major formulation task or the planning decision that has not been taken at the district level has clearly been in evidence.

Against the background of above shortcomings, the following process needs to be followed while formulating annual district development plans during the Seventh Plan period.

1. Cost estimates of projects incorporated in the periodic district development plan are required to be carried out and the objective information collected and documented properly.
2. once the cost estimates of the proposed projects are known,, priority has to be assigned to projects against the background of new information available with due consideration to the benefits to be derived from them and
3. Out of the projects thus determined, it is necessary to implement priority projects included in each year's annual plan gradually within the frame work of the total availability of local and external resources and appropriate priority listing.

Policy to be followed regarding resources investment and release of funds:

In connection with formulating annual district development plan as mentioned above, resources to be derived from the centre every year as well as those to be mobilized at the local level are required to be invested in projects and while doing so , if the project under consideration is targeted to be completed within the fiscal year, all the total resource including cash, labor, etc. required to complete the project is to be earmarked. failure to do so by allocating insufficient resources over a large number of projects for investment will lead to the accumulation of incomplete projects, thus resulting in the wastage of funds. Such an approach is contrary to the resource policy of the seventh Plan. No agency should adhere to such a policy as this would lead to an emergence of a situation where plan formulation can hardly be done following the sectional guidelines.

Even in case of projects which connote be completed within a given fiscal year, it is necessary to make provisions in the budget for enough resources required for that entire year. In addition, such an incomplete project has necessarily to be accorded priority in the following fiscal year.

6. Proposed Investment pattern for District Level Programmes Under the Seventh Plan

The information on total investment for district development programmes under different sectors having such components under the decentralisation planning procedure of the Seventh Plan and , out of this, resources set aside for these programmes are given in the following tables. Accordingly, out of the proposed investment of Rs. 24368.20 million allocated for 13 different sectoral programmes, Rs. 6345.55 million is earmarked for district level programmes. In other words, out of the total investment of the Seventh Plan, about 26.04 percent has been set aside for the district development programmes.

In terms of the regional breakdown of the total investment set aside for district development programmes, the eastern Development Region has been allocated Rs. 1258.12 (19.83 percent), Central Development Region Rs. 1795.53 million (28.30 percent), Western Development Region Rs. 1638.44 million (25.82 percent), Mid-western Development Region Rs. 1004.82 million (15.83 percent) and Far western Development Region Rs. 648.64 million (10.22 percent). Tables with this information along with those for each development region and districts separately have been presented as follows;

TEBLE 1
Allocation Set Aside for District Level Programmes
By Different Ministries Under the Seventh Plan
And Their Percentage

in Thousand rupees
Seventh Plan

S.N.	Sectors	Total amount	District Level	
			Amount	Percentage
	Agriculture, Forestry and Irrigation	8,47,88,00	1,60,82,91	18.97
1.	Agriculture	3,98,30,00	77,62,91	19.49
2.	Irrigation	3,29,63,00	58,75,00	17.82
3.	Sajha	1,77,00	1,00,00	56.50
4.	Forest	1,18,18,00	23,45,00	19.84
	Industry,m Mining and Power	5,24,10,00	71,38,45	13.42
5.	Cottage Industry	39,95,00	6,59,45	16.51
6.	Electricity	4,80,71,00	64,45,00	13.41
7.	Tourism	3,44,00	34,00	9.88
	Transport and Communication	3,58,06,00	58,87,10	16.44
8.	Roads	3,36,45,00	69,45,00	11.73
9.	Suspension Bridges	21,61,00	19,42,10	89.87
	Social Services	7,06,78,00	3,43,47,09	48.60
10.	Education and culture	3,00,07,00	1,34,16,61	44.62
11.	Health	1,33,70,00	43,03,85	32.19
12.	Drinking Water	98,90,00	11,19,35	11.32
13.	Panchayat			
	a. Development Greants	1,00,00,00	1,00,00,00	
	b. Other	73,48,00	55,07,28	89.39
	Total	24,36,82,00	6,34,55,55	26.04

