



SIXTH FIVE YEAR PLAN

1980-85

Draft Proposals

from

GOVERNMENT OF SIKKIM

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GOVERNMENT OF SIKKIM

GANGTOK

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Introduction

Pre-Merger

The process of planned economic development in Sikkim was initiated in 1954 when a Seven year plan from 1954 to 1961 was formulated with the help of a technical team of the Planning Commission. This was followed by three-Five year plans namely the plans for 1961—66, 1966—71 and 1971—76. Sikkim became a part of the Indian Union in May, 1975 when the Fourth plan was drawing to a close. The Fifth plan thus started from 1-4-1976. It was expected to terminate in the year 1979 and consequently the plan would have been only of a three year duration. However, the Fifth plan had to undergo the changes in its duration in accordance with the changes effected in the rest of the country when the plan was terminated in 1978 and the rolling plan from 1978 to 83 was formulated. This has now again been modified and consequently the plan from 1976-77 to 1979-80 is deemed to be the Fifth plan which would thus have a duration of four years for the state.

The table below shows the actual investment in the first four plans or roughly the pre-merger period.

Rupees in lakhs

Sector	First Plan (1954-61)	Second Plan (1961-66)	Third Plan (1966-71)	Fourth Plan (1971-76)
1	2	3	4	5
1. Agriculture & allied Industries (Primary sector)	53.00 (16.4)	103.00 (16.00)	137.00 (44.00)	817.00 (16.9)
2 (i) Power	30.00 (9.2)	54.00 (8.4)	71.00 (7.3)	108.00 (5.8)
(ii) Industry Mining & Commerce	18.00 (5.6)	12.00 (1.9)	79.00 (8.1)	182.00 (9.7)
Total Secondary Sector	48.00 (14.80)	66.00 (10.30)	150.00 (15.40)	290.00 (15.50)
3. (i) Road & Transport	156.00 (48.2)	308.00 (48.00)	462.00 (47.6)	773.00 (41.3)
(ii) Education	23.00 (7.1)	79.00 (12.4)	77.00 (7.9)	164.00 (8.7)
(iii) Health	23.00 (7.1)	46.00 (7.2)	91.00 (9.4)	74.00 (3.9)
(iv) Co-operation	5.00 (1.5)	2.00 (0.3)	17.00 (1.7)	10.00 (0.5)
(v) Misc.	16.00 (4.9)	37.00 (5.8)	38.00 (3.9)	247.00 (13.2)
Total tertiary Sector	223.00 (68.8)	472.00 (73.7)	685.00 (70.5)	1268.00 (67.7)
G. Total	324.00 (100.00)	641.00 (100.00)	972.02 (100.00)	1875.00 (100.00)

Note : Figures in brackets are percentages to total.

From this table, it is clear that the main emphasis had been on the development of the infrastructure mainly under Roads and Transport. Out of a total expenditure of Rs. 324 lakhs in the first plan as much as Rs. 156 lakhs was spent on this item. It constituted 48.2% of the total investment. The investment in the later two plans was also of the same order. In the fourth plan, out of the total investment of Rs. 1,875 lakhs, the share of the Roads & Transport sector was Rs. 773 lakhs or 41.3%. This investment pattern is natural in hilly and difficult terrain since the process of planned economic development in such areas has a direct relationship with investments made in the communication sector of the economy. The primary sector, i.e. agriculture has been getting a share of about 16% throughout the four plans.

Post Merger

The planning process, as in the rest of the country, can be assumed to have started in Sikkim only after it became a part of the Indian Union in 1975. Whereas the maximum expenditure for the fourth plan (1971—76), i.e. a period of 5 years was Rs. 1,875 lakhs, the investment for the year 1976-77 alone was Rs. 1,167 lakhs. The yearly investment under the plans has since been progressively increasing and has almost crossed the Rs. 1,800 lakh mark during the year 1979-80 as can be seen from the following table :

Sector	1976-77 Actuals	1977-78 Actuals	1978-79 Actuals	1979-80 Actuals
(1)	(2)	(3)	(4)	(5)
1. Agriculture & allied Sector	289.50	314.39	490.27	514.11
(Primary Sector)	(25.1)	(24.9)	(30.8)	(28.9)
2. (i) Water Development	2.60	0.00	0.00	0.00
(ii) Irrigation Project	23.1	24.71	0.000	—
(iii) Flood Control	—	—	—	4.28
(IV) Power Project	128.5	80.04	144.88	208.74
(V) Industry & Mining	56.9	90.83	86.55	143.68
Secondary Sector	211.1	195.58	231.13	356.70
	(18.1)	(15.5)	(14.5)	(20.0)
3. (i) Roads, Transport & Communication	358.4	337.11	402.92	491.01
	(30.7)	(26.7)	(25.3)	
(ii) Education	98.6	99.04	126.65	99.89
(iii) Health	45.3	75.60	65.49	28.41
(IV) Co-operation	16.7	16.21	17.33	18.15
(V) Misc.	147.9	223.45	258.69	271.45
Tertiary Sector	666.9	751.41	871.08	908.91
	(57.1)	(59.6)	(54.7)	(51.1)
Grand Total	1167.5	1261.38	1592.48	1779.72
	(100.0)	(100.0)	(100.0)	(100.0)

With the increase in Plan investments, the share of the primary sector has steadily gone up from 25% in 1976-77 to 29% in 1979-80. This is because of the increased emphasis on rural

development in general and agriculture in particular. Increased investment in the industrial sector including small scale and village industries has also boosted the share of the secondary sector to 20% in 1979-80. The thrust of plan activities has thus steadily changed from massive investments in the communication sector to a build up in the Agriculture and allied sectors which is as it should be, considering the preponderance of the rural population in the State. The investment pattern in the Sixth plan is proposed to be continued on the same lines.

The Land and the People

Before delineating the objectives and strategy of the sixth plan, a brief description about the general features of the State, both physical and demographic is a must to appreciate the special problems of the state.

Physical Features

Sikkim has an area of 7299 sq. kms. The State is almost rectangular, 114 km. long and 64 km. wide. It is bound by Bhutan on the East, by Nepal on the West, by Tibet on the north and by Darjeeling Distt. of West Bengal on the South. The terrain is hilly with very little flat area. The elevation varies from 300 metres to 5,500 metres. The habitable area is normally up to 2,100 metres, which constitutes about 20% of the total area of the State.

Population

The population of Sikkim according to Census 1971 was 2.10 lakhs out of which 1.90 lakhs (91%) belonged to the rural areas. The density of population is low and varies from region to region. The average density in 1971, was 29 per square km. against the average of 155 for India. The current population of Sikkim is estimated at 3.00 lakhs giving a density of 41 per sq. km.

Composition of the Population

Majority of the people (70 %) are from Nepalese stock. The Bhutias and Lepchas (Sikkim stock) constitute about 30% of the population. According to census — 1971, three castes have been classified as Scheduled Castes — these are Kami, Damai and Sarki. Their total population in 1971 was 9,502. Later in June 1971 Bhutias, Lepchas and Sherpas were notified as Scheduled Tribes.

Languages

The three main languages of the State are Nepalese (spoken by about 90% of the population), Bhutia (about 28%) and Lepcha (about 10%). Hindi is generally understood by majority of the people.

The Working Force

The Census 1971 recorded 111,607 workers out of the population of 209,843. This gives a participation rate of 53.2%, which is appreciably higher than all—India average of 32.9%. Such high participation rates are also observed in other North Eastern States such as Arunachal Pradesh (57.7%), Nagaland (50.8%) and Meghalaya (44.2%). The high participation rate is perhaps dictated by the climate and rigours of nature in these areas. It does not appear to be because of excessive pressure on manpower. This phenomenon is consistent with high levels of under employment. Women enjoy more or less equal status as compared to men and they participate fully in economic activities.

Livelihood Pattern

The Table below gives the distribution of the working population according to various industrial classifications, according to 1971 census figures.

	Total Population	Total Male	Total Female
Total population	100 (209,843)	100 (112,662)	100 (97,181)
1. Total Workers	53.2	63.0	41.8
(i) Cultivators	43.1	46.9	38.6
(ii) Agricultural Labourers	1.9	2.6	1.3
(iii) Livestock, Fisheries, Forestry, Hunting, Plantations, Orchards and allied activities	N	N	N
(iv) Mining & Quarrying	N	N	N
(v) Household industry	N	N	N
(vi) Manufacturing (other than household industry)	N	N	N
(vii) Construction	1.8	3.1	N
(viii) Trade & Commerce	1.1	1.9	N
(ix) Transport, storage & Communications	1.0	1.4	N
(x) Other Services	3.3	5.5	N
Non Workers	46.8	37.0	58.2

N: Less than 1 Percent

This pattern indicates that the thrust of the plans will have to be towards the welfare of cultivators and others dependant on land. At the same time the negligible numbers in household industry gives food for thought that if something basic is done income levels can be augmented. In fact it is well known that as long as the major proportion of the population remains dependent on agriculture for its livelihood, it is well nigh impossible to raise the income levels of the people. The only alternative is to reduce the dependance on land. This can be done by planned industrial growth, including village and small scale industries. There has in fact, been a steady growth in investment in the sector. Whereas during the first four plans, a period of 13 years, the total investment under this sector was of the order of Rs 291 lakhs or about Rs. 22 lakhs per year, the proposed investment in a single year i.e. 1980-81 is 80 lakhs. In the last four years some important industries have come up. Special mention could be made of the Sikkim Time Corporation, which is a joint venture unit, assembling HMT watches. This unit which is prospering, proposes to start manufacture of various parts used in watches. Other units which have come up in the recent past are a Rallor Flour Mill, and one or two units engaged in the manufacture of wood products. Many more private sector units are also coming up like Hume pipes, Bakeries etc. and considerable emphasis is being given to the development of a whole array of small scale consumer goods industries. For this purpose, industrial estates are also being set up. It is hoped that in due course all these industries will take root and contribute to the industrial growth of the State.

Position and Growth of Agricultural Crops

According to available statistics on land use which are based on old records of the survey and settlement operations carried out during the 1950's, the land use pattern was as under :—

Type of land	Area in '000' hectares	percentage to total
1.	2	3
Area under Forest	262.14	36.2
Barren and unculturable	204.80	28.3
Permanent pastures	102.40	14.1
Land under miscellaneous tree crops and graves	4.00	0.6
Land under Cultivation, unaccounted for	81.26	11.2
	69.26	9.6
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Total :	723.86	100.00
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Only about 12% of the total area, or 85,000 hectares is under cultivation. A little over 100 thousand hectares comprise pasture lands. Forests account for over 35% of the total area and about an equal portion is barren and uncultivable.

The important crops in the State are maize, paddy, Cardamom, oranges, apples, potatoes and ginger. The area under various crops is estimated as under :

Distribution of area according to Crops

Crops	Area in hectares	Percentage of total
1. Maize	30,200	31.5
2. Paddy	14,800	15.4
3. Cardamon	14,000	14.6
4. Orrange	2,620	2.7
5. Apple	500	0.5
6. Potato	1,900	2.0
7. Weat & Barley	10,200	16.6
8. Buck-wheat	2,760	2.9
9. Millets	5,000	5.2
11. Peas, Beans pilses	6,700	7.2
11. Ginger	640	0.7
12. Oil seeds	3,000	3.2
13. Others	3,512	3.7
Total	95,832	100.00

Development of Power Generation and Consumption

At the time of integration of Sikkim in 1975-76, the total installed capacity in the State was of the order of 3043 Kw. There was practically no change in the capacity up to 1978-79. It was only in Sept. 1979 that the Lower Lagyap Project started functioning and made available an additional 2 MW of power to the State. The total installed capacity of the Lower Lagyap Project when completed will be 12 MW. So far only one unit of 6 MW has been commissioned and this has a firm capacity of only about 2 MW during the lean period (winter months) due to lack of adequate water in the channel. The table below shows the position of electricity produced and consumed since 1975-76 to 1978-79.

Item	1975-76	1976-77	1977-79	1978-79
Gross total generation (KWH)	7707	8568	9739	11297
Consumed in power houses - (KWH)	7	6	9	7
Total sold (KWH)				
Domestic/Commercial sales (KWH)	5716	6349	7236	8271
Industrial sales (KWH)	1470	1617	1899	2320
Public lighting (KWH)	30	35	45	53
Supply to bulk Consumer (KWH)	483	513	721	800
Public water works	50	68	85	90

Literacy Trends and School Statistics

The percentage of literacy in the State according to the census of 1971 shows an overall literacy percentage of 20.22%. This is much below the All India Level which is of the order of 34.45%. A distressing feature is that the illiteracy rate is much more among women, literacy rate for women being 10.31% as against 28.52% for the males. Compared to the All India level where the percentage for males and female is 45.95% and 21.97 respectively, the percentage is very disturbing. As a matter of fact the literacy percentage in Sikkim is the second lowest in the country, it being next only to the Union Territory of Dadra and Nagar Haveli where the overall percentage is reported to be about 15. As a result of the low level of the literacy rate the non-formal education system was introduced in a big way in the State during the fifth plan. The resultant presumption is that the overall literacy percentage has gone up to atleast 25% by the beginning of 1978. A heartening feature when one makes a study into the question of literacy in the State is that in 1931 the percentage of literacy was as low as 3.54% whereas the present presumption is that it is in the region of 25%. Past experience has shown that the receptivity among the population is of a high order so that a concerted attempt to eradicate illiteracy is bound to yield dividends.

The table below shows the number of institutions and the students attending the same since 1970-71.

No. of Institutions	1970-71	1975-76	1979-80
1. Primary School	164	228	320
2. Jr. High Schools	21	22	44
3. High/Higher Secondary Schools	6	8	36
4. Others	—	2	3
5. No. of Students	18,800	20,959	52606

During the Economic Census conducted in July-August 1979 when an assessment of the availability of various basic amenities in the rural areas was made, it was observed that despite rapid growth of educational facilities, there were still some areas where facilities even for primary education were not available. The table below brings out the position clearly.

District	No. of Panchayat units having primary Schools		
	With in Panchayat Unit	Within 1-2-Kms	Beyond 2 kms.
1	2	3	4
East	55	5	8
West	47	4	9
North	21	0	0
South	60	2	4
Sikkim	183	11	21

It shows that even now there are 32 panchayat units from where a primary school is beyond a distance of 1 km.; 21 of these Panchayat units have a school only beyond a distances of 2 kms. Since Primary school children cannot be expected to walk these distance for attending school specially in the difficult terrain of this state, schools have to be provided within a reasonable distance to enable all school going age children to attend schools. The position of availability of middle schools is also far from satisfactory as would be clear from the following table.

District	No. of Panchayat Units having Middle School			
	Within the P. U.	Within 1—2 Kms	Within 3—5 Kms	Beyond 5 Kms
1	2	3	4	5
East	17	5	16	30
West	11	4	17	28
North	9	1	3	8
South	14	2	9	41
Sikkim	51	12	45	107

If education has to make an universal impact, the situation has to be remedied and middle schools have to be provided within reasonable distances.

Growth of health services and trends in communicable diseases.

The position of expansion of health facilities since 1970-71 can be judged from the following table :

	1970—71	1975—76	1978—79
Hospitals	5	5	5
Dispensaries	24	26*	40
Beds	284	357	477

* Including PHC and PHSC's.

In view of the smallness of the state and its low density of population the above facilities may appear to be adequate but in view of the hilly terrain and lack of transport the picture is far from satisfactory. The data collected during the economic census in 1979 revealed that out of 215 panchayat units as many as 150 panchayat units were beyond a distance of 10 kms. from a hospital. The position

regarding PHCs and Dispensaries including PHSCs was also far from satisfactory. 83 Panchayat units were beyond a distance of 10 kms. from a PHC and 42 Panchayat units were at the same distance from even a dispensary. The distance of 10 kms. may not appear to be much but this has to be viewed against the hilly terrain, absence of road transport and heavy rainfall in the region which make it difficult at times to move out of the village.

Data on some of the common communicable diseases are available for two years i.e. 1977-78 and 1978-79 These are as under :

Disease	1977—78		1978—79	
	Treated	Deaths	Treated	Deaths
Tuberculosis	3090	50	1941	22
Syphilis	13	—	39	—
Gonococcal Infection	123	—	59	—
Infectious Hepatitis	127	6	555	4
Malaria	18	1	123	—
Influenza	7682	—	9415	—

The incidence of Tuberculosis appears to be rather high. At present there is only one Hospital catering to T.B. patients at Gangtok with a bed capacity of 50.

Roads & Communications

As has been pointed out earlier a sizable portion of plan funds has been invested under Roads and Communications. During the first four plans more than 44% of the total investment was under this head. With the overall increase in plan allocation since 1976-77 though the actual expenditure under this item has been increasing yet its share in the total expenditure has shown a decline, it being 29.3% in 1976-77, 26.7% in 1977-78, 25.3% in 1978-79, and 24.8% in 1979-80.

Growth of State Income

The total impact of the investment and programmes implemented under the development plans can best be assessed with the help of State Income Estimates. Unfortunately, no such data are available at present. A State Statistical Bureau has been set up recently and it is hoped that in the coming years it would be possible to frame such estimates. An indication of the state income can however be had from the data which the Reserve Bank of India collected during a survey in 1965-66. It came to the conclusion that 80.6% of the net domestic product accrued from agriculture. Since then the growth of industries and other economic activities in the state have not been large enough to have to a sufficient impact. The study team of Institutional arrangements for Agricultural Credit in Sikkim, headed by the Deputy Governor of Reserve Bank of India estimated the value of agricultural production for 1974-75 as Rs. 1,431 lakhs. Assuming some additional income by the sale of agriculture by-products and forest produce, the total income from agriculture during that year could be of the order of Rs. 1,600 lakhs. If this constitutes 70% of the net domestic product, then the value of total net domestic product, for 1974-75 would be Rs. 1,920 lakhs. In view of the increase in prices and some additional development which might have taken place since then, the net domestic product in 1979-80 may be roughly of the order of about Rs.2400 lakhs assuming a growth rate of 5%. The population in the year 1979-80 can be taken around 3.00 lakhs. On this basis the per capital income will work out to Rs. 800 at current prices for that year compared to the All India average which was Rs. 1,081 in 1976-77. This indicates the over all picture of backwardness in the state. The main objective of the present plan is therefore to raise the income level of the people.