TEBLE 2
Proposed Investment For District Level Programmes Under
The Seventh Plan By Development Regions

Sectors	Development Regions					
	Eastern	Central	Western	Mid-western	Far-Western	
Culture, Forestry, Irrigation	28,65,80	41,45,78	48,04,17	28,99,26	13,67,87	1
Agriculture	14,59,21	22,54,66	21,81,26	12,21,80	6,45,98	
Forest	5,45,89	7,52,06	4,19,57	4,41,42	1,86,06	
Irrigation	8,33,00	11,13,00	21,76,00	12,24,00	5,29,00	
Sajha	27,70	26,06	27,34	12,07	6,83	
Industry, Mining and Power	6,74,22	32,00,19	23,68,43	5,59,72	3,35,89	
Electricity	5,15,00	30,25,00	22,00,00	4,45,00	2,60,00	
Tourism	10,00	3,00	21,00	-	-	
Handicraft Industry	1,49,22	1,72,19	1,47,43	1,14,72	75,89	
Transport and Communication	11,15,10	13,38,00	13,24,30	13,77,50	7,32,20	
Roads	7,45,00	9,50,00	8,60,00	9,50,00	4,40,00	
Extension Bridges	3,70,10	3,88,00	4,64,30	4,27,50	2,92,20	
Social Service	79,26,06	92,71,34	78,87,57	52,11,65	40,50,47	3
Education	33,12,67	36,44,67	36,77,26	16,47,04	11,34,97	1
Health	10,39,41	12,55,81	9,40,42	5,85,76	4,82,45	
Drinking Water	2,00,06	3,70,33	2,23,37	1,70,85	1,54,74	
Panchayat Development Grants	22,75,55	25,91,90	20,56,10	18,57,20	12,19,25	1
b. Others	10,98,37	14,08,63	9,90,42	9,50,80	10,59,06	
Total	1,25,81,18	1,79,65,31	1,63,84,47	1,00,48,16	64,86,43	6
Percent	(19.83)	(28.30)	(25.82)	(15.83)	(10.22)	

TABLE 3
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: Eastern

in Thousand rupees

Sectors	Taplejung	Panchthar	Illam	Jhapa	Sankhuwasabha	Terhathum	Dhanku
Forestry, and	60,12,	1,30,30	1,98,57	1,39,93	1,52,31	1,59,24	2,77,03
ire	31,35	31,09	54,86	66,29	84,91	82,63	1,98,68
	28,63	28,05	19,55	32,44	17,36	26,45	38,19
1	-	70,00	1,12,00	36,00	50,00	50,00	40,00
	14	1,16	4,16	3,20	14	16	16
lining and Power	4,58	4,35	1,06,59	1,11,29	8,21	13,03	43,35
ty	-	-	80,00	10,00	-	-	30,00
	-	-	10,00	-	-	-	-
	4,58	4,35	16,59	11,29	8,21	13,03	13,35
nd Communication	45,20	88,20	88,18	79,16	75,20	47,20	1,2720
	15,00	50,00	50,00	50,00	30,00	20,00	10,000
on Bridges	39,20	38,20	38,18	29,16	27,20	27,20	27,20
ice	3,72,62	4,07,59	5,45,62	7,47,86	5,01,72	4,71,08	5,31,00
on	1,93,30	1,90,62	2,42,82	3,78,82	1,78,56	1,55,78	1,59,80
	7,36	16,31	37,10	1,08,09	70,81	75,20	1,07,74
g Water	-	-	-	-	-	-	--
	8,21	11,97	10,00	10,00	6,00	27,27	10,00
ment Grants	1,38,75	1,37,80	1,72,55	1,79,45	1,48,55	1,25,40	1,76,50
	25,00	50,89	53,09	72,10	97,80	87,43	76,96
Grand Total	4,91,52	6,30,44	9,38,06	10,78,24	7,19,44	6,90,55	7,78,58