The main objectives of the Sixth Plan are briefly spelt out. They are :—

- (a) to formulate an investment pattern in the key sectors of the economy which would progressiv-

ely reduce poverty and under employment and improve the quality of life of the people more particularly in the rural areas.

- (b) to evolve policies in order to ensure that the fruits of economic development are equitably shared among the people of the State.
 - (c) to strengthen the general infrastructure of the economy more particularly in the communication and power sectors so as to generate the impulses needed to stimulate growth in the economy
 - (d) to create greater opportunities in the field of education, both formal and non-formal, in order to improve the general standards of academic attainments in the State to a higher level.
 - (e) to implement a minimum needs programme designed to ensure that all parts of the State attain the basic minimum needs of life in the shortest possible time.
- and
- (f) to evolve special scheme in order to ameliorate the living conditions of the under privileged sections of the population including scheduled castes and scheduled tribes.

The above objectives are consistent with the main National objectives which are reproduced below—

- (i) a significant step up in the rate of growth of the economy, the promotion of efficiency in the use of resources and improved productivity.
- (ii) strengthening the impulses of modernisation for the achievement of economic and technological self-reliance.
- (iii) a progressive reduction in the incidence of poverty and unemployment.
- (iv) a speedy development of indigenous sources of energy, with proper emphasis on conservation and efficiency in energy use.
- (v) improving the quality of life of the people in general with special reference to the economically and socially handicapped population, through a minimum needs programme whose coverage is so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards.
- (vi) strengthening the redistributive bias of public policies and services in favour of the poor contributing to a reduction in inequalities of income and wealth.
- (vii) a progressive reduction in regional inequalities in the pace of development and in the diffusion of technological benefits.
- (viii) promoting policies for controlling the growth of population through voluntary acceptance of the small family norm.
- (ix) bringing about harmony between the short and long term goals of development by promoting the protection and improvement of ecological and environmental assets, and
- (x) promoting the active involvement of all sections of the people in the process of development through appropriate education, communication and institutional strategies.

Taking note of these objectives and the fact that the majority of the population in the State are in the rural areas the thrust of the plan programmes will necessarily be in the agriculture and allied sectors. The surest and best way of reducing poverty levels and increasing employment opportunities in the rural areas is to utilise to the fullest extent possible the capacities of land. Whether it be in field crops or in horticulture, the strategy proposed to be adopted during the plan would be to engage the rural population in farm activities in one way or the other during the larger part of the year. By this, one does not mean merely work on the land but also interrelated activities including farm storage and marketing. The cardinal principal to be followed in agriculture would be to produce more, consume more, conserve more and to trade more. In order to achieve this objective; there is no need to mention that the active involvement of the people with the administrative machinery

is a necessary precondition and consequently the VLWs would be given a crucial role to play in extension technology for which there will be more emphasis on farm service, inservice training and in organising special extension seminars. A part from the strategy of making the land more productive and keeping the villagers busier in their environments an all out attempt will be made to improve the quality of life in the rural areas. The approach to be adopted could be termed as a household approach wherein the needs of each and every household would be assessed by the administrative machinery. Schemes operated under the agency of the SFDA will be reshaped under the household approach and every attempt would be made to see that the rural requirements of the farmer are made available. This will necessitate a definite improvement of the credit infrastructure since timely availability of inputs plays a crucial part in the planning mechanism. The absence of an Apex bank for channelising short term, medium term and long term credit at the farm level has been actually felt and consequently a priority item in the plan would be to make good this deficiency by converting the State Bank of Sikkim into an Apex cooperative bank. This Bank would be a multipurpose institution which would also function as a Lead bank. The advent of the Lead bank is expected not only to improve the credit availability but also to monitor the progress of schemes and create impulses for new schemes. Being an area where horticulture has certain natural advantages, greater effort would be made to extend the area under fruit bearing trees including cardamom and tea so that the natural advantages of climate can be made use of, for production and supply of seeds like potatoes, fruits and cardamom to the major consuming centres. The main strategy to accelerate the growth rate in this sector would be to set up progeny orchards which would produce the required seedlings. In rural areas one cannot escape the fact that there are lean seasons. Many of the people of Sikkim land themselves into great trouble during the lean period and sometimes get indebted to private money lenders, so much so, that the full value of their production does not percolate to them. In order to avoid the maladies of a lean season the Food for Work programme will be implemented during the plan period. Areas which are particularly susceptible to adverse seasons would be specially selected for the purpose of implementing schemes under the Food for Work. Since not all the under employed persons in the rural areas can be brought within the purview of Food for Work programmes another National programme of TRYSEM will also be implemented on a wider scale so that rural youth could imbibe modern techniques and go back to their villagers for starting their own units which could bring in extra income.

The role of Small Scale Industries in this context cannot be over emphasized. Although the State is for all intents and purposes, an agrarian one, unless a part of the active labour force is diverted to the secondary sector there would be a danger of surplus labour particularly during lean periods. It is therefore necessary to absorb them in unsophisticated tiny industries. A section of the population have certain inherent traditional skills particularly so among women. Attempts will therefore be made to harness such potential and put it into use by following a combined policy of granting loans, making available technical knowhow and arranging marketing. As far as possible, the small production units would have a tie up with larger units serving ancillary purposes. The importance to industry at the cottage level where women play a prominent role has to be matched by a more meaningful programme of welfare for women and children. Special programmes for the benefit of women and children have already been introduced in the State but they would have to be followed up by wider coverage and greater intensity. The nutritional status will be improved by producing and distributing better quality food under the ICDS and by a wider programme of applied nutrition. It has already been stressed in the National plan document that all rural areas in the country will have to be provided with drinking water in the shortest time possible. Fortunately in Sikkim the water supply problem is not as acute as is elsewhere because the whole

terrain is dotted with springs and streams and the high rainfall helps to prevent the drying up of available water sources. The strategy therefore would be to implement schemes which would include drawing of water from such sources, to treat them and to provide them at convenient localities. An enhanced outlay is accordingly projected for the purpose in the plan.

Mention has also got to be made about the quality of education since the standard of education in the State leaves much to be desired. The main thrust of the plan proposal would be aimed at consolidation and improvement of educational resources of the State and in providing for greater opportunities for the children to pursue higher academic studies.

One of the objectives being the strengthening of the general infrastructure, it is but natural that larger investments are contemplated in the road communication and power sectors. As far as the former is concerned, there are no two opinions that a road network is the best answer to provide an opening for a closed rural community to a market oriented system. Sikkim is fairly well served with roads but still the demands are numerous and a lot of existing roads require to be strengthened and improved upon so as to bring them to specifications. Power is also an important segment of the economy because it is only by increasing the availability of power and by ensuring that there are no interruptions that the other sectors of the economy can be given the impetus for growth. The accent in the plan would therefore be to investigate more sources for small hydel schemes and also to stabilise existing generation. This will be followed up by a more extensive system of transmission and distribution.

Among the objectives of the plan is the one relating to social justice which involves equitable distribution of the fruits of economic development. The Land Reform measures which seek to distribute surplus land to poor tenants and landless persons is one way of achieving this objective. A streamlined system of public distribution through which basic essential commodities are available at important localities is also another aspect of the matter. Special programmes for scheduled castes and scheduled tribes intended to ameliorate their living conditions and to bring them on a par with other segments of society is also a part of the policy of social justice.

The main strategies proposed to attain the objectives outlined in the plan have been mentioned above. This has not covered all the sectors of the economy and has not also gone into further details which would be available in the chapters relating to each sector. Taking note of the need to attain these objectives and to set the trends of development a total dimensional outlay of Rs. 160 crores for the Five Year period (1980—85) is proposed for the plan, of which Rs. 30.22 crores are under the M.N.P. The sectorwise distribution of Rs. 160 crores is given in statement GN. 1 and the M.N.P. allocation and targets in statement G.N. 4 and G.N. 5.

As far as resources are concerned the State will have to depend upon the Centre for Central assistance as in the past. The State's own resources are negligible and the scope for additional taxation is virtually non-existent. The estimates of the State's own resources for the five year period indicate that the total available as balance from Current revenues and miscellaneous capital receipts for the five year period is negligible. Thus, at the existing levels of taxation and through other fiscal measures there could be no positive contribution by the State.

As far as mobilising additional resources is concerned the most promising area is under Excise. The possibility of enhancing excise revenue by raising the rates will be considered. There is also likely to be some buoyancy in excise revenue. However, it may not increase to an extent that would enable any positive contribution to the plan. Other areas where additional re-

sources could be mobilised are under sales tax where the system of levying a flat rate of 5% in all items except for petroleum products has been counter-productive and consequently a proposal to have a differential rate for consumption goods to luxury goods is contemplated. Revision of fares both for passengers and freight of the State Nationalised Transport will also be considered which could be expected to bring in additional revenue to the extent of Rs. 1 crore for the five year period. However, the increasing expenses of running the organisation is a deterrent factor and will therefore be nullifying the efforts of additional mobilisation. Revenue from Power, Land Revenue and Forest can also bring in some amount to the Government but this would be only nominal.

Thus the only avenue open to the State would be the loans from the LIC for Housing and perhaps for Water Supply. The level of loans which is in the region of about Rs. 7 lakhs a year could be marginally stepped up. Taking note of these various factors, the total contribution by the State to the plan may not exceed Rs. 1 crore. Thus, out of Rs. 160 crores Rs. 159 crores, are projected as Central assistance, which would continue to be 90 percent grant and 10 percent loan.

In view of the importance attached to the welfare of Scheduled Castes and Tribes, Component plans for them have been incorporated in the plan. Further, since employment generation is an important objective of the plan a separate exercise has been undertaken to determine the total employment that can be generated with an investment of Rs. 160 crores. Accordingly about Rs. 2.75 crores of construction person days and 6,500 continuing person years of employment is anticipated.

Sectoral Outlays

Rupees in lakhs

Head of Development	1980-85	1979-80	1980-81		1981-82	
	Proposed Outlay	Actuals	Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content
1	2	3	4	5	6	7
Agriculture & Allied Services						
Agriculture	1,550.00	162.92	194.00	201.50	271.00	18.00
Land Reforms	140.00	27.83	33.00	33.00	30.00	—
Minor Irrigation	550.00	86.46	108.00	108.60	100.00	—
Soil & water Conservation	690.00	98.29	115.00	115.00	120.00	—
Food & Civil Supplies	50.00	6.86	10.00	7.60	10.00	5.50
Animal Husbandary	600.00	51.70	92.00	92.00	110.00	30.00
Fisheries	105.00	11.21	15.00	15.00	19.00	8.00
Forests including Wildlife	630.00	66.93	86.00	89.45	115.00	2.50
Panchayats	25.00	1.91	6.00	6.00	3.00	—
Co-operation	200.00	18.15	22.00	22.00	30.00	10.80
Water & Power Development						
Medium Irrigation & Flood Control	60.00	4.28	6.00	11.00	15.00	—
Power Development	1,350.00	208.74	260.00	260.00	300.00	47.45
Industry & Minerals						
Industries	600.00	132.71	80.00	91.80	126.00	71.25
Mining & Metallury	150.00	10.97	22.00	26.00	24.00	2.70

DRAFT SIXTH FIVE YEAR PLAN—1980—85

STATEMENT—GN-1

Sectoral-Outlays

Rupees in lakhs

Head of Development	1980-85 Proposed Outlay	1979-80 Actuals	1980-81		1981-82	
			Approved Outlay	Anticipated expenditure	Proposed Outlay	Capital Content
1	2	3	4	5	6	7
Transport & Communication						
Roads & Bridges	3,200.00	398.50	430.00	430.00	500.00	429.00
Road Transport	700.00	68.20	60.00	60.00	100.00	91.00
Tourism	210.00	24.31	26.00	20.50	37.00	12.50
Social & Community Service						
General Education	1,000.00	95.00	110.00	130.00	170.00	70.00
Art & Culture	120.00	4.89	20.00	20.00	26.00	6.00
Medical & Public Health	500.00	28.41	64.00	64.00	80.00	34.70
Water Supply & Sewerage	1,900.00	137.73	158.00	158.00	300.00	132.00
Housing	400.00	28.92	49.00	49.00	55.00	51.00
Urban Development	200.00	13.96	20.00	19.50	37.00	15.00
Information & Public Relations	50.00	9.39	8.00	8.00	10.00	—
Labour Welfare & Craftmen Training	40.00	14.89	10.00	11.40	10.00	8.00
Welfare of Scheduled Caste & Tribes	160.00	4.15	18.00	18.00	23.00	—
Social Welfare	40.00	2.16	5.00	5.00	8.00	—
Nutrition	200.00	27.22	20.00	42.50	40.00	—
Economic Services						
General Economic Services	60.00	4.22	7.00	6.60	11.00	—
General Services						
Stationery and Printing	20.00	3.00	3.00	3.00	4.00	—
Public Works	500.00	25.81	35.00	35.00	46.00	46.00
Total	16,000.00	1,779.72	2,092.00	2,159.45	2,730.00	1091.40

DRAFT SIXTH FIVE YEAR PLAN—1980—85

STATEMENT—GN-4

Outlay and Expenditure (M.N.P.)

Rupees in lakhs

Name of the Programme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
Rural Electrification	22.36	25.00	25.00	220.00	—	45.00	—
Rural Roads	138.50	121.50	121.50	987.00	987.50	128.00	73.00
Elementary Education	32.22	47.50	47.50	430.00	100.00	80.00	20.00
Adult Education	2.00	3.00	3.00	20.00	—	5.00	—
Rural Health	13.82	27.13	27.13	170.00	100.00	32.00	25.00
Rural Water Supply	77.70	68.00	68.00	920.00	—	110.00	—
Rural Housing	—	—	—	60.00	—	5.00	—
Nutrition	17.36	20.00	20.00	200.00	—	40.00	—
Improvement of Slums	—	2.20	2.20	15.00	—	2.50	—
TOTAL :	303.96	314.33	314.33	3,022.00	1,087.50	448.00	118.00

PHYSICAL TARGETS AND ACHIEVEMENTS

STATEMENT—GN-5

Physical Programmes—M N.P.

Head of Development	Unit	1979-80 Achievements	1980-81		1980-85 Proposed Targets	1981-82 Proposed Targets
			Targets	Anticipated Achievement		
1	2	3	4	5	6	7
1. Rural Electrification	Nos.					
Villages electrified	(Cumulative)	53	93	80	144	100
2. Rural Roads	Kms.					
(a) Length	(cumulative)	2,715	2,735	2,735	3,045	2,775
(b) Total No. of villages in the State	No.					
(c) Villages connected :						
(i) Population of 1500 & above	„					
(ii) Population between 1000 and 1500	„					
(iii) Population below 1000	„					
			Population in all villages in less than 1000.			
3. Elementary Education						
(a) Classes I—V (age group 6—11 years) enrolment	000's	39.68	45.00	42.50	64.00	46.50
(b) Classes VI—VIII (age group 11—14 years) enrolment	000's	6.40	8.50	7.81	14.00	9.2
4. Adult Education						
(a) No. of participants (15—35 years)	000's	15.00	16.30	10.00	81.50	16.30
(b) No. of Centres :						
(i) Centre	Nos.	433		652	652	652
(ii) State	„	—	—	—	—	—
5. Rural Health						
(a) P. H. C.s	No.	15	—	—	—	—
(b) Subsidiary Health Centres	„		Not applicable			
(c) Sub-Centres	„	41	8	8	60	8

1	2	3	4	5	6	7
(d) Rural Hospitals	,,		Not applicable			
(e) P. H. C's covered under Community Health Workers Programmes	,,	15	—	—	—	—
6. Rural Water Supply						
(a) No. of problem villeges	No.		Not avilible			
(b) Villages covered	,,	107	127	127	232	147
(c) Population in all problem villages	,,		Not available			
(d) Population covered in villages at (b)	000's	84.00	99.00	99.00	182 0	115.00
(e) No. of villages covered by :						
(i) Piped Water Supply	No.					
(ii) Wells	,,	All village water supply schemes are piped water schemes				
(iii) Hands pumps	,,					
(f) Total No. of :						
(i) Wells		—	—	—	—	—
(ii) Hand pumps		—	—	—	—	—
(iii) Drilled Wells		—	—	—	—	—
7. Rural Housing						
(a) Rural house sites	,,	—	—	—	250	25
(b) Rural House sites cum hut constructions	,,	—	—	—	—	—
(c) Villages housing projects	,,	—	—	—	—	—
8. Environmental improvement of slums						
(a) Cities covered	,,	—	—	—	1	1
9. Nutrition						
(a) Beneficiaries under special nutrition programme	,,	31,751	32,000	32,000	40,000	34,000
(b) Beneficiaries under Mid-Day Meal Programme	,,	38,149	40,000	40,000	50,000	42,000

Agriculture Including Plantation Crops

The entire State of Sikkim is a hilly region and is in a heavy rainfall zone. The climate and the season is therefore suitable for growing a large number of crops which include not only cereals but also commercial crops like cardamom, potato, ginger and other horticultural crops. Despite natural advantages of climate, agriculture is not a very easy proposition because of unstable nature of the terrain, acidic soils and the inaccessibility of several parts of the State. As a matter of fact out of the total land area of 7,299 sq. kms. the cultivated area is only about 12% which, by any standard is a low figure of utilisation. Partly this is on account of the fact that most of the area is covered under forests and pastures. Several parts of the State are also barren and uncultivable. As far as cultivable areas are concerned the gross cropped area is again on the low side and hence there is considerable scope for introducing multiple crops. In terms of area maize occupies the largest component followed by paddy, cardamom and wheat. The other crops which are grown are orange, potato, apple, buckwheat, millets, ginger, peas, soyabeans and few other miscellaneous items. The table below gives the area under various crops according to the statistics available from earlier records.

Distribution of Area according to Crops

Crops	Area in hectares	Percentage of total
1. Maize	30,200	31.5
2. Paddy	14,800	15.4
3. Cardamom	14,000	14.6
4. Orange	2,620	2.7
5. Apple	500	0.5
6. Potato	1,900	2.0
7. Wheat & Borley	10,200	16.6
8. Buckwheat	2,760	2.9
9. Millets	5,000	5.2
10. Peas, beans, pulses	6,700	7.2
11. Ginger	640	0.7
12. Oilseeds	3,000	3.2
13. Others	3,512	3.7
Total	95,832	100.00

The strategy that is being adopted for increasing agricultural production is to identify suitable varieties of seeds in the different agro climatic zones of the State. In 1976 a beginning was made to demarcate the State into nine different regions in each of which Regional Centres were set up. The main activity in these centres was to conduct adaptive trials and to do basic research work in order to identify the best variety of crops for the concerned region. The efforts have

been very successful and a number of high yielding variety of seeds like Pusa—33 for paddy, Vijay for maize, Sonalika for wheat, Varuna for mustard, PR 202 in millet, Kufri Jyoti for potato and others like IET—144 for paddy have been identified which have been most enthusiastically received by the farmers. The endeavour of the Department of Agriculture has been to multiply these varieties of seeds and to distribute them on a larger scale to the various parts of the State so that the coverage under high yielding varieties could be improved. This programme will necessarily have to be continued with greater intensity during the Sixth plan period and accordingly it is hoped that the production level of foodgrains would increase from an estimated figure of 59,000 tonnes to 78,700 tonnes by the end of the plan period. This could be achieved by greater crop intensity, usage of modern techniques, and larger consumption of fertilizers, plant protection and increasing the irrigated area for multiple cropping. While, increasing the production of foodgrains would be given considerable attention, the need to enhance yields from horticulture crops and from other commercial crops is even more important viewed from the point of view of returns to the farmers. As a matter of fact greater dividends could be expected by investment in the horticulture sector because of the natural advantages in the State. Every effort would have to be made to extend orchards and plantations particularly in the lands of marginal farmers and also by encouraging the production of commercial crops like cardamom, potato and ginger. As far as cardamom is concerned the advent of the Cardamom Board of India has been a boon which will have to be fruitfully utilised. Most of the cardamom plantations can yield a better return with scientific management. Considerable stress is therefore proposed to be given to this aspect during the plan period. Potato is another commercial crop which can bring in quick returns to the farmers. It has been found that the higher altitudes of the State are extremely suitable for growing the Kufrijyoti variety of seed potato, which on account of its immunity to diseases has been widely welcomed in the plains of India more particularly in West Bengal. An all out effort would therefore be made for rapidly increasing the area under seed potato.

As far as plantation crops are concerned it is in the cultivation of tea that maximum prospects are available. Tea cultivation was started in the State in the sixties initially at Kewzing as a programme for rehabilitating Tibetan refugees. Later it was extended to another area namely Temi and from a total planted area of 7.98 hectares in 1966-67 as at the end of 1979-80, 171.22 hectares have been planted. The terrain in Sikkim, being similar to that of Darjeeling, is very suitable for tea cultivation and since the international market for tea has sufficient buoyancy the possibility of extending cultivation on a wider scale without disturbing the ecological environment will be pursued during the plan period. Among the other plantation crops a beginning has also been made in introducing coffee into the State under the programme of introduction of coffee in non-traditional areas. The experiments in the regional farms have yielded good results but it remains to be seen whether coffee can really become a commercial crop. During the plan period experimental cultivation will also be undertaken for introducing crops like sugarcane and varieties of fodder, which if successful, will be extended over a wider area.

Despite the efforts that have already been made in agriculture and horticulture there have been several constraints in the attainment of plan objectives. One of the main drawbacks in agriculture has been the sluggish use of chemical fertilizers. The offtake of fertilizers in terms of nutrients has been only about 700 tonnes which is a very low figure when compared to the off take in other parts of the country. Through extension methods it has been possible to make the people conscious of the need to increase fertilizer consumption but the follow up has also run into difficulties because of the weak credit structure in the economy. The Multi-purpose Cooperative So-

cieties are not in a position to make available fertilizers under credit and many of the farmers being already indebted are unable to take short term loans. With the establishment of a Lead Bank and a policy of writing off bad debts this problem is likely to be overcome to some extent. The desirability of opening retail outlets by engaging local dealers who will be given incentives for the sale of fertilizers will also be considered. A consumption target of 1,500 tonnes in terms of nutrients is therefore envisaged for the Five Year period. Another difficulty in agriculture and horticulture has been the general lack of availability of seeds and seedlings from the State for widespread distribution. The strategy in the plan has been to set up nurseries and progeny seedling production centres so that the requirements of the State can be met adequately. For field crops a larger number of progressive farmers will be identified and registered for the purpose of producing high quality seeds while in horticulture more area will be brought under progeny orchards. This will be supplemented by a system of distribution which will have a built in subsidy component so that the cultivators take to improved seeds and seedlings immediately. The lack of storage and marketing has also contributed in no small measure to a slow rate of growth in agriculture. Unless adequate storage facilities are provided in the rural areas the farmers will not have the incentive to produce more and unless there is a producer oriented marketing system the urge for enhancement in production would be absent. These are some of the areas which are proposed to be specially tackled during the plan period so that favourable environment for increased production of all varieties of crops is created.

It needs no special mention that for any system of enhanced production on scientific lines, the organisational aspect has to be given great importance and so the strengthening of the Agriculture Department from the level of the VLWs in the field to the specialists in the different disciplines at the headquarters will have to be given a closer look.

Plan Objectives

The primary objective of Agricultural development in the plan would be to so shape the land use pattern as to derive optimum results. This would call for the removal of existing constraints, increased production of inputs like quality seeds and streamlining the supply of fertilizers and pesticides. The conversion of large tracts of land into orchards producing fruits of various varieties and the introduction of scientific management practices for commercial crops with particular reference to seed potato and ginger would also be a primary objective of the plan. Strengthening of the extension service allied to which is the organisation of marketing, storage and farm information would also be given the needed impetus. The ultimate objective is to enable the rural farming families of the State, who constitute the majority, to lead a better life and to make them conscious of the immense possibilities of improving their economic lives by following an integrated system of production, consumption, conservation and trade.

A brief survey of the areas proposed to be given importance during the plan period follows.

Seed Production

One of the crucial ingredients necessary for enhancing production, be it in cereals, oil seeds or horticulture is the availability of good quality seeds or seedlings. The seed production scheme involving the multiplication and distribution of certified seeds would be given added importance during the plan period. As a result of a number of painstaking experiments and adaptive trials undertaken in the regional farms of the State, several varieties of seeds for the various crops have already been identified. So far the production of such varieties has been undertaken within

the regional farms. Although this has resulted in maintaining the quality of production it is insufficient to meet the growing demands of farmers and so purchase of quality seeds from outside sources could not be avoided. Since the cultivating season in Sikkim does not coincide with the seasons in the plains and since the outside sources normally keep their seed godowns closed till just before the season starts in the plains, very often, the required seeds are not available at the appropriate time. The uncertainty in the availability of seeds and the inherent difficulties in negotiating purchase from outside institutions have had adverse effects on the plan programmes of the State and therefore the strategy during the plan period would be gradually make the State self-sufficient in the production of quality seeds. For this purpose the plan envisages the identification of progressive farmers who could be entrusted with the task of producing quality seeds on behalf of the department. Already such farmers have been identified and many more would be located in the future. In addition to the production of quality seeds in the fields of the farmers, the infrastructure necessary for certifying the quality of seeds including testing procedures and scientific seed processing and storage facilities would be integrated with the programme. The possibility of extending the Seed Act to the State will also be explored. As a result of these measures, which will involve the production of seeds in the Government farms as well as in the farmers' fields, an annual rate of 800 to 1000 tonnes with a progressive increase from 513 tonnes in the year 1980-81 is contemplated so that by the end of the plan period about 8500 tonnes of quality seeds would be produced and distributed. Of these nearly 7500 will be potato. Being an important programme the need to strengthen the organisational set up like seed certification and testing officers is imperative. This will therefore be done. Further, necessary equipment for seed testing, certification and processing will be procured and a seed testing laboratory will be set up.

High Yielding Varieties Programme

With the primary accent on production of quality seeds the need to increase the acreage under the high yielding varieties is also equally important because production will have no meaning if the farmers do not take the seeds. In order to popularise the use of high yielding varieties the strategy will be to intensify the demonstration and mini kit trial programmes intended as a means to convince the farmers of the efficacy of adopting high yielding varieties. The seeds will be made available to the cultivators either on outright cash basis, in which a subsidy component would be built in, or on a seed to seed loan basis under which recovery would be made in the subsequent seasons in the form of seeds. These measures would be supplemented by the community nursery programmes particularly in respect of paddy so that the efficacy of timely planting is well understood. The demonstration programme of the department would primarily be geared towards the introduction of multiple cropping. The high yielding varieties are of shorter duration and therefore timely sowing and harvesting could release the land for an additional crop. As a matter of fact, a large part of the State, except the higher altitudes, are quite capable of taking both kharif and rabi crops. It is expected that the total area under high yielding varieties which increased from 6,900 hectares in 1976 to 23,900 hectares in 1979-80 could be further enhanced to a cumulative figure of 55,500 hectares by the end of the plan period.

Horticulture

While the seed production and extension of area under high yielding varieties would be mainly confined to the traditional crops like maize, wheat, paddy, potato, ginger etc the production base can best be widened by an expanded horticulture programme. The climatic condition

of the State is very conducive to the growing of various types of fruits like orange, guava, apple, lime, lemon, peach, plum, pear, walnuts etc. Among these the most popular fruit is the Sikkim mandarin orange which quality-wise is next to none in the Indian market. An agro-based industrial unit, the Government Fruit Preservation factory, is an ongoing concern which processes oranges produced in the State. Although horticulture is the real answer to the overall development of the State, the propagation of improved techniques has had to face several difficulties not the least of which has been the absence of timely availability of seedlings. A beginning has already been made for the establishment of progeny orchards within the State which is intended to plant and maintain mother plants of superior varieties and to propagate quality planting materials which is a logical sequel to the establishment of such nurseries. Several experiments have already been undertaken in the regional centres to identify the right type of fruit crops and to propagate root stocks at the proper time. As a matter of fact, a large percentage of the planting materials in orange would be produced by budding a desirable root like trifoliate, rough lemon or citrange. The planting materials thus produced would be made available to prospective orchardists at subsidised rates in order to induce them to rapidly take up to the commercial production of fruits. The propagation of planting materials will be complemented by a programme of demonstrations wherein continuity would be its essence. Since the fruit trees take a longer period to yield fruits, the demonstrations will be carried over till the plants start bearing and will be all purposive so as to convince the farmer that by proper scientific management the returns from horticulture could indeed be immense. During the Sixth plan period, 10 more progeny orchards are proposed to be set up. The main targets have been detailed in the statement AGR 20.

Commercial Crops

Other than horticulture, there are several other commercial crops which also hold a position of great importance from the point of view of returns to the farmers. Among these, special mention has to be made of seed potato, ginger and vegetables. The first mentioned has suddenly assumed considerable importance in the context of shortage of seed potatoes in the plains. Kufri jyoti variety which is identified as disease free and acceptable to the plains can be cultivated without much effort in the higher altitudes and so the regions above 1200 metres will be specially earmarked for the purpose. The emphasis will be on increasing the area under seed potato and in providing the seeds under the programme of multiplication and distribution of seeds. Efforts are already underway for multiplying the foundation seeds, both stage 1 and 2, so that there would be a comprehensive coverage of seed potatoes. During the plan period, 2 additional Government farms exclusively for potato seed production will also be started.

The other important cash crop is ginger which is grown extensively in the Rangit valley. Rio de Jonerio variety has been found to be suitable for the State and so special importance will be given towards the production of this variety in larger tracts of land.

As far as other vegetable seeds are concerned the R—1 in radish, contender in French beans, synthetic and Danish 157 in cauliflower, pant C 1 and G 3 in chilli, are found to be easily producible in the State. Production of these varieties of seeds will be undertaken not only in the Government farms but also in the fields of selected seed producers among the cultivators. The accent in the production of such commercial crops would be to make the farmers conscious of the value of seeds which are capable of bringing in revenue to the farmers. The programme will therefore be supported by demonstrations and by continuing varietal trials.

Plantation Crops

Apart from commercial crops, certain plantation crops are also grown in the State. Of these the two most important are cardamom and tea. Cardamom, which is the large variety, as distinguished from the small variety in the South Indian hills, is a traditional cash crop in the State and its estimated production is roughly 3000 metric tonnes. The plantations have however faced a declining level of production because there has not been any attempt to scientifically manage the production and diseases like phurkey have plagued the farmers. The extension of plantation has also been done on a haphazard way without identifying quality rhizomes. Taking, into account the potential of the crop and the possibility of earning valuable foreign exchange, very recently the large variety of cardamom has also been brought within the purview of the Cardamom Act of India and so an office of the Cardamom Board has been established in Sikkim. With the establishment of this office it is expected that quality planting materials would be evolved directly from seeds and large scale demonstration of improved techniques of managing both old and new plantations would be conducted. Further, special programmes like the establishment of model curing sheds would also be undertaken on a demonstration - cum-extension basis by the Cardamom Board. As a result of these measures, the expectation is that more than 500 hectares would be covered by the end of the plan period with new cardamom plantations increasing production to about 4500 metric tonnes.

As far as tea is concerned there are at present two gardens-one at Temi and the other at Kewzing-both of which are under Government management, controlled by a Board. The main activity has been to plant up additional area and today about 170 hectares are under tea plantation. The tea produced in the State went into the market from the year 1977-78 and by the end of 1979-80, 48,800, kgs of black tea was produced which has brought in a gross revenue of Rs. 9,93,972/-. During the plan period 116 more hectares will be planted and as a result of undertaking land development and other works the production level in the terminal year 1984-85 is expected to increase to 1,10,000 kgs from an anticipated 30,000 kgs in 1980-81. This is expected to bring in a revenue of Rs. 27.50 lakhs during the terminal year. Since the tea garden is a Government undertaking this revenue will be credited back to Government. Necessary strengthening of the infrastructure including labour huts, additional equipments, tractors and factory extension are contemplated during the plan period. Additional areas outside Temi and Kewzing would also be developed of which a beginning has already been made in a place called Rolep where the intention has been to organise tea cultivation on a cooperative system. Other areas of the State where there are available lands or where the people are willing to organise themselves on a cooperative basis will also be explored for extending tea cultivation for which the possibility of joint venture units with leading tea producers outside the State would be explored. In view of the importance of the crop as a major revenue earner, as much as Rs. 170 lakhs is proposed for tea during the Plan period.

Coffee is also a recent introduction in the State. So far, however, the programme has been restricted to the conduct of feasibility trials in selected forest lands and in various agro climatic conditions in order to determine the possibility of large scale coffee plantation in the State. A careful watch is proposed to be kept on such trials and depending upon the success achieved, it will be extended to other areas.

Manures & Fertilizers

Enhanced agricultural production in the State, whether it be for actual produce or for the

seeds, depends to a great extent on the adoption of improved methods of cultivation. With the evolution of high yielding varieties of seeds, the need to apply more fertilizers, both chemical and organic, needs no special emphasis. Unfortunately, the current level of fertilizer usage in the State is not up to the desired level and actually the consumption is only 720 tonnes which works out to roughly a per capita application of 8 kgs per hectare. There is considerable scope for enhancing fertilizer consumption in the State because the farmers have exhibited their keenness in using them, but the non-availability of the credit infrastructure and the bottlenecks in transportation have resulted in a sluggish growth rate in utilisation of this important input. In order to overcome these difficulties, the department will directly sell fertilizers to the farmers on a short term loan basis until this responsibility can be shifted to the cooperatives. Further, retail local dealers will be located and a tie up with some other more important private agencies will be developed so that there can be free market distribution of fertilizers in which the role of the Agriculture Department would be to procure pool fertilizers and pass on the subsidies to the dealers who would be given a commission, 100 percent transport subsidy and 30/40 percent subsidy on the materials is envisaged despite the National objective of reduction in subsidies. The retention of the subsidy component is contemplated mainly to prevent a possible reverse trend in the consumption of fertilizers. The need to stabilise the price at the consumption level thus cannot be ignored in a State where the popularity of fertilizers is only just being built up. Apart from these policies the possibility of adopting measures like minimum yield guarantee programme and crop insurance are also contemplated so that the cultivators would not become apathetic towards the use of fertilizers. It needs no special mention that the offtake of chemical fertilizers in the form of nutrients will have to be supplemented by organic fertilizers. Fortunately, the utility of rural composting has already been acknowledged at the farm level with considerable enthusiasm. The conditions are generally favourable for rapidly enhancing the production of rural compost through farm waste and forest debris and so the existing programme of subsidising the construction of compost pits would be continued with greater intensity.