TABLE 3 (contd.)
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: Eastern

in Thousand rupees

Sectors	Morang	Bhojpur	Khotang	Okhaldhunga	Udayapur	Soul	Siraha	Saptari
Agriculture, Forestry, and Irrigation	1,16,61	1,25,80	1,36,01	1,51,82	4,51,35	96,08	2,97,65	2,73,82
Agriculture	67,41	37,64	34,21	43,62	1,89,47	28,12	2,34,79	2,13,12
Forest	43,00	28,02	36,60	31,10	40,72	22,78	57,66	53,50
Irrigation	-	60,00	65,00	77,00	2,20,00	45,00	-	-
Transport	6,20	14	20	10	1,16	18	5,20	5,20
Industry, Mining and Power	1,22,40	17,50	12,28	4,35	5,33	4,77	83,21	96,49
Electricity	1,15,00	-	-	-	-	-	70,00	90,00
Tourism	-	-	-	-	-	-	-	-
Industry	7,40	17,50	12,28	4,35	5,33	4,77	13,21	6,49
Transport and Communication	1,24,20	46,38	47,20	43,20	76,20	34,20	50,00	50,00
Buildings	1,00,00	40,00	15,00	15,00	50,00	10,00	50,00	50,00
Extension Bridges	24,20	638	32,20	28,20	26,20	24,20	-	-
Service	7,24,71	4,91,82	4,38,29	3,68,79	4,30,85	3,47,74	5,34,14	5,38,72
Education	3,27,30	1,95,98	1,86,69	1,22,28	1,35,68	1,19,71	1,90,62	2,56,28
Health	2,14,76	69,54	43,65	60,06	30,47	28,91	78,77	20,29
Drinking Water	10,00	12,32	3,75	6,00	8,00	16,54	25,00	25,00
Welfare								
Development Grants	1,14,75	1,26,55	1,40,20	1,37,45	1,24,60	1,52,00	1,34,75	1,32,15
Others	57,90	87,43	64,09	43,00	1,32,10	30,58	1,05,00	1,05,00
Total	10,87,92	6,81,50	6,30,78	5,68,16	9,63,73	4,82,79	9,65,00	9,57,03

TABLE 4
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: central

in Thousand rupees

S.N.	Sectors	Dolakha	Ramechhap	Sindhuli	Sarlahi	Mahotari	Dhanusha
	Agriculture, Forestry, and Irrigation	1,33,48	1,36,03	5,80,14	1,45,90	1,00,83	4,20,75
1.	Agriculture	62,70	60,46	2,87,99	1,08,79	56,63	3,54,30
2.	Forest	29,60	30,42	22,00	36,91	44,00	57,23
3.	Irrigation	40,00	45,00	2,70,00	-	-	-
4.	Sajha	118	15	15	20	20	922
	Industry, Mining and Power	1,08,06	385	417	37,23	96,99	2,51,99
5.	Electricity	90,00	-	-	30,00	90,00	2,45,00
6.	Tourism	-	-	-	-	-	-
7.	Industry	18,06	385	417	723	699	699
	Transport and	77,31	87,31	77,31	50,00	50,00	50,00

Communication							
8 Roads	50,00	50,00	50,00	50,00	50,00	50,00	50,00
9. Suspension Bridges	27,31	37,31	27,31	-	-	-	-
Social Service	60775	4,43,85	4,11,98	3,53,50	4,42,89	5,62,61	
10. Education	1,47,74	1,61,14	1,43,72	1,86,60	1,39,70	2,37,52,	
11. Health	61,20	46,72	80,87	51,00	1,31,24	1,59,44	
12. Drinking Water	29,07	600	800	37,00	37,00	37,00	
Panchayat							
a. Development Grants	1,40,80	1,26,00	1,29,40	76,00	1,33,95	1,27,75	
b. Others	2,28,74	1,03,99	49,99	290	100	90	
Grand Total	9,26,40	6,71,04	10,73,60	5,86,63	6,90,71	1,28,535	