Plant Protection

The increased use of manures and fertilizers generates its own problem of attracting pests and diseases. As a matter of fact, the estimated annual loss of both field and horticulture crops, including stored crops, has been estimated at a staggering figure of 107 lakhs which is a considerable amount for a State of the size of Sikkim. The incidence of pests and diseases is not only on account of the increased use of fertilizers but also because of the high humidity and general climatic conditions of the State which induce the breeding of pests. Extensive plant health cover is therefore an item of high priority in the Sixth plan. Already, plant protection services have been organised with the appointment of specialists and a mobile squad which are expected to do both surveillance and emergent duties. The number of such units will be increased and massive spraying campaigns to control hairy caterpillar in cardamom, blast, leaf roller, stem borer in paddy and powdery mildew in peas and orange, late blight in potato will be undertaken. For this purpose not only will there be more mobile squads but the regional centres will be adequately equipped with pesticides and spraying equipments which can be borrowed by the cultivators themselves for undertaking spraying operations.

It is not only in the field that plant protection is required. In order to ensure a healthy plant, seeds will have to be treated so that the growing plant is resistant to diseases. Such prophylactic treatment is accordingly proposed on a wider scale during the Sixth plan. Other

forms of control of pests include the destruction of rodents both in fields and houses since rodents cause the production levels to decrease. The different targets are outlined in the statement AGR 21.

Agriculture Research

Modern Agriculture leading to increased productivity can be achieved only with the support of a sound research base. Although long term research work is currently being undertaken by the ICAR, the State Government is called upon to undertake adaptive research mainly for the purpose of identifying practical solutions with diverse agro climatic conditions of the State. While identification of suitable varieties and conducting varietal trials would continue as an important programme in the regional centres during the plan period, special consideration is proposed to be given to cardamom research, micro-nutrient trials, weather calamity trials and special maize project. The aim of cardamom research would be to develop a technology in terms of developing a suitable package of production techniques and by formulating plant protection schedules, improving post harvest technology and the protection schedules, improving post harvest technology and the quality of capsules. As far as micro-nutrient trials are concerned the main emphasis will be to determine the micro nutrient deficiency in different soils and to ascertain the specific micro-nutrients which are needed to be applied as remedial measures for which trials and experiments are proposed both in Government farms and in the farmers' fields. This is an important programme considered from the point of view of soil acidity and high rainfall causing erosion of top soil. Under the programme of weather calamity trials the intention is to evolve suitable cropping programmes so as to minimise the damages caused on account of hail storms on the one hand and drought on the other. Regarding maize, the All India Coordinated Maize project is being carried out in Sikkim and this will be continued during the plan period.

Soil Testing

Allied to this would be the need to ensure that the soils are tested adequately so that whatever deficiencies are existent could be removed. This involves a routine analysis of soil samples collected from the farms by the VLWs and rendering necessary advice on the use of soil correctiveness etc. Since soil testing has already yielded good dividends, the possibility of starting a mobile soil testing unit for on the spot advisory service to the cultivators would also be explored. A detailed soil survey for classification of soils will also be continued with the expectation of completing the work within a time span of ten years. This will enable a proper land use planning.

Although the State is in a wet and humid zone, water conservation is also important particularly for fruit plants and hence various experiments are proposed to be conducted for conserving water particularly by planting fruit trees on sloppy terrain in benches. This will enable the conservation of water which would otherwise drain off and this would help in increasing the area under fruit plants. Finally, it is also necessary to improve the productivity of the acidic soil by large scale liming. This programme which was initiated during 1976-77 has found great response from the farmers and therefore the target would be enhanced and subsidies made available wherever needed so that the targetted coverage can be attained without difficulty.

Marketing & Quality Control

The increased production anticipated in agriculture and horticulture will have to be matched

by a better system of agriculture marketing and quality control. Production linked with marketing has already been laid down as a major objective of the plan and this is all the more important in a hilly State like Sikkim where communication difficulties and the general inaccessibility prevent the free flow of agriculture produce to the consuming centres. In order to obviate this difficulty and to encourage the farmers to produce more crops, the department instituted a system of buying the produce directly from the farmers which included vegetables in three selected centres and apples from North Sikkim. The department arranged for transportation in its own vehicles and ensured the sale of goods in the Gangtok market. The nucleus of growers or producers associations has thus already been set up and consequently the future programme of marketing holds rich promise. Ultimately, the marketing business will be handed over to the growers themselves which will be possible by creating a climate of professionalism cooperation and devotion. Thus commodities like apples, potato and vegetables will be marketed through a dual system of minimal departmental involvement and the organisation of cooperative associations.

While straight forward marketing on the above lines where storage, grading, packing and transportation form one aspect of the matter, the need for an agricultural marketing, quality control and intelligence system has also been recognised and market intelligence for detailed market study of principal crop arrivals, their price sensitivity and other allied matters has already commenced. This intelligence system of covering commercial crops like cardamom, oranges, ginger, seed potato and vegetables in wholesale and retail markets will be intensified during the plan period, for which purpose the organisational set up will have to be improved.

Extension and Farmers' Training

The entire process of improving the agriculture economy also revolves round extension and farmer's training. In a nutshell, what is wanted is that farmers should be acquainted with the latest technology, and for this, they have to be involved in a communication process of teaching and learning. Extension techniques such as personal contact, discussion groups, field days, exhibitions, dissemination of farm information through leaflets and pamphlets and other allied matters is therefore necessary in the context of extension. This will be achieved by strengthening the farmers' training centre and by adequately training the VLWs also in the matter of field work. The regional farms will be utilised to compete with one another in respect of major crops such as maize, paddy, potato and wheat for which special prizes will be given. So also prizes will be offered at the field level for performances. The main idea is that by such methods the message of proper agricultural production would be disseminated.

Organisational Structure of Agriculture Department

(a) Agriculture Engineering

The organisational set up of the agricultural administration will necessarily have to be strengthened to cater to an expanded agricultural plan. More subject matter specialists like agronomists, plant physiologists and economists will be inducted within the agricultural organisation so that the technological advances in the subject can be properly handled and translated into action. Since the number of qualified persons in the State is not up to the desired level, special budget allocations would be made for meeting the cost of sending out boys and girls for acquiring

qualifications for B.Sc & M.Sc agriculture and also Agriculture engineering. Besides this, in service training will also be arranged so that the existing staff would be better equipped. It is also proposed to start a departmental library at the headquarters and at the district level so that the latest changes are well known to those in charge of implementation. In this connection agricultural engineering requires to be specially mentioned. It provides services like maintenance of agro machinery, improvement in the design of farm implements and fabrication of tools and implements which are needed in agricultural development. In later years agro service centres will also become necessary within the regional centres. Already a small workshop has been established at Marchak near Gangtok which will be gradually expanded to meet the requirements of farmers including the production of tools and implements and seed storage bins. Agriculture engineering being basically technical necessary strengthening of staff like mechanical operators, overseers and draftsman will also be done during the plan period.

(b) Agriculture Economics & Statistics.

A part of the strengthening of the organisational set up consists of improving agriculture economics and statistics. At present the information on land usage pattern, cropping pattern, production trends, usage of resources and the costing pattern is rather scanty and hence the data base for providing reliable statistical information has got to be strengthened. During the Sixth Five year plan a concerted effort would therefore be made to strengthen the statistical wing of the department so that the required information is available on relevant items. At the field level crop cuttings would be undertaken and the information collected will be used for analysing production costs and income. Data will also be collected for interpreting land use patterns and a survey on food consumption will be undertaken. The objective is to form a base line data for agriculture and horticulture. Agriculture census work will also be undertaken.

(c) Regional Farms

While the strengthening of the agricultural organisation at the headquarter level will form a part of the plan strategy the decentralisation of major activities at the district and regional level has already been achieved. There are already nine Regional Centres and five sub regions. These centres are serviced by the VLWs of which 89 are already in position. During the plan period more VLW centres will be created and the general infrastructure at the VLW centres will be improved by making them more easily accessible. In the regional centres also more buildings for housing the staff will be constructed and portions of land within the centres which are undeveloped will be reshaped for cultivating experimental crops so that the mode of land utilisation within the centres would serve as a model. In short the regional centres will be converted into focal points of agricultural extension and they will service VLW centres for making available the crucial inputs of agricultural production. Two more regional sub-centres, one in the East and the other in West district will also be developed in order to meet the complete requirements of the State.

(d) Storage godowns

Along with the development of the VLW centres and the regional centres a network of godowns specifically for the purpose of storing materials like fertilizers, pesticides and seeds will be constructed so that the problem of reaching materials to different places can be avoided. Such a network of godowns is essential in a State like Sikkim where poor communication facilities along with frequent landslides cause blockades in several parts of the State. During the

plan period the total estimated storage requirement is only 8,000 metric tonnes for which the existing capacity is only 2,000 metric tonnes, Thus at least 5,000 to 6,000 metric tonnes of storage capacity is proposed to be created in the plan period by constructing godowns of 500 and 1000 metric tonnes, which will have dehumidifying facilities.

The above paragraphs constitute an attempt to delineate the strategy proposed for enhancing production in the fields of agriculture and horticulture. The basic idea behind this is to improve the quality of life in the rural areas. A large section of the farmers are small and marginal farmers and unless a 'household' approach is adopted to ameliorate their living conditions there is a perpetual danger of economic development not percolating to their levels. The approach to this has been embodied in the programmes of SFDA and I. R. D.

The entire State has been covered under SFDA and the area within two regional centres is under the IRD. So far 17,214 beneficiaries have been identified as small or marginal farmers out of which 6,431 were provided with some benefit or the other up to the end of 1979-80. During the plan period an endeavour would be made to enrol more persons as members of cooperative societies and to undertake demonstrations in conjunction with Agriculture and Animal Husbandry Departments on a larger scale. More beneficiary oriented schemes will be undertaken and every effort will be made to cover a larger section of the population as are identified as small farmers. Being a Centrally sponsored scheme the State outlay for this is fixed at Rs. 65. lakhs.

The overall outlay projected for agriculture, including horticulture, plantation and SFDA is Rs. 15.5 crores. Detailed targets and figures are appended in the statements GN 2, GN 3, AGR 19, 20, 21 etc.

OUTLAY AND EXPENDITURE

Agriculture

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Direction and Administration	0.90	2.00	2.00	24.00	—	3.70	—
2. Multiplication and distribution of seeds	11.20	9.60	10.60	100.00	—	13.50	—
3. Agriculture farms	39.34	30.90	31.90	160.00	76.00	33.40	15.00
4. Plant Protection	10.60	13.00	13.00	100.00	—	16.00	—
5. Commercial Crops	5.01	6.00	6.00	80.00	—	11.00	—
6. Extension and Farmers Training	3.03	4.00	7.00	50.00	—	9.00	—
7. Agricultural Research *	14.70	23.00	23.00	140.00	—	35.30	—
8. Manures and Fertilisers	15.69	28.00	28.00	160.00	—	30.50	—
9. Horticulture	21.00	25.00	25.00	155.00	—	26.00	—
10. Agricultural Education	1.00	1.00	1.00	14.00	—	2.00	—

1	2	3	4	5	6	7	8
11. Agriculture Economics & Statistics	0.50	0.50	0.50	16.00	—	2.00	—
12. Agriculture Marketing and Quality Control	2.00	7.00	7.00	65.00	—	10.00	—
13. High Yielding Varieties	7.35	7.00	8.00	96.00	—	12.00	—
14. Agricultural Engineering	4.60	4.00	5.50	62.00	—	9.50	—
15. Plantation Crops other than Tea	3.00	3.00	3.00	77.00	—	9.60	—
16. Tea	23.00	25.00	25.00	170.00	—	33.50	—
17. Storage	—	—	—	16.00	16.00	3.00	3.00
18. SFDA - IRD etc.	—	5.00	5.00	65.00	—	11.00	—
TOTAL	162.92	194.00	201.50	1550.00	92.00	271.00	18.00

* Agri Research includes Soil and Water Conservation other than terracing.

SELECTED TARGETS & ACHIEVEMENTS

Agriculture

Sl No	Item	Unit	1979-80 Achievement	1980-81		1981-82 Target	1980-85 Target Proposed
				Approved	Anticipated.		
1	2	3	4	5	6	7	8
1.	Agriculture & Irrigation						
	Area under Orchards	Hac.	3,760	4,960	5,002	6,370	11,670
	Area under Plantation crops	„	13,820	14,040	14,030	14,254	15,158
	Area under other Horticulture Crops	„	1,840	2,040	2,240	2,650	4,600
	Net Cropped Area	„	69,345	70,865	70,997	73,224	82,003
	Gross cropped Area	„	90,280	95,100	95,832	1,00,434	1,18,888
2.	Foodgrains						
	i) Kharif (a) Total Area	„	56,700	56,700	56,700	57,800	62,300
	b) Irrigated Area	„	—	—	—	—	—
	ii) Rabi (a) Total Area	„	10,360	12,560	12,960	13,460	15,960
	b) Irrigated Area	„	—	—	—	—	—
	Total	„	67,060	69,260	69,660	71,260	78,260
3.	Area under Commercial Crops	„					
	1. Cardamom	„	13,800	14,000	14,000	14,200	15,000
	2. Orange	„	2,210	2,610	2,620	3,000	4,200
	3. Potato	„	1,800	1,800	1,900	2,100	3,200
	4. Ginger	„	640	640	640	700	1,000
	5. Guava	„	140	340	350	500	1,200
	6. Apples	„	400	500	500	600	1,000
	7. Other Fruits	„	1,010	1,510	1,532	2,270	5,270
	8. Vegetables	„	800	1,000	1,200	1,500	3,000
	Total	„	20,800	22,400	22,742	24,870	33,870

SELECTED TARGETS & ACHIEVEMENTS

Agriculture

Sl No.	Item	Unit	1979-80 Achievement	1980-81		1981-82 Target	1980-85 Target Proposed*
				Approved	Anticipated.		
1	2	3	4	5	6	7	8
4, High Yielding Varieties Seed Distribution Tonnes							
	1. Maize	„	50	40	50	65	340
	2. Paddy	„	93	50	50	50	310
	3. Wheat	„	240	150	180	230	1,235
	4. Millet	„	2	15	2	3	20
	5. Oilseeds	„	15	10	15	16	89
	6. Pulses	„	—	5	7	15	107
	7. Soyabean	„	5	5	13	20	123
	8. Potatoes	„	5	200	200	250	2,300
	9. Ginger	„	—	—	—	—	600
	10. Others	„	—	—	—	5	65
Total			410	475	513	654	5,189

FIVE YEAR PLAN 1980—85

Crop Production : Achievement & Targets

Sl. No.	Item	Unit	Actual Production 1979-80	1980-81		1981-82 Target	1980-85 Target
				Approved	Anticipated		
1	2	3	4	5	6	7	8
1.	Foodgrains	tonnes	59,221	63,814	64,912	67,813	78,740
	(a) Cereals	„	54,226	54,748	59,782	1,573	68,004
	(b) Pulses	„	4,995	5,066	5,130	6,240	10,736
2.	Oilseeds	„	1,200	1,800	1,800	2,400	3,600

SELECTED TARGETS & ACHIEVEMENTS
Agriculture

Sl No	Item	Unit	1979-80 Achievement	1980-81		Proposed Target	
				Target	Anticipated Achievement	1981-82	1980 85
1	2	3	4	5	6	7	8
1.	Demonstrations (field Crops)	Nos.	2,100	2,250	2,250	5,450	16,450
2.	Seed Production	Tonnes	279	593	513	1,567	8,676
3.	Fertilizers Consumption (in terms of nutrients)	"	720	800	800	1,800	5,700
4.	Rural compost	No. of sets	4,000	5,000	5,000	6,000	8,000
5.	Plant Protection (Seed Treatment, Soil treatment, Campaigns, Store grain pests, rodent control etc.						
	a. Area to be covered	Hac.	17,146	31,300	30,870	34,850	2,00,200
	b. Seeds quality to be treated	tonnes	2,990	3,250	3,175	3,250	17,030
	c. Houses to be covered	Nos.	5,000	12,700	15,150	15,150	58,150
6.	Distribution of Seeds	tonnes	785	925	990	1,151	7,439
7.	Area under fruits, plantation crops & commercial crops	Hac.	20,800	22,400	22,742	24,870	33,870
8.	Foodgrain Production	tonnes	59,221	63,814	64,912	67,813	78,740
9.	Horticulture Demonstration	Hac.	440	440	440	520	2,520

(Contd. on Page 20)

Area — Hectares
 Production — Tonnes
 Yield — Kgs./hectare

FIVE YEAR PLAN

CROP PRODUCTION : TARGETS FOR

Sl. No.	Items	1979-80			1980-81		
					Approved		
		Area	Yield	Production	Area	Yield	Production
1	2	3	4	5	6	7	
1.	Foodgrains						
a)	Rice	14,800	694	10,271	14,800	713	10,552
b)	Wheat & Barley	7,600	1,437	10,921	9,800	1,467	14,377
c)	Maize	30,200	922	27,844	30,200	946	28,569
d)	Millet	5,000	762	3,810	5,000	774	3,870
e)	Buckwheat	2,760	500	1,380	2,760	500	1,380
	Total :	60,360		54,226	62,560		58,748
2.	Pulses						
a)	Pulses	3,400	600	2,040	3,400	612	2,081
b)	Soybean	2,300	763	1,755	2,300	776	1,785
c)	Beans	1,000	1,200	1,200	1,000	1,200	1,200
	Total :	6,700		4,995	6,700		5,066
	Total 1 & 2	67,060		59,221	69,260		63,814
3.	Oilseeds	2,000	600	1,200	3,000	600	1,800
4.	Others						
a)	Potato	1,800	3,360	6,048	1,800	3,470	6,246
b)	Ginger	640	5,000	3,200	640	5,000	3,200
c)	Cardamom	13,800	250	3,450	14,000	250	3,500
d)	Orange	2,210	6,600	7,293	2,610	6,600	7,920
e)	Apple	400	5,000	500	500	5,000	500
f)	Guava	140	6,000	120	340	6,000	150
g)	Limes & Lemons	60	7,000	35	120	7,000	35
h)	Other Fruits	950	6,000	600	1,390	6,000	700

TERMINAL YEARS. 1980-81 AND 1981-82

Anticipated			1981-82			1980-85		
Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
8	9	10	11	12	13	14	15	16
14,800	718	10,626	15,000	735	11,025	15,600	774	12,074
10,200	1,471	15,004	10,700	1,476	15,793	13,200	1,494	19,721
30,200	958	28,932	30,000	984	29,520	29,400	1,052	30,929
5,000	768	3,840	5,000	771	3,855	5,000	780	3,900
2,760	500	1,380	2,760	500	1,380	2,760	500	1,380
62,960		59,782	63,460		61,573	65,960		68,004
3,400	624	2,122	4,000	675	2,700	6,000	767	4,602
2,300	786	1,808	2,600	808	2,100	4,500	883	3,974
1,000	1,200	1,200	1,200	1,200	1,440	1,800	1,200	2,160
6,700		5,130	7,800		6,240	12,300		10,736
69,660		64,912	71,260		67,813	78,260		78,740
3,000	600	1,800	4,000	600	2,400	6,000	600	3,600
1,900	3,495	6,640	2,100	4,080	8,568	3,200	5,672	18,150
640	5,000	3,200	700	5,000	3,500	1,000	6,600	6,600
14,000	250	3,500	14,200	260	3,692	15,000	300	4,500
2,620	6,600	7,920	3,000	6,800	8,840	4,200	7,500	15,750
500	5,000	500	600	5,000	600	1,000	5,000	1,250
350	6,000	150	500	6,000	300	1,200	6,000	2,400
120	7,000	35	200	7,000	56	400	7,000	700
1,412	6,000	700	2,070	6,000	1,000	4,870	6,000	6,000

SELECTED TARGETS & ACHIEVEMENT
Agriculture

Sl No.	Item	Unit	1979-80 Achievement	1980-81		1981-82	1980-85 Target Proposed
				Target	Anticipated. Achievement		
1	2	3	4	5	6	7	8
10.	Distribution of planting materials & fruits lakhs.	No. in lakhs	4.31	4.50	4.83	5.33	27.48
11.	Distribution of pamphlets, booklets, etc.	Nos.	50,000	51,000	55,000	60,000	3,50,000
12.	Distribution of tools, equipments, implements etc.	Nos.	3977	3477	2447	3453	23,760
13.	Soil Analysis (samples)	Nos.	18,000	23,000	23,000	29,000	54,000
14.	Soil Reclamation	Hac.	1,200	2,400	2,400	3,600	9,600
15.	Soil Conservation on Agricultural Lands	Hac.	3,000	4,000	4,000	5,200	10,600
16.	Soil Survey to be completed	Hac.	—	5,000	5,000	15,000	45,000

FIVE YEAR PLAN 1980—85

Selected Programmes : Achievements & Targets

Sl. No.	Item	Unit	Actual Achievement 1979 80	1980-81		Target 1981-82	Target 1984-85
				Appr.	Antipated		
1	2	3	4	5	6	7	8
1. High Yielding Vrt. Hactres							
1.	Maize	"	10,000	11,200	11,800	13,000	16,000
2.	Paddy	"	3,200	4,200	4,500	5,5000	8,000
3.	Wheat	"	6,400	8,600	9,000	9,500	12,000
4.	Millat	"	400	800	600	700	1,000
5.	Oilseeds	"	2,000	3,000	3,000	4,000	6,000
6.	Pulse	"	—	500	400	1,500	5,000
7.	Soyabean	"	200	400	550	1,000	4,000
8.	Potato	"	130	203	200	500	1,000
9.	Ginger	—	—	—	—	—	800
10.	Others	—	—	—	400	800	1,500
	Total (1 to 10)		22,300	28,600	30,050	36,100	55,500
2. Consumption of Chemical Fertilizers (Nutrients) Toones							
(a)	Nitrogenous (in term of "N"	"	360	400	400	500	750
(b)	Phosphatic (in term of P ₂ O ₅	"	270	300	300	375	563
(c)	Potassic (in terms of K O	"	20	100	100	125	187
	Total (a to c)		720	800	800	1,000	1,500

FIVE YEAR PLAN 1980—85

Selected Programmes : Achievements & Targets

Sl. No	Item	Unit	Actual Achievement 1979-80	1980—81		T A R G E T		
				Approved	Anticipated.	1981-82	1984 85	
1	2	3	4	5	6	7	8	
1.	Organic Manures & Grass Manuring.	Hactare						
a.	Rural Compast	„	1,600	2,000	2,000	2,400	3,600	
2.	Plant protection (consumption of technical grade materials)	Tonnes						
a.	Consumption of Pestds	„	4.50	5.00	5.00	6.50	10.00	
b.	Seed Treatment chms.	„	1.5	2.00	2.00	2.50	5.00	
c.	Eungicides	„	2.5	3.00	3.00	3.00	5.00	
d.	Others	„	—	—	—	—	—	
3.	Certified Seed Quality Distributed	Tonnes						Total
a.	Food crops-i Cereals	„	385	455	425	500	700	2875
	ii Pulses	„	5	10	20	35	70	230
b.	Others: i Oilseeds	„	15	10	15	16	20	89
	ii Potato	„	280	300	350	400	600	2300
	iii Ginger	„	—	—	—	—	300	600
	iv Vegetables	„	100	150	180	200	350	1280

FIVE YEAR PLAN 1980—85

Selected Programmes : Achievements & Targets

Sl. No.	Item	Unit	Actual Achievement 1979-80	1980-81		T A R G E T	
				Approved	Anticipated	1981-82	1984-85
1	2	3	4	5	6	7	8
4.	Agriculture Machinery & Equipments	Nos.					
	a) Hand tools	„	2,000	2,000	1,000	1,500	4,000
	b) Horticulture tools	„	400	400	400	500	1,000
	c) Threshers & Shellers	„	400	400	400	500	1,000
	d) Oil Expellers	„	2	2	2	3	10
	e) Sprayers & Dusters	„	—	—	—	—	—
	i Hand operated	„	150	150	125	150	200
	ii Power operated	„	25	25	20	50	100
5.	Agriculture Centres	Nos.	—	—	—	4	16
6.	Land Reclamation--						
	(i) Others	Hactares	1,200	2,400	2,400	3,600	9,600
7.	(a) Owned capacity & other State Godowns (storing agriculture inputs)	Tonnes	2,000	2,500	2,500	3,500	8,000

FIVE YEAR PLAN (1980-85)

Agriculture and Rural Development

Headwise / Sub-Headwise break up of the Financial Outlay

(Rupees in lakhs)

Sl No.	Head of Development/ Programme	1979-80	1980-81		1981-82 Target	1980-85		
		Achievement	Approved	Anticipated		Total Proposed Outlay		
						Total	Capital	Foreign exchange
1	2	3	4	5	6	7	8	9
I. Agriculture Research & Education								
	1. Agriculture Research	2.20	2.60	3.10	7.10	30.00	7.38	—
	2. Agril. Education	1.00	1.00	1.50	3.00	14.00	—	—
	Total I	3.20	3.60	4.60	10.10	44.00	7.38	—
II. Agril Extension & Adm.								
	1. Direction & Adm.	0.90	2.00	2.00	4.80	24.00	5.00	—
	2. Agril. Farms	39.34	31.90	31.90	33.40	160.00	76.00	—
	3. Extension Education & Farmers Training	3.03	7.00	7.00	11.10	50.00	10.00	—
	Agr. Economics & Statistics	0.50	0.50	0.50	3.00	16.00	—	—
	Total II	43.77	41.40	41.40	52.30	250.00	91.00	—
III. Agricultural Inputs								
	1. Seeds	11.20	9.60	10.60	18.53	100.00	16.00	—
	2. Fertilizers & Manures	15.69	28.00	28.25	30.50	160.00	1.50	—
	3. Plant Protection	10.60	13.00	13.00	21.30	100.00	10.00	—
	4. Implements & Machinery	4.60	4.80	5.50	11.50	62.00	9.30	—
	Total III	42.09	55.40	57.35	81.83	422.00	36.80	—

FIVE YEAR PLAN (1980-85)

Agriculture and Rural Development

Headwise / Sub-Headwise break up of the Financial Outlay

(Rupees in lakhs)

Sl. No.	Head of Development/ Programme	1979-80	1980-81		1981-82 Target	1980-85		
		Achievement	Approved	Anticipated		Total Proposed Outlay		
						Total	Capital	Foreign Exchange
1	2	3	4	5	6	7	8	9
IV. Crop Oriented Programmes								
	1. High Yielding Varieties Programme	7.35	7.00	8.00	13.60	96.00	—	—
	2. Commercial Crops	5.01	6.00	6.60	14.54	80.00	18.00	—
	3. Horticultural Crops	21.00	23.00	23.00	26.00	155.00	36.25	—
	4. Plantation Crops	3.00	3.00	3.00	14.16	77.00	15.59	—
	Total IV	36.36	39.00	40.60	68.30	408.00	69.84	—
	V. Agriculture Marketing & Quality Control	2.00	7.00	7.00	12.37	65.00	10.00	—
	VI. Storage & Warehousing	—	—	—	3.00	16.00	16.00	—
VII. Soil & Water Conservation								
	1. Soil Survey & Testing	3.50	5.00	5.00	4.00	25.00	—	—
	2. Soil Reclamation	11.00	11.80	11.60	12.00	70.00	—	—
	3. Water Conservation	1.00	0.80	1.00	2.00	15.00	—	—
	4. Soil Conservation	20.00	25.00	25.00	28.00	160.00	—	—
	Total VII	35.50	42.60	42.60	46.00	270.00	5.00	—
	Grand Total	162.92	189.00	193.55	273.90	1,475.00	236.02	—

FIVE YEAR PLAN 1980-85

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Agricultural Education and Training

During Five Years

Sl No.	Items	Agriculture	Agriculture Engineering	Soil Conservation
1	2	3	4	5
1.	University Education			
	(1) State Agril. University			
	(a) Graduates	27	10	—
	(b) Postgraduates			
	M.Sc.	6	—	—
	Ph.D.	—	—	—
	(2) College			
	(a) Graduates	—	—	—
	(b) Postgraduates	—	—	—
	M.Sc.	—	—	—
	Ph.D.	—	—	—
2.	Professional Training /V.L.Ws.	45	—	—
3.	Vocational Training	110	10	30
	Skill formation/Diplomas/ Short Courses			
4.	Training Institutes—Profess— ional/Vocational Training Centres			
	(a) Farmers Training Centre	2	—	—
	(b) Krishi Vigyan Kendra	1	—	—
	(c) Extension Training Centre	1	—	—

Land Reforms

Review

In order to bring about more effective collection of land revenue in Sikkim, in 1975, the State Govt. took up the direct collection of land revenue and public dues from all landholders. The Sikkim Cultivators Protection (Temporary Provisions) Act, 1975 and Rules of 1975 were the first measures, taken to give the cultivating tenants (adhiadars and kutiadars) a fair deal. The Sikkim Regulation of Transfer and Use of Lands Act & Rules 1975 were enacted prohibiting transfer of land by landholders holding more than ten acres of land except with the permission of the Collector. This was followed by the Sikkim Agricultural Land Ceiling and Reforms Act and Rules in 1978. The objective of this legislation was to provide for the imposition of ceiling on agricultural lands held by land owners of Sikkim with a view to preventing the concentration of agricultural lands in the hands of a few persons and to bring about thereby an equitable distribution of agricultural land to subserve the common good.

In order to supervise and bring about proper implementation of the Acts and Rules, a Land Reforms Cell was created in 1976. This Cell was expanded to the district level with Revenue Officers in each district authorised to function as competent authorities over and above the Collectors. The Collector's Office has been further strengthened with adequate staff to ensure that land to be distributed is physically delivered to the eligible categories and to ensure that the land records are mutated and up dated to ensure their rights. So far about 450 hectares of land have been declared excess and officially vested in the State Government. Due to changing conditions and new priorities, the Government had decided to bring the ceiling laws under examination for revision. Particularly due to the geophysical and climatic peculiarities of Sikkim, certain lacunae were found to exist. A large number of representations were received from people against the provision of the Land Ceiling Act and the fact that guidelines issued by the Central Government (Chief Minister's Conference on Ceiling on Agricultural Holdings, held in 1972) were not adhered to while preparing the State Ceiling Law called for revision. Further, as Survey & Settlement work in the State is still going on it was felt that enforcement of the Ceiling Laws will be more effective and meaningful after review and completion of the Survey and Settlement work. Nonetheless, the main objective in the plan period 1980-85 will be, apart from ensuring early implementation of land ceiling laws, to reorganise and strengthen the land revenue agency specially in the field in addition to regular collection of land revenue. The land records will also be kept continuously upto date to reflect various changes that may take place in the villages.

Objectives & Strategy

Before the commencement of survey and settlement operations, the only land records maintained were the register showing the number of houses and their owners for the purposes of house tax. Changes occurring were only being incorporated in the yearly rent roll by the landlords and managers of Private Estate. In the absence of State Government collecting agency, these middlemen known as elhakhadars were supposed to prepare rent rolls and realise the revenue amounts from, ryots through block mondals appointed by them. This was to be credited to Government account at fixed rates. There were 104 elakhas divided among 52 landlords and managers. After abolishment of landlordism in 1949, the State Government took up the collection of land revenue dividing the State into 4 districts

under District Offices/Collectors who collect the revenue through Block Mondals on 10% commission basis. In 1950-54 a scientific revenue settlement survey was conducted. The Collectors were provided with Revenue Inspectors, Head Surveyors and Surveyors to look after realisation of land revenue, mutation, survey etc. Agricultural Land in Sikkim is estimated to be 175 lakh hectares. A Directorate of Survey and Settlement was started in 1976 to ascertain the facts and ownership of land. Till the end of 1979-80, 1.51 lakh hectares were surveyed at a cost of Rs. 80.98 lakhs. The remaining survey and preparation of land records will be completed by March, 1982. The printed records and selected staff will be transferred to a Directorate of Land Records under the Land Revenue Department after imparting adequate training to them to function as Revenue Inspectors and Supervisors. During the Plan period a total provision of Rs. 42 lakhs is earmarked for completion of Survey and Settlement- Rs. 27.00 lakhs having been sanctioned for 80-81 and Rs. 15.00 lakhs more required for 81-82. The investment on preparation of Land Records and their continuous updating has to be accepted as an investment on agriculture and should not be judged as expenditure on a scheme which yields no return. Apart from everything else until the settlement work is over and review according to Central guidelines is done, it will not be feasible to enforce the Land Ceiling Law in the State effectively and meaningfully.

As part of Land Reforms work, priority will be given to the question of reorganising and streamlining the primary revenue agency in the field from the village upwards. A field agency will be created for this who will also keep continuous and up to date information of actual tillers, landless persons, new areas taken under cultivation, type of crops produced each year, loss of properties by natural calamities etc. The investment for this purpose is of considerable importance because the preparation of records under the present settlement operation will be of no use unless they are properly preserved and updated. Fifty six Revenue Circles are proposed-(8 North, 18 East, 15 South and 15 West Districts)3,500 plots per circle as done in Himachal Pradesh. A Revenue Supervisor, analogous to patwari in other States, will be in charge of each circle. Besides collection of land revenue, maintenance of land records and enforcement of land reforms measures, certain other incidental development and panchayat functions will also be entrusted to him. Chief Revenue Inspectors (Sadar Kanungo) will also be appointed in each District with Revenue Inspectors (Kanungo) to assist them. For this the District Collectorate will be adequately strengthened. In addition to the existing land reforms establishment in the district level, the proposed revenue circle set up will require an outlay of about Rs. 40 lakhs in the plan period for establishment expenses. To ensure safe custody of records, field offices will also have to be constructed in circles for patwaris. Wherever possible, accommodation will be made available in Panchayat Ghars. An outlay of Rs. 35.00 lakhs is proposed for such office constructions.

Compensation for land to be taken over under the land reforms measures is also an inevitable expense item. When surplus land is allotted to the poor and needy, it will have to be followed up by a programme of rehabilitation. The total outlay for these is projected at Rs. 13.00 lakhs. The overall outlay for Land Reforms including completion of survey operations is Rs. 140 lakhs.