TABLE 4 (Cont'd)
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: central

in Thousand rupees

S.N.	Sectors	Chitwan	Kath.	Bhaktapur	Lalitpur	Kavre	Sindhu	Rasuwa
	Agriculture, Forestry, and Irrigation	78,28	1,51,38	1,45,33	1,51,99	2,09,51	1,87,69	1,06,24
1.	Agriculture	64,53	55,31	55,50	54,76	61,55	62,47	63,38
2.	Forest	12,55	55,82	49,67	52,68	57,76	54,04	42,70
3.	Irrigation	-	40,00	40,00	40,00	90,00	70,00	-
4,	Sajha	1,20	25	16	4,55	20	18	16
	Industry, Mining and Power	17,38	17,38	7,40	9,71	1,16,55	8,92,17	35,,18
5.	Electricity	-	-	-	-	1,05,00	8,85,00	30,00
6.	Tourism	-	-	-	-	-	3,00	-
7.	Industry	17,38	17,38	7,40	9,71	10,55	4,17	5,18
	Transport and Communication	81,31	1,04,30	64,20	67,30	1,12,31	90,81	34,31
8	Roads	50,00	80,00	40,00	40,00	80,00	50,00	10,00
9.	Suspension Bridges	31,31	24,30	24,30	27,30	32,31	40,81	24,31
	Social Service	4,62,15	6,01,10	4,79,74	5,45,88	6,04,62	6,56,33	2,80,73
10.	Education	2,36,18	3,63,48	1,50,42	2,09,38	2,50,92	1,94,74	58,07
11.	Health	22,73	27,44	751	97,69	99,26	32,36	14,52
12.	Drinking Water	10,00	-	600	30,97	800	14,17	375
	Panchayat							
a.	Development Grants	1,28,50	1,93,10	1,47,55	1,74,75	1,93,35	1,52,20	1,40,00
b.	Others	64,74	17,08	1,68,26	32,83	53,09	2,62,96	64,39
	Grand Total	6,39,12	8,74,16	6,96,77	7,74,88	10,41,99	18,27,00	4,56,46

TABLE 5
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: Western

in Thousand rupees

N.	Sectors	Gorkha	Lamjung	Tanahun	Kaski	Manang	Syanja	Palpa	Ar
	Agriculture, Forestry, and Irrigation	6,03,71	3,14,10	3,04,90	4,24,89	48,02	1,96,08	5,18,62	1,0
	Agriculture	2,94,38	922	1,02,51	3,54,81	28,65	95,84	4,30,53	34,
	Forest	34,13	16,66	17,09	19,88	19,13	46,04	23,77	15,
	Irrigation	2,75,00	2,05,00	1,80,00	50,00	-	5000	60,00	5,0
	Sajha	20	16	530	20	24	420	432	18
	Industry, Mining and Power	3,79,67	5,04,67	4,53,45	5,63,03	434	558	30,05	417
	Electricity	3,75,00	5,00,00	4,40,00	5,50,00	-	-	-	-
	Tourism	-	-	-	-	-	-	11,00	-
	Industry	467	467	13,54	13,03	434	558	19,05	417
	Transport and Communication	66,79	65,79	82,29	1,06,28	39,29	83,79	1,39,78	79,
	Roads	40,00	40,00	50,00	80,00	15,00	50,00	10,000	50,
	Suspension Bridges	26,79	25,79	32,29	26,28	24,29	33,79	39,78	29,
	Social Service	5,81,56	5,15,23	5,99,32	6,80,30	1,93,94	6,23,17	6,75,81	3,5
	1). Education	2,17,42	1,72,36	3,40,70	3,83,58	31,27	3,29,98	3,67,50	1,6
	2). Health	92,43	63,38	71,33	40,91	777	91,53	46,72	41,
	3). Drinking Water	600	600	1000	10,00	375	11,07	37,60	800
	Unchayat								
	Development Grants	1,21,35	1,20,60	1,24,20	1,67,05	1,26,15	1,37,60	1,70,90	1,1
	Others	1,44,36	52,89	53,09	78,76	25,00	52,99	53,09	25,
	Grand Total	16,31,73	13,99,89	14,39,96	17,74,50	2,85,59	9,08,62	13,64,26	5,4