OUTLAYS & EXPENDITURE

Land Reforms

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82		Remarks
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content	
1	2	3	4	5	6	7	8	9
Agriculture and allied services								(i) Record writing will be completed by March 1982
(a) Survey & Settlement	25.75	27.00	27.00	42.00	—	15.00	—	
(b) Land Reforms								
(i) Administrative set-up	2.08	3.80	3.80	50.00	—	8.50	—	
(ii) Office Construction	—	1.45	1.45	35.00	—	5.00	—	
(iii) Compensation to Land Owners	—	0.50	0.50	11.00	—	1.25	—	
(iv) Assistance to Allotees	—	0.25	0.25	2.00	—	0.25	—	
TOTAL OF (b)	2.08	6.00	6.00	98.00	—	15.00	—	
TOTAL OF (a) & (b)	27.83	34.00 33.00	34.00 33.00	140.00	—	30.00	—	

SELECTED TARGETS & ACHIEVEMENTS

Land Reforms

Name of Scheme	Limit	1979-80	1980-81		1980-85	1981-82	Remarks
		Actual	Target	Anticipated Achievement	Proposed Target	Proposed Target	
1	2	3	4	5	6	7	8
(a) Survey and Settlement	Exhaustive Survey of Agricultural Lands, followed by preparation, Attestation and Uptodation (in Hectares)	1,51,501.40	Survey of balance hectares and preparation of Records 20,000	20,000			(i) Completion of Survey by 1982 end. (ii) Prepare Land Records & up-to-date them.
(b) Land Reforms	Revenue (i) Circles	—	8	8	56	51	

Minor Irrigation

The State of Sikkim falls within the high rainfall zone, the average annual rainfall being about 2500 cms. There should therefore normally be adequate water in the terrain including both surface and ground water. As a matter of fact, the terrain is studded with a multitude of springs the discharge from some of which have been recorded upto 30 litres per minute. The entire terrain is therefore suitable for the purpose of drawing water, to the cultivated fields. Although the rainfall is high, there are certain dry periods which results in the crops being affected causing lower degree of productivity than the inherent potential. The importance of irrigation schemes need not therefore be emphasised. The main objective of the irrigation schemes is to stabilise the existing crops and also to enable the conversion of dry areas into wet areas by making available water on a continual basis.

During the past plan periods various irrigation schemes have been implemented. Most of the schemes were small in dimension and they consisted of tapping a spring or a stream and drawing the water into an inlet reservoir, whence it is taken down to fields through open cemented channels. These schemes have proved to be quite popular and have served a fairly useful purpose by making available the crucial input of water for agricultural purposes at the appropriate time. However, many of the schemes are running into difficulties because they involve the laying of cemented channels on a hilly terrain where the hillsides have to be cut and in many of the cases channels have to pass through unstable terrain. Frequent landslides and other geological disturbances have posed a threat by destroying the channels already laid. To some extent the problems have been solved by using polyethene pipes through unstable terrain. This however is not the final answer since these pipes are also susceptible to damages. The possibility of using hume pipes in future is therefore being considered. These small irrigation schemes were all implemented on the strength of recommendations emanating from the District Planning Committees (DPC) which constitute the main decentralised forum for expressing popular demands. The DPCs lay down priorities and the Rural Works Department implement them according to the resource availability. As a result of this method some of the schemes have been found to suffer on account of inadequate investigation while the others have been able to deliver the goods. The future strategy would therefore be to decide on implementation only after some basic investigation on the technical feasibility of the project is undertaken in conjunction with the Agriculture Department which is to determine how best the land within the command area can be utilised for crop production. This kind of pre-project investigation is now possible because previously 16 larger irrigation schemes were identified and in order to implement them a separate wing consisting of irrigation engineers was created in the PWD which has now been merged with the Rural Development dept. because it was found that the larger schemes were also minor irrigation schemes since they fall within the definition of 'Minor Irrigation' adopted in the country. With the induction of the above mentioned technical staff into the Rural Development Department the entire process of pre-project investigation and implementation will be streamlined.

Objective

The objective in the plan would be to identify selected irrigation schemes which would provide the dual benefit of stabilising the existing crop and in making the land more productive by making available water throughout the year and thereby paving the path for multiple cropping.

Strategy

By the end of 1979-80, 7,845 hectares have been brought under irrigation. Since the cultivable area in the State is about 69,000 hectares this is only about 11% of the area. Much more effort is therefore called for in order to increase the area under assured irrigation. A physical target of additional 8,000 hectares is therefore envisaged for being brought under assured irrigation by the end of the plan period. This calls for at least doubling of the effort hitherto put in and would therefore require adequate organisational support. The per hectare cost of irrigation in the State varies in accordance with the terrain but on an average it is estimated to be approximately Rs. 6,000. Thus, for irrigation works alone an outlay of Rs. 480 lakhs is required for the plan period. A further sum of Rs. 35 lakhs is proposed for organisational support which would include the cost of additional machinery and equipment and for creating a full-fledged division for irrigation purposes. Since the irrigation works are almost all in remote rural areas basic office-cum-residential facilities have also got to be provided to the staff and therefore a building programme is proposed to be integrated along with the works programme for which a separate outlay of Rs. 20 lakhs is proposed. As already mentioned the irrigation schemes will be subjected to survey and investigation before implementation and for this an outlay of Rs. 15 lakhs is proposed. Accordingly a total outlay of Rs. 550 lakhs is projected for the five year plan for Minor Irrigation.

Soil and Water Conservation

Considerable areas in the State have special erosion problems particularly because the entire State lies in that part of the Himalayan region which has young geological formations making the land extremely susceptible to slips. The problem is further aggravated on account of heavy monsoon rains as a result of which innumerable streams cascade down the hill side with uncontrolled fury eating away valuable chunks of land. In order to control such erosion and to protect the land from the ravages of the monsoon, a three pronged attack is necessary consisting of biological control, engineering works and shaping a proper land use pattern. Although all these are being undertaken even today, the drawback has been that there has been no integrated approach as a result of which the co-ordination necessary for optimal utilisation of land is not up to the desired level. The approach to soil conservation during the sixth plan period will, therefore, be towards the integration of the various parameters with the prime objective of making the land more productive.

Review

During the past, soil conservation works have been handled by multiple agencies. They include the departments of Agriculture, Forest and Local Self Government. The first mentioned has been implementing bench terracing schemes wherein the accent has been to identify areas where crop cultivation is possible but which have been hampered on account of steep and slopy terrain. These areas are suitably terraced and in this work local labour is utilised, with the department only giving general technical guidance. The norm adopted is to spend Rs. 1,000 per acre, the remaining amount being met through local contribution. As a result of the measures already undertaken, the department has been able to terrace about 2,430 hectares of cultivable land. On a rough estimate the area which requires terracing is estimated to be 40,000 hectares which indicates that only the fringe of the problem has been touched upon so far. During the sixth plan period there will, therefore, be an intensification of work under this item.

As far as the work undertaken by the Forest Department is concerned the investment could be broadly divided under protective works and biological control. Under the former, the department has trained a large number of jhoras by the construction of sausage walls and other engineering works including the construction of drains. In addition to this, under the Centrally Sponsored Scheme of soil conservation in river valley catchments, two catchments namely, the Rorachu catchment and the Rangpochu catchment have been identified for the purpose of full scale soil conservation. In these areas, apart from engineering work like control of toe erosion and catch water drain works, biological control has also been undertaken. Since the area to be covered is vast much more ground has however to be covered. As far as biological control is concerned, the Forest Department has set up nurseries in several centres where saplings of soil binding species are grown which year after year are transplanted in different slip prone areas. About 600 hectares of slip prone areas have been afforested during the year 1979-80.

The work undertaken by the Local Self Government pertains to jhora training within the Gangtok municipality and in other bazars. So far these works have been done on an ad hoc system since whenever a particular area is threatened with erosion an estimate is drawn up and the work implemented accordingly.

Objectives

In view of the importance of soil conservation in raising the productivity of land the objectives in the sixth plan would be :—

- (a) to identify major slip zones which have the potential of causing extensive damages and to draw up an integrated and detailed plan of action consisting of the various items of soil conservation within the slip area ;
 - (b) to chalk out a system of proper land use so that the usage of land can be so regulated that there would be no future hazards on account of soil erosion ;
- and
- (c) to intensify the work in bench terracing of cultivable land on hill slopes.

Keeping these major objectives in mind, the schemes that are proposed to be implemented are briefly summarised. These are :—

1. Protective works

It has been ascertained that there are 25 to 30 major slip zones in the entire State. Year after year, the landslides that occur in these zones cause extensive damage not only to the cultivable and inhabitable land but also to the communication network. On an average each of these slip zones covers about 500 hectares. In order to effectively tackle the hazards arising out of such slips, plans of action would be drawn up in each of the slip zones consisting of necessary engineering works as well as biological control needed for the purpose. Thus the approach would be to tackle the problem on a mini watershed basis each zone being a mini watershed. The idea is that by making the approach comprehensive the effect of investment would be on a durable basis. Estimates for each zone will be drawn up in advance and depending upon resource availability they would be implemented on a priority basis. In order to achieve the desired objective, the concerned departments would be kept in the picture while drawing up the schemes. Wherever possible the food for work programme will also be integrated with this work. Since the magnitude of this work is extremely large a total provision of Rs. 320 lakhs is estimated for the protective works of which Rs. 85 lakhs are tentatively earmarked for the Gangtok Municipality and Rs. 35 lakhs for other bazars. The remaining amount is proposed for the other areas. While implementing these schemes it will be ensured that the entire length of a stream or jhora is trained because otherwise the benefit of saving land on the trained part will be offset by more devastation on the untrained part.

In addition to the implementation of such protective works in identified slip zones, the Centrally Sponsored Scheme of soil conservation in the catchment areas of river valleys will also be implemented. Nine larger watersheds have already been identified and by making use of the data provided by the bureau of soil survey and land use, detailed master plans will be drawn up within the watershed areas which will not only take into account engineering works but complete biological works. An amount of Rs. 50 lakhs is earmarked for this purpose.

Another Centrally Sponsored Scheme called 'Operation Soil Watch' will also be continued wherein selected areas will be particularly taken up for intensive afforestation including pasture development for cattle so that the benefits of the scheme would be broad based. 600 hectares would be brought under this scheme. The State share of the expenditure for this is estimated at Rs. 37 lakhs. Whatever benefit accrues as a result of undertaking protective works in an identified area gets completely nullified if the subsequent usage of land is not regulated. For this purpose a Land Use Committee is proposed to be created which will be manned by a multi-disciplinary team of experts so that a co-ordinated approach can be had in respect of all land use proposals wherein management of the watershed is to be given optimum consideration.

2. Biological control

The main item of work under this scheme is afforestation and for this purpose 2,500 hectares of land are proposed to be planted with soil binding species more particularly in the slip zones. Since the planting of such an extensive area with species particularly adaptable to the soil conditions of the area requires adequate supply point nurseries, the policy would not only be to extend the nurseries over larger areas but also to encourage private people living near the areas, to themselves grow the saplings. The supply of saplings being a vital adjunct to the success of the biological control scheme a total outlay of Rs. 86 lakhs is proposed for the purpose.

3. Soil Conservation on Agricultural land

The terracing and binding of land fit for cultivation will directly contribute to the productivity of the land. It will prevent erosion of top soil and will also help to retain moisture. Thus bench terracing is an important component of the agricultural plan. The target envisaged is to complete about 7,000 hectares of land by the end of the plan period. An outlay of Rs. 160 lakhs is kept apart for the programme. Various extra sources like Food for Work, SFDA etc. would also be tapped so that the physical target is attained. Thus by 1984-85, about 25% of the area needing terracing would be covered.

4. Strengthening the administrative machinery

The implementation of the various soil conservation schemes will require an effective administrative set up wherein soil conservation specialist support would be a basic prerequisite. The soil conservation organisation will, therefore, have to be strengthened. Two more subdivisions are proposed to be started and some amount of specialised training is proposed to be imparted to the staff. Besides this, soil survey and testing will also be undertaken primarily to determine the critical uses of the soil. Total outlay contemplated for the purpose of strengthening the administrative infrastructure is Rs. 37 lakhs for the plan period.

OUTLAY AND EXPENDITURE

Soil and Water Conservation

Rupees in lakhs

Name of the Scheme	1979-80 Actuals	1980 - 81		1980 - 85		1981 - 82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
Soil Conservation Schemes :							
1. Protective Works	43.92	58.60	58.60	320.00	—	55.00	—
2. Biological Control							
(a) Nurseries	4.80	4.00	4.00	28.00	—	5.80	—
(b) Afforestation	11.49	10.00	10.00	58.00	—	10.00	—
3. Centrally Sponsored Schemes							
(a) River Valley Catchments	11.10	5.40	5.40	50.00	—	6.00	—
(b) Operation Soil Watch	5.33	5.00	5.00	37.00	—	6.00	—
4. Terracing on Agri. Land	21.00	25.00	25.00	160.00	—	30.00	—
5. Direction and Administration	0.65	7.00	7.00	37.00	—	7.20	—
TOTAL	98.29	115.00	115.00	690.00	—	120.00	—

SELECTED TARGETS AND ACHIEVEMENTS
Soil and Water Conservation

Sl. No.	Item	Unit	1979-80	1980-81		1980-85	1981-82
			Achievement	Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7	8
1.	Afforestation	hectares	1,486	500	500	2,500	500*
2.	Nurseries	hectares	29	—	—	40	5*
3.	Protective Works	Cum.	30,000	60,000	60,000	80,000	10,000*
4.	Terracing of Agri. land	hectares	2,430	1,000	1,000	7,000	1,215*

* These are additional figures.—Rest are cumulative

Food & Civil Supplies

The communication facilities in Sikkim being under developed, the need to store adequate quantities of foodgrains in strategic places needs no emphasis. During the previous years a programme of constructing a net work of modern godowns has been initiated and five such godowns at Gangtok, Jorethang, Mangan, Singtam and Rhenock with a total capacity of 3,000 metric tons have been constructed. 1,000 metric tons would be added to this by completing the constructions at Geyzing and Legship. By the end of the plan period the total capacity of the godowns will have to be increased by a further 2,500 metric tons which will store not only foodgrains but other essential commodities like, edible oil, salt etc. The additional storage capacity is extremely important to cater to the increased off take of rice which has gone up from 1,200 metric tons to 2,200 metric tons a month and also to provide at least four months' buffer stocks. The major thrust in the plan would be, therefore, to increase the storage capacity.

This objective, even if attained, can be put to proper use only if the department is equipped with an adequate fleet of trucks, because without mobility it will not be possible to lift and store foodgrains properly. During the plan period the fleet strength would be augmented not only through increasing the number of trucks but also by replacing the existing vehicles which have out lived their lives.

Another work that will be undertaken more intensively during the plan period is the organisation of Town Rationing cum Supply Offices in the district headquarters and in important towns. The necessity for such establishments is that whenever there is a shortage of commodities, a system of informal rationing can be introduced through a system of making out ration cards for which enumeration of the houses and the introduction of a distributing system is essential.

The main strategy to be followed by the Food Department during the plan is, therefore, to strengthen their infrastructure by a programme of godown construction and consequent strengthening of staff, which will be used both for godowns and for the town rationing offices.

A total outlay of Rs. 20 lakhs is proposed for the construction of godowns and another Rs. 7.00 lakhs for construction of Town Rationing and Area Offices. A sum of Rs. 21.00 lakhs is proposed for strengthening the administration which will include the purchase of trucks and other incidental matters concerning other overheads. Of this, Rs. 7.00 lakhs will be for the Town Rationing Offices and the remaining for the godowns.

An outlay of Rs. 2.00 lakhs is proposed for construction of food storage bins which are intended to help the farmers construct storage bins within their households. This will be monitored and implemented by the Agriculture Department. Thus, the total outlay for the Food & Civil Supplies Department for the Five Year Plan is put at Rs. 50.00 lakhs.

OUTLAY AND EXPENDITURE
Food & Civil Supplies Department

Name of the Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
Direction and Administration (Godown)	1.86	1.80	3.30	14.00	—	3.20	—
Construction of Godowns	3.00	3.90	3.00	20.00	20.00	3.50	3.50
Direction and Administration (T. R. O. & Area Office)	0.49	0.80	0.80	7.00	—	1.30	—
Construction of T. R. O. & Area Office	Nil	1.00	0.50	7.00	7.00	2.00	2.00
Setting up of Storage Bins	0.75	—	—	2.00	—	—	—
Supply of Nutrition Food	0.76	2.50	—	—	—	—	—
TOTAL ...	6.86	10.00	7.60	50.00	27.00	10.00	5.50

SELECTED TARGETS & ACHIEVEMENTS

Food & Civil Supplies Department

Sl. No.	Item	Unit	1979-80 (Base year Level)	1980-81		1980-85 Proposed Target	1981-82 Proposed Target
				Target	Anticipated Achievement		
1	2	3	4	5	6	7	8
1.	Storage						
	State Government	Mts.	3,000 (Cumulative)	500 (Addl.)	500	2,500 (Addl.)	1,000 (Addl.)

Animal Husbandry

Animal Husbandry forms an integral part of the economy of Sikkim. A large percentage of the rural population is engaged in it in one form or the other. As such the policy implications are relatively straight forward and that is to develop animal husbandry into a leading sector so that it can be one of the major instruments for ushering in socio-economic development of the rural masses. Keeping in view the fact that 60% of them own land less than 5 hectares it makes sense to rely on animal husbandry as an alternative for earning additional income.

The achievements in this field have been significant and encouraging. However, a great deal of ground has yet to be covered. Cattle development perhaps constitutes the major portion of animal husbandry. Current Cattle population stands at 1.58 lakhs. However, the productivity in terms of milk production is low—only 5 litres per milch cattle. A concerted effort to achieve 62.5% exotic inheritance in animals is being made with a view towards improving productivity. In order to achieve this, artificial insemination and natural services through bulls located in various veterinary centres is being followed vigorously. In 1979-80 a total of 850 artificial inseminations were performed with a success rate of over 60%. This is slightly better than the all India average. In addition, 10 artificial insemination centres and 40 model dairy units have been established. Cross breeding through natural services is also being actively implemented. Against a target of 100 exotic bulls for distribution to various veterinary centres a total of 120 were distributed in 1979-80. An exotic jersey cattle breeding farm at Pangthang is already under construction. This is expected to meet a significant portion of the total requirement for breeding bulls and semen for artificial insemination purposes.

A logical and necessary extension of cattle development is dairy development. Ever since its inception the department has been actively engaged in bringing together milk producers and consumers by organising a systematic milk collection and distribution grid. The result has been economic benefits for both the parties. To date 64 milk routes have been established and 45 milk societies have been registered. 20 more are in the process of obtaining registration. Milk production is currently estimated at 16,000 Metric tons and this figure is expected to reach 22,000 Metric tons by the end of the plan period. The culmination of the activities of dairy development has been the establishment of an independent milk producers union operating along cooperative lines. Dairy development is also being actively pursued in the North District which has yet to realise its full potential. Preliminary steps towards establishing a cheese factory at Mangan is already under execution. With the inclusion of Sikkim under "Operation Flood II" the prospects for making unprecedented progress in the field of dairy development looks sanguine.

Besides cattle, poultry and piggery development are also being given due emphasis. With respect to poultry, the achievements are relatively modest which has only served to indicate the extent of work to be done. Current poultry population is estimated at 2.18 lakhs. Most of these are maintained in villages under unproductive conditions. So far, only three poultry farms with layers numbering more than four thousand have been established in various districts for the purpose of intensive poultry development. A number of smaller units also exist. In view of the

past experiences range system of poultry has been found to be suitable in Sikkim due to the high cost of feed. 300 small farms under this system have already been established. In addition, a burgeoning poultry industry under private ownership is also taking root. 150 layer units and one broiler unit have been established along commercial lines.

Piggery development also holds great promise for commercial exploitation. For multiplication purposes, two farms, one at Tadong and other at Geyzing were established with large White Yorkshire, Saddle Back and Berkshire. Breeding boars are also being placed in various veterinary hospitals and dispensaries for upgrading local stocks and in 1979-80 10 boars were distributed for this purpose.

Possibilities for sheep and goat development are also being explored. The current sheep population is estimated at approximately 20,000 and goats at 90,000. High mortality rate in sheep due to poisonous plants and altitudinal factors have been the major causes in retarding its progress. Remedial measures are being taken. The State is concentrating in developing Tibetan sheep for wool and Banpala for mutton. Sheep farms for the two varieties have been established at Zema and Begha respectively. In addition, 4 intensive sheep development projects are operating in three districts and 2 sheep and wool extension centres have been set up at Zema and Begha. A wool grading and marketing centre has also been established at Jorethang.

A Pashmina goat farm also exists at Zema. This variety is especially being raised for its fine fiber. In the lower altitudes improved varieties are being raised primarily for mutton and milk. Breeding of horse and mule is also an adjacent activity that is being tentatively pursued.

Feed and fodder development, a crucial activity in view of the acute shortage of feed, has been confined basically to seed production in the past. A total of 22 acres have so far been brought under seed cultivation. Activity in this area will be substantially accelerated in the plan period.

Significant progress has also been made in the field of veterinary services and research. To ensure proper health coverage 13 veterinary hospitals and 51 dispensaries have been established in various regions. In addition, 10 first-aid dispensaries have also been set up. In order to bring veterinary services to farmers in remote corners, four mobile dispensaries have been organised. A policy of intense monitoring is also being conducted of all animals entering into Sikkim especially from the south in order to check ingress of any contagious disease. Since 1978 a total of 21,740 vaccinations have been performed as prophylactic measures. Apart from this a programme of identifying various diseases afflicting cattle within Sikkim is being conducted. Mass drenching with effective results are being performed.

In order to educate farmers, calf rallies, cattle shows and informal education in "Pashu Sikcha Kendra" were conducted. These schemes will be continued. A systematic live stock census was also conducted in 1977-78 through the staff of the statistical cell. Sample surveys for estimating the production of major livestock and poultry products have also been recently started.

In retrospect substantial progress has been made and valuable experiences acquired. The quantum of work yet to be done is great and in the plan period a major portion of this will be taken up on a systematic basis or continuing schemes and as new schemes.

The main objectives of Animal Husbandry would therefore be :—

- (a) To promote the adoption of improved methods of Animal Husbandry in order to augment productivity.

- (b) To intensify extension services with a view to provide latest know-how in increasing productivity,
- (c) To organise supply of inputs including feed, health cover, breeding material to inaccessible areas and to maintain a constant flow of such inputs.
- (d) To organise a marketing infrastructure along the principles of cooperative societies and to eventually handover such established units to Co-operatives on the general pattern laid down by National Dairy Development Board.

In order to achieve these objectives the following schemes are proposed for implementation :

Direction & Administration

With the gradual escalation in the quantum and magnitude of work in the department it has become necessary to strengthen it adequately in order to enhance their effectiveness in plan implementation. Both the head office and the district head quarters will therefore be supported with additional staff. At the head office one Additional Director supported by a suitable number of Joint and Deputy Directors along functional lines will be necessary. At the district level one Deputy Director for the South & West will be required. In addition a number of supportive staff will have to be added. Construction of residential buildings will also be necessary in remote corners in order to alleviate the difficulties faced by officers and field workers who are stationed in these regions, and also for those who have to make protracted official visits to remote areas. A total of Rs. 10.00 lakhs is proposed for the plan period.

Cattle Development

Cattle development is an integral part of Animal Husbandry. A programme along this line was launched based on modern scientific methods at the beginning of the fifth five year plan. The main thrust of this programme is aimed at improving the existing stock of native cattle through cross breeding with exotic and superior breeds such as Jersey and Brown Swiss. Under the agroclimatic condition of the State it has been observed that cross breeds with siri base give a better performance, they being more resistant to disease. The programme therefore aims at producing cross breed bulls using siri breed as a base and jersey as the main exotic breed. Methods employed include artificial insemination and natural services through bulls located in various veterinary centres.

The initial resistance to artificial insemination is gradually being overcome. The sixth five year plan envisages setting up 50 A/I centres along the network established by the milk collection centres. These centres will work in conjunction with a frozen semen liquid nitrogen plant of the Milk Union. A limited number of mobile artificial insemination squads may also be necessary to reach farmers that are located in distant and often inaccessible regions. For this, necessary paraphernalia such as special portable semen flask and transportation will be necessary. Dearth of trained personnel is proving to be one of the major constraints. In order to overcome this a couple of A/I training centres will be established within the state in addition to sending employees for training outside Sikkim.

Natural services through bulls located in various veterinary centres is being utilised optimally by farmers. During the plan period 100 breeding bulls will be distributed in various centres. Out of this 40 will be for replacement. A programme of castrating bulls of inferior strain will also be incorporated along with the various schemes. In order to have a base stock of hybrid cattle from which supply of breeding bulls, for natural services and semen for artificial insemination is to be met a 100 acre bull rearing farm at Pangthang is already under execution. This farm will be stocked with three bulls and fifty heifers to be acquired from Denmark through IDC. For this purpose basic

infrastructure will have to be met and attempts will be made to coordinate work with the Forest Agriculture Department, regarding plantation of fodder trees, leguminous crops and hay. In conjunction with this project a scheme of progeny evaluation will be implemented according to which heifers will be registered and the milk yield of the cows recorded so that the future bulls are progeny tested in the field. Another bull rearing unit at Rabongla under Operation flood II is under contemplation.

Mere provision of the above services is not a panacea for the ills of cattle breeding as practiced in Sikkim. Unhygienic conditions and excessive exploitation of animals take their annual toll. A programme of reeducating the farmers must be intergrated in the overall strategy. In connection with this three schemes adarsh goath, model dairy units and heifer feeding proposals have been put forth for the plan period. Under the scheme of adarsh goath, technical inputs like breeding material, guidance, and veterinary aid will be provided so that farmers owning herds of cattle can function in the pattern of breeding units producing cross breed progeny. Model dairy units will serve primarily as demonstration units to educate farmers. For the plan period 200 such units will be established. Due to excessive milking Heifer are malnourished. In order to remedy this, subsidised feed will be provided to farmers with Crossbred heifers. Registration will also be done at the same time. For the plan period this scheme will attempt to cover 5,000 heifers. Keeping all these in view a total of Rs. 120 00 lakhs is proposed.

Poultry Development

Poultry development is essentially rural in nature and has the dual advantage of generating employment and providing supplementary income to farmers. In this respect it is applicable and relevant to Sikkim. However the experience gained in the past years suggests a need to modify the strategy adopted in the past. Consequently in the plan period emphasis will be placed on :

1. Increasing the size of poultry farms to maintain economic viability.
2. Encourage more private entrepreneurs to take up poultry keeping along commercial lines,
3. Encourage and popularise range system of poultry keeping,
4. Provide a wide network of veterinary services,
5. Integrate the functions of SLDC in this programme,
6. Provide appropriate packages of loans and subsidies and
7. Develop a marketing infrastructure.

The above will be approached in an integrated manner to achieve a synergistic effect.

In order to be economically viable it has been found that the minimum size of a poultry unit should be 200 birds. Keeping this in mind the existing four layer units in various dispensaries will be increased to a strength of 200 birds per unit. In addition thirty more such layer units will be established/located in various dispensaries. Also the size of the district poultry farms, which are solely maintained for the purpose of intensive poultry development, will be boosted to a strength of 500 birds per unit. Ten more farms of a similar nature will be set up in various districts.

Private entrepreneurs will be encouraged to take a more active role in fostering the growth of poultry industry in the State. A large market exists in the State for them to take advantage of. The plan period envisages establishing 500 units of layer broiler along private commercial lines. Most of the existing private poultry units are relatively small and consequently are unable to enjoy the benefits of economics of scale.

For farmers in general, keeping in view the availability of space and the high cost of feed, range system of poultry keeping will be encouraged. At the district level two units of 500 layer will be established. In addition, two more units of 100 layer will be set up in Tarku and Dentam. These will be solely on an experimental basis and will also serve to acclimatise birds into a range system prior to distributing them to farmers. Approximately 1000 rural families from the poorer sections will be selected for this project. They will be provided 25 birds each with appropriate subsidies and incentives. In keeping with recommendations of the National Commission on Agriculture cross breeding of poultry with high yielding strains will also be given due emphasis. One thousand cockerels of R.I.R. and astrolop will be distributed in selected rural areas.

In order for the above schemes to be successful, ample provisions of technical and veterinary services, loans and subsidies and lastly a well coordinated marketing infrastructure must be provided by the govt. at least during the initial stages.

SLDC will undertake production of day old chicks and feeds. Subsequently the department will undertake the burden of rearing the chicks for 15 weeks. During this critical period all necessary treatments such as vaccination, debeaking and deworming will be provided. This has been deemed necessary to ensure low mortality rates when distributed to farmers. Veterinary services will also be provided on a more extensive basis. Subsidies for transport and feed will be secured from SFDA and with the establishment of a lead bank in the offing, loans will be made more readily available and at favourable rates and terms. Marketing of eggs and meat will be mobilised along the network established by cooperative societies. An extensive network already exists and with the gradual consolidation and revamping of these societies a more effective marketing infrastructure is expected to emerge. The Plan period also envisages establishing a central poultry breeding farm at Jorethang. In order to effectively implement the above schemes the administration will have to be strengthened suitably. A total of Rs. 42.00 lakhs is proposed for the plan period.

Sheep and Goat Development

Sheep development, even though it was started over a decade ago has made slow progress. High mortality rates and failure in cross breeding with exotic breeds procured from outside the state were the major reasons. The present strategy is based on a set of recommendations issued by Dr. G.A. Bandy—a renowned authority in sheep — after his study of sheep development in Sikkim. These include:

1. Confining Tibetan sheep in the higher altitudes—above 10,000 feet,
2. Propagating this species without further disturbing the genetic make up,
3. Developing Bonpala sheep primarily for mutton.

In view of the above recommendations the flock of Tibetan sheep at Zema will be increased to at least 10,000. Lhonak valley which is ideally suited for grazing will be utilised thoroughly. Special winter shelters will also be provided and services of experienced Lachenpas and Doptches will be solicited and utilised. Ever since the closure of the northern borders extensive stretches of verdant pasture land, which were once utilised intensively by Nomadic Tibetan shepherds, lie fallow. In order to capitalise on this more effectively, consideration will be given to providing native shepherds with flocks of fifty Tibetan sheep.

The Bonpala Sheep strength at Begha farm will be raised and maintained at 500 breeding ewes. Efforts will also be made to improve the wool quality. Sheep and wool extension centres will be established and facilities at migration routes will be provided. Mass drenching and vaccination against epidemics will be actively pursued. Distribution of breeding rams will also be undertaken.

Sheep rearing in Sikkim is not only important from the view point of generating employment but it also supports an important burgeoning industry in blankets, carpets and tweed weaving in the North—the largest tribal region in Sikkim.

Goat development is also being actively pursued within the State even though it is at an infancy stage. In keeping with the recommendations of the National Commission on Agriculture, emphasis will be placed in improving the quality of the existing stock of goats rather than increasing their numbers. Improved breeds like Barbari and Anglo Nubian will be procured from outside the State for crossbreeding purposes. Also high yielding strains of native goats will be selected for breeding purposes. Improved bucks will be placed in veterinary hospitals and dispensaries. A mutton goat farm will be established at Rhotak in the West district where 100 goats under centralised grazing shall be maintained.

A Pashmina goat farm will be maintained at Zema with a herd of 250 she goats. In the high altitudes of Sikkim small herds of five Pashmina goats have been found. Bucks of a similar strain will be imported from Kashmir to improve the local pashmina fibre. A fiber utilisation centre in North Sikkim is also proposed to be established in the plan period. In keeping with this a total outlay of Rs. 36.00 lakhs is proposed for sheep and goat development.

Piggery Development

A high percentage of the rural populace in Sikkim is actively engaged in pig raising as an incidental activity since it provides valuable supplementary income. Demand for pork in Sikkim is high and the shortfall in supply is often met by imported pork from the neighbouring state. In view of this high demand and a rural populace already attuned to the fundamentals of pig raising, the potentials for piggery development in Sikkim looks favourable.

The plan period, therefore, envisages piggery development along an integrated approach. Major emphasis will be placed on :

1. Establishing a base stock of cows for multiplication purposes,
 2. Distributing bars for upgrading the local stocks
- and
3. Establishing a marketing infrastructure.

In order to have a base stock of sows large enough to maintain an adequate supply of piglets for various purposes, the farm at Tadong will be expanded to 200 sows and that of Gyalshing and Rabongla will be maintained at 30 sows. In addition four more units of 30 sows each will be established in various districts. Facilities available in academic and Government institutions will be utilised for the establishment of 11 units of 10 sows each. Also 4 units of 10 sows each will be provided to individuals on a loan basis.

Under the intensive piggery development programme, improved breeds for upgrading the local stocks have been placed in all veterinary hospitals and dispensaries. For the plan period 1,000 breeding boars will be distributed. These will also be provided to interested panchayats and a subsidy of Rs. 30 per month will be given as maintenance allowance.

In order to facilitate the marketing of pork within and outside the State along more hygienic and sophisticated lines a Bacon factory is proposed to be constructed at Tadong. A processing capacity of 15 pigs a day will necessitate saturating the surrounding areas with piggery units owned and operated by local farmers. This will be undertaken by tying it with attractive loan packages and with the aid

of the lead bank, which is to be established in the near future. Execution and management of the Bacon factory will be undertaken by SLDC for which some amount of margin money will be provided.

Administrative ranks will also be suitably strengthened. A total of Rs 90.00 lakhs is proposed for Piggery Development for the plan period.

Fodder and Feed Development

This scheme is of crucial importance in the overall development of Animal Husbandry in view of the acute shortage of feed. This shortage is caused primarily by a combination of insufficient indigenous feed in the State and structural imbalances in the overall transportation, procurement and inventory management system. In order to mitigate this shortage the plan period envisages taking up several coordinated sub schemes. Fodder multiplication nurseries will be set up in various Agricultural Regional Centres. Goucharan lands will be planted with fodder grasses and trees. This will be implemented in cooperation with the Forest Department. In the north district, plantation of legumes and drought resistant varieties will be taken up. Fodder hay making and silage making to feed departmental animals in winter will also be taken up. Education of farmers regarding the value of different varieties of fodder plant and distribution of seeds will be undertaken. Feasibility of establishing fodder banks in deficit areas will be studied and necessary action taken. In view of the above a total of Rs. 19.00 lakhs is proposed for the plan period.

Other Livestock Development.

The major portion of investment under this head is for selected programmes of the Sikkim Livestock Development Corporation. This corporation was founded in the year 1976 and was initially intended mainly for the milk procurement programme although all commercial activities under Animal Husbandry like egg production and sale, feed production and sale etc were also entrusted with the Corporation. The authorised capital of the Corporation is Rs. 1 crore of which sum of Rs. 22 lakhs has already been subscribed. Since the main work of the corporation was to collect milk from various growth centres and process it for distribution from Gangtok dairy it naturally incurred a huge operational loss because in the initial stages of such a programme such losses form an acknowledged feature. Thus, nearly Rs. 18 lakhs out of Rs. 22 lakhs was spent on meeting the operational deficit.