TABLE 5(contd.)
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: Western

in Thousand rupees

Sectors	Gulmi	Nawalparasi	Rupandehi	Kapilvastu	Parbat	Bagiung	Mayagdi	Mustang
Agriculture, Forestry, and Irrigation	1,35,15	2,01,53	9,81,82	1,24,45	2,10,97	1,14,82	2,13,26	3,05,
Agriculture	47,09	56,81	1,77,12	58,08	55,91	41,00	1,31,31	1,80,
Forest	37,88	24,50	38,50	26,15	34,90	18,64	21,77	25,
Irrigation	50,00	1,20,00	7,55,00	40,00	1,12,00	55,00	60,00	1,00,
Sajha	18	22	11,20	22	16	18	18	:
Industry, Mining and Power	443	1,36,08	1,56,20	66,41	734	17,24	14,28	21,
Electricity	-	1,30,00	145,00	60,00	-	-	-	
Tourism	-	-	-	-	400	-	200	50
Industry	443	608	11,20	641	434	17,24	12,28	16,
Transport and Communication	79,19	1,04,28	1,24,28	1,29,79	50,79	65,79	54,09	52,
Roads	50,00	80,00	1,00,00	1,00,00	25,00	30,00	25,00	25,
Suspension Bridges	2919	24,28	24,28	29,79	2579	3579	2909	27,
Social Service	4,91,48	3,84,11	5,79,29	4,09,11	4,52,49	5,36,15	4,60,50	3,48,

2023
 Wirtschaftsprüfung
 für Diplom-
 Wirtschaftsprüfer

Doppelprüfung

	2022	2021	2020	2019	2018	2017
	3	4	5	6	7	8
	9	10	11	12	13	14
	15	16	17	18	19	20
	-	-	-	-	-	21
	22	23	24	25	26	27
	28	29	30	31	32	33
	-	-	-	-	-	-
	-	-	-	-	-	-
	34	35	36	37	38	39
	40	41	42	43	44	45
	46	47	48	49	50	51
	52	53	54	55	56	57
	58	59	60	61	62	63
	64	65	66	67	68	69
	70	71	72	73	74	75
	76	77	78	79	80	81
	82	83	84	85	86	87
Summe	88	89	90	91	92	93

TABLE 7 (Contd)
Districtwise Information on Proposed Investment
For District Level Programmes
Under the Seventh Plan

Development Region: Far-Western

in Thousand rupees

S.N.	Sectors	Dandeldhura	Kanchanpur	Total	Kingdom
	Agriculture, Forestry, and Irrigation	99,49	61,54	13,67.87	1,60,82,91
1.	Agriculture	78,77	49,51	6,45,98	77,62,91
2.	Forest	20,55	7,73	1,86,06	23,45,00
3.	Irrigation	-	-	5,29,00	58,75,00
4.	Sajha	17	430	683	1,00,00
	Industry, Mining and Power	65,19	1,97,32	3,35,89	71,38,45
5.	Electricity	60,00	1,00,00	2,60,00	64,45,00
6.	Tourism	-	-	-	34,00
7.	Industry	5,19	7,32	75,89	6,59,45
	Transport and Communication	1,78,91	1,23,41	7,32,20	58,87,10
8.	Roads	1,50,00	90,00	4,40,00	39,45,00
9.	Suspension Bridges	29,91	31,41	2,92,20	19,41,10
	Social Service	4,93,80	3,19,37	40,50,47	3,43,37,09
10.	Education	94,14	1,07,54	11,34,97	1,34,16,61
11.	Health	57,18	67,03	4,82,45	43,03,85
12.	Drinking Water	20,77	10,00	1,54,74	11,19,35
	Panchayat				
a.	Development Grants	1,11,55	1,20,90	12,19,25	1,00,00,00
b.	Others	2,10,16	13,90	10,59,06	55,07,28
	Grand Total	8,38,39	6,11,64	64,86,43	6,34,55,55