Recently, in consonance with the pattern of schemes implemented through the help of the NDDB, the entire milk business has been handed over to a new Milk Union and so the SLDC is in the process of being reorganised primarily for the purpose of undertaking commercial activities of a durable nature in other spheres of animal husbandry. A comprehensive plan has been drawn up by the management and these schemes are proposed to be implemented partly through capital support by the State Government, partly through its own internal resources and also through massive institutional support particularly from institutions like the ARDC. The main scheme contemplated is that of a central hatchery unit which will undertake the responsibility of hatching day old chicks both for layers and broilers so that the increasing demand for poultry birds from farmers who are gradually becoming market oriented could be met. The setting up of a hatchery unit will involve construction work, procurement of basic equipment like incubators and brooders and the induction of technical knowhow. Allied to this programme would be the setting up of a feed plant with an approximate capacity of producing atleast 50 metric tonnes per day. Emphasis will be given to the production of poultry feed and to a lesser extent to that of feed for pigs. As far as cattle feed is concerned reliance will be placed on obtaining feed directly from Himul, a sister organisation, which has gone into production of cattle feed in pellet form at Siliguri. The SLDC will also undertake trade in meat products which will not

only include poultry meat but also mutton, beef and pork. During the plan, setting up of a bacon factory is envisaged which will be tied up with an intensive programme of multiplying piglets particularly around Gangtok. As far as beef is concerned the SLDC proposes to construct a modern slaughter house and it will undertake the responsibility of slaughtering animals in a scientific way, leading to the supply and sale of dressed meat in the markets. A cold storage will inevitably have to be attached to the slaughter house and working arrangements will have to be made with the local authorities for slaughter and sale of meat. Along with this, the SLDC also proposes to enter the market for hides and skins which is a lucrative business.

To meet these requirements the total requirement of the SLDC is estimated to be roughly Rs. 2 crores which will include working capital, capital investment on land, buildings, machinery and other miscellaneous purposes. Since the programmes depend upon massive institutional support, an outlay of Rs. 25 lakhs alone is proposed as support capital by the State Government.

Another item that comes under the caption of "other livestock development" is the programme of increasing the pack animal population of the State. The existing programme of mule breeding through distribution of Jack stallions to selected farmers will be continued at Lachen and Lachung which is an ideal area for this purpose. Thus the total outlay for other livestock development has been fixed at Rs. 28 lakhs.

Dairy Development

Dairy Development is an indispensable extension of cattle development. Its principle function will continue to be the production, handling and marketing of milk products. The department will also continue working in close collaboration with the Milk Union in this endeavour.

With the establishment of Milk Producers' Union along an autonomous cooperative line a great responsibility has been shifted from the department. However assistance in the form of technical and managerial services and subsidies and grants will be judiciously provided in order to make it economically viable. These will be tapered off as the milk union gradually becomes mature and stable. The ongoing process of tapping areas with milk potentials, and organising them along cooperative lines where feasible will be continued. In this respect the North district presents tremendous potentials for dairy development. A concerted effort will be made to develop this area into one of the main dairy centres.

Given the topography of Sikkim and wide dispersion of milk collection centres a major problem of concern has been the effect of milk curdling. This has been attributed to subjecting milk to extreme climatological changes as it is transported from one place to another. In order to prevent this it will be necessary to instal can cooling cabinets and micro chilling units in various centres. Services of refrigerated vans will also be required where milk has to be transported long distances over varying temperatures.

During the plan period attempts will also be made to diversify into milk products with longer shelf liners. Such items will include : Cheese, Churpi, Lolly-pops, cream and sterilised sweetened milk. Two cheese making plants will be established. The basic infrastructure for the one to be set up at Mangang is already under construction. A scheme to study the feasibility of raising buffaloes in the lower altitude will also be taken up and for this purpose 1,000 buffaloes will be acquired. Research work will also be conducted to study the possibility of converting Yak milk into cheese and butter.

Given the task at hand the administration will have to be strengthened adequately. Unfortunately individuals with the requisite qualifications are hard to come by. Consequently candidates, on a selective basis, will be sent out for various advanced training annually. A total of Rs. 75.00 lakhs is proposed for the plan period.

Veterinary Service & Animal Health

Adequate health coverage is essential in any livestock development programme. In order to ensure this the department has adopted the policy of establishing a dispensary at every 10 Kms and a hospital at every 40 Kms. During the plan period 20 dispensaries will be set up in various districts. In addition 20 first-aid centres will also be established. These units will be set up along milk collection routes. In view of the difficult terrain in some regions and lack of proper communications it will some time be necessary to take medical services right to the premises of affected farmers. In order to do this two more mobile veterinary dispensereries will be set up in addition to 4 units that already exist. Necessary transport facilities will have to be provided. These units will be attached to various veterinary hospitals. In keeping with these expansion programmes necessary construction of both residential and non residential buildings and also adequate strengthening of staff at various levels will have to be undertaken. Since Sikkim obtains its major supply of protein from outside due to shortage of slaughter animals in the State, it is highly susceptible to epidemics of swine flue, anthrax etc. which could have devastating consequences for the domestic stock of cattle. In order to avoid this, check posts and quarantine zones along inter-state and international borders will be established. A programme of mass vaccination against major animal and poultry diseases will be done exclusively. Under Rabis control programme mass destruction of stray dogs, vaccination of all registered dogs will be done at all district veterinary hospitals. A total of Rs. 100.00 lakhs is proposed for the plan period.

Veterinary Research

The need for veterinary research cannot be over emphasized. Significant work in disease investigation has already been done. However, for the work to be of a superior nature, adequate strengthening with respect to professional staff, equipment and other facilities is required. Four clinical diagnostic units will be established at each district veterinary hospital to help the field staff in the diagnosis and treatment of diseases of livestock and poultry. A mobile disease investigation unit will also be deployed. A total of Rs. 8.00 lakhs is proposed for the plan period.

Veterinary Education & Training

This programme is geared towards educating the farmers with respect to animal husbandry and also organising the training programmes of the department based on need. The plan period envisages conducting 115 cattle shows and calf rallies. In combination with this documentary film will also be shown. The department also proposes to bring farmers to "Pashu Sikcha Kendra" batch wise for imparting training on modern techniques of keeping livestock and poultry. A programme of sending students for B.V.Sc and M.V.Sc training annually will be undertaken in order to be self sufficient with respect to trained personnel. Attempts will also be made to enhance the professional respectibility of stockman and inseminators by imparting proper training and giving better wages. A total of Rs. 12.00 lakhs is proposed for the plan period.

Investigation and Statistics

The primary purpose of this scheme is to institute a systematic and relevant compilation of statistical data with a view to enable administration and planners in policy formulation. A need for reliable base level data is sorely lacking. The plan period envisages surveys for estimation of

production of major livestock products. This is a centrally sponsored scheme and the States share representing 50% is estimated at Rs. 8.00 lakhs for the plan period.

Modernisation of Slaughter House

Under the prevailing conditions the slaughter house in Gangtok and other urban centres is a natural hazard to health. There are no holding yards for the animals and lack of proper facilities for the disposal of waste materials has been a problem. Due to lack of space around Gangtok area it may be necessary to shift the slaughter house elsewhere. Slaughter houses which were under the jurisdiction of Gangtok Municipal Corporation is now being handed over to SLDC. A master plan for constructing a major slaughter house at Rangpo has already been conceived. However the quantum of financing required is fairly large. Under this scheme a total of only Rs. 20.00 lakhs is proposed.

Livestock Marketing Centre

During the Fifth Five Year Plan the state Government constructed one marketing centre at Gangtok and transferred it to the Corporation. The current plan period envisages setting up four more centres. These will primarily serve as marketing centres for purchasing and selling poultry and livestock produce of rural farmers. A total of Rs. 11.00 lakh is proposed for the plan period.

I.C.A.R. Schemes

Under this scheme research projects on sheep breeding for wool, poultry breeding format and epidemiological studies on foot and mouth diseases will be continued. A total of Rs. 21.00 lakhs is proposed for the plan period.

OUTLAYS AND EXPENDITURE

Animal Husbandry

Rupees in lakhs

Name of Scheme	1979-80	1980-81		1980-85		1981-82	
	Actual expenditure	Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Direction and Administration	0.50	1.00	1.00	10.00	—	2.00	0.00
2. Cattle Development	12.10	17.80	17.80	120.00	12.00	18.00	4.00
3. Poultry Development	3.10	7.00	7.00	42.00	8.00	6.00	2.00
4. Sheep & Goat Development	1.30	3.50	3.50	36.00	10.00	8.00	5.00
5. Piggery Development	10.90	8.70	8.70	90.00	20.00	12.00	2.00
6. Other Livestock Development	0.10	9.00	9.00	28.00	6.00	8.00	0.00
7. Fodder & feed Development	2.20	4.00	4.00	19.00	—	3.00	0.00
8. Dairy Development	7.00	18.00	18.00	75.00	48.00	15.00	7.00
9. Veterinary service & Animal Health	10.90	14.50	14.50	100.00	38.00	18.00	5.00
10. Veterinary Research	0.80	0.10	0.10	8.00	—	2.00	—
11. Farmer's Training & Extension Programme	2.30	2.50	2.50	12.00	—	3.00	—
12. Investigation & Statistics	0.50	2.00	2.00	8.00	—	2.00	—
13. Modernisation of Slaughter House	—	—	—	20.00	20.00	5.00	5.00
14. Livestock Marketing Centre	—	—	—	11.00	—	4.00	—
15. ICAR Schemes	—	3.90	3.90	21.00	—	4.00	—
GRAND TOTAL :	51.70	92.00	92.00	600.00	162.00	110.00	30.00

SELECTED TARGETS AND ACHIEVEMENTS

Animal Husbandry

Schemes	Unit	1979-80 Actuals	1980-81		Proposed Target	
			Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
1. Cattle Development						
a. Bulls for natural service	Nos.					
(i) Replacement	„	8	8	8	40	8
(ii) New Allotment	„	120	20	20	100	20
(b) Artificial Insemination Centers	„	10	10	10	50	10
(c) Semen Banks-AI Centers	„	1	1	1	2	1
(d) Frozen Semen Bank	„	—	—	—	2	1
(e) Model Dairy Units	„	40	40	40	200	40
(f) Heifer Breeding	„	500	500	500	5000	500
(g) Purchase of Bulls Calves for Breeding	„	20	20	20	150	20
(h) Bull Rearing Farm	„	1	—	—	2	1
(j) Artificial Insemination	„	850	1000	1000	5000	1000
2. Poultry Development						
(a) Intensive Poultry Dev. Units with district Poultry farms	„	4	4	4	10	4
(b) Establishment of private units 100 above						
(i) Layer	„	150	50	50	500	100
(ii) Broiler	„	1	10	10	500	50
(c) Range Units	„	300	300	300	1000	500
(d) Distribution of Cockerels	„	100	500	300	1000	500

SELECTED TARGETS AND ACHIEVEMENTS

Animal Husbandry

Schemes	Unit	1979-80 Actuals	1980-81		Proposed Targete	
			Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
3. Sheeps Goat Development	Nos					
A. Creation of Sheep and Wool Development Cell	„	1	—	—	2	1
B. Sheep Wool Extension Center and Transit Camps	„	3	3	3	9	3
C. Distribution of Rams						
i) Mutton Rams	„	50	100	100	500	200
ii) Wool Rams	„	—	100	100	500	200
D. Distribution of Bucks						
i) Meat	„	—	100	100	500	200
ii) Pashimina	„	—	100	100	500	200
4. Piggery Development						
A. Piggery Development Blocks	„	1	1	1	2	—
B. „ Extension Units	„	2	2	1	4	1
C. Strengthening of Farm						
i) 500 Sows Farm	„	—	—	—	1	1
ii) 200 „ „	„	—	2	1	2	1
iii) 50 „ „	„	—	2	1	2	1
iv) 30 „ „	„	1	3	2	4	2
v) 10 „ „	„	—	20	15	50	10
D. Distribution of Boars	„	10	50	50	100	100
E. Pork Processing Plant	„	1	—	—	1	—
F. Smaller Units	„	100	200	200	500	200

SELECTED TARGETS & ACHIEVEMENTS

Animal Husbandry

Scheme	Units	1979-80 Actuals	1980-81		Proposed Target	
			Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
5. Other Livestock Development	Nos					
A. Purchase of Stud Donkeys	"	—	—	—	2	2
B. " " Tibetan Horse Stallion	"	—	2	2	4	2
C. " " Breeding Mass Tibetan ?	"	15	2	2	10	8
D. " " Yaks	"	16	10	10	20	10
6. Fodder Seed Development						
A. Fodder Seed Farm	"	—	1	1	8	2
B. Demonstration Nurseries (Govt)	"	—	3	3	20	4
C. " " (Private)	"	—	100	100	500	100
D. Distribution of Rooted Cutting of Seeds	"	—	200	200	1000	200
7. Dairy Development						
A. Dairy Project	"	—	1	1	1	—
B. Cheese Factory	"	—	1	1	2	1
C. Dairy Milk Union	"	1	—	—	1	—
D. Can Cooling/Micro Milk Chilling Units	"	—	4	4	12	5
E. District Town Milk Supply Unit	"	—	1	1	1	—
8. Veterinary Service Animal Health						
A. Dispensaries Veterinary	"	—	5	5	25	6
B. Mobile Veterinary Dispensaries	"	4	—	—	6	2
C. Veterinary First Aid Centers	"	—	10	10	30	5
D. Surveillance Check Posts	"	—	1	1	3	1
E. Veterinary Hospitals	"	—	—	—	—	—
9. Farmers Training & Extention Programme						
(a) Cattle shows & Calf Rallies	"	20	25	25	115	20

Fisheries

The State of Sikkim, naturally endowed with an extensive labyrinth of fresh water streams, rivers and lakes presents an ideal place for Fishery Development. Commercial species such as trout, salmon and carp have been found to adapt well in these waters. Unfortunately, prior to 1976 no concerted effort was made by the Govt. to capitalise on this tremendous resource. Since then it has embarked on a policy of systematic fishery development to be woven into the fabric of overall social and economic development of the State. To achieve this end a full fledged fisheries wing has been established under the control of the Chief Conservator of Forests.

Review

The progress made in the past four years has been encouraging though basically it is still exploratory in nature. To begin with, a brown trout hatchery unit was set up at Menmostso for the purpose of stocking cold water lakes and rivers and for rearing in fish farms for eventual harvesting. Brown-Trout is being confined to the higher regions where they thrive well. Production of ova for the year (1979-80) touched 3 lakhs approximately. A hatchery unit for rainbow trout, an aggressive sport fish, has also been established for the purpose of stocking the waters in the lower altitudes. Mirror carp production has also taken a strong foothold in the State. This variety is especially popular for rearing in private ponds, a practice common in many countries. A hatchery unit at Soreng and a rearing unit at Aritar were established for the purpose of producing and distributing fingerlings. Production of Carp fingerlings touched a figure of 2 lakhs in 1979. Most of these were distributed for stocking in private ponds and for the year (1979-80) output from these ponds touched a startling figure of 1.4 MTS. Keeping this potential in mind an extension programme is being vigorously implemented to bring additional ponds within the ambit of the Fishery Development Programme. To date 97 village ponds have been covered. For the 6th five year plan it is hoped to cover an additional 300 ponds. The main thrust of the extension programme has been to assist interested individuals, especially in rural areas, with the necessary expertise, construction materials and loans for setting up commercial fish ponds. Apart from these major varieties that are being developed there is potential for developing some of the local varieties for commercial purposes. In the past the waters of Sikkim were quite abundant with a wide variety of fish—the most exotic one being Mahaseer. Unfortunately due to indiscriminate use of explosives, water poisoning and intensive fishing the natural stock has drastically dwindled to near extinction. It is, therefore, imperative to pursue a stringent policy of conservation combined with the necessary survey and research work for eventual rejuvenation and propagation of these endangered species. Conservation has been difficult to implement in view of the limited staff, the difficult terrain and poaching from the neighbouring State. Currently 250 kms. of rivers and streams are being patrolled constantly. Fishing rights are being granted solely on a system of licensing and to date 76 licenses have been issued. Matters relating to poaching along rivers that form inter State borders have been taken up with concerned authorities in order to implement a more effective joint patrolling system. It is in the interests of both parties to formulate such a strategy. In the fiscal year 1979-80 harvest of fish produce from all domestic sources touched a figure of 16.4 MTS. This figure is expected to increase considerably in the years ahead and consequently it will be necessary to establish a marketing system whereby excess fish produce can be made available in major urban centres.

Objectives

The main objectives of Fishery Development in the Sixth Plan would therefore be :

- (1) To develop major varieties of commercial fish for domestic consumption and export to neighbouring states.
- (2) To institute a more stringent conservation policy.
- (3) To increase the number of private fish rearing units in villages through an intensive extension programme.
- (4) To strengthen the department for effective administration and implementation of schemes and projects.

In order to achieve these objectives the following schemes are proposed for implementation.

1. Strengthening of Fisheries Administration

With the gradual increase in the scope and depth of work in the department it has become essential to provide adequate staff for its proper functioning. Keeping this in view the post of a Joint Director supported by a suitable number of competent officers will have to be created in the latter part of the plan period in a phase-wise manner. A total of Rs. 10 lakhs is proposed for this during the plan period.

2. Production and Stocking of Trout Fish Seed

Trout, being a delicacy, presents great possibilities for commercial exploitation in major urban areas. Even within the State of Sikkim, with the rapid development of the tourist industry and concomitant increase in the number of high standard hotels adequate demand for fresh produce exist. In the plan period it is proposed to introduce Rainbow Trout in addition to the Brown Trout. Rainbow Trout is an aggressive sport fish and the waters in the lower altitudes have been found to be suitable for its rearing. A hatchery unit at Manepong already exists and it is planned to establish a rearing unit at Lachen for stocking Lachen Chu. Repair work will also have to be done for the brown trout rearing unit at Phuni, which was partially damaged by sliding glaciers.

Being relatively slow in maturing, harvesting of trout is expected to commence only from F. Y. (1982-83) onwards and is expected to touch a figure of 64 MTS for the entire plan period. This will bring in valuable revenue to the State exchequer. However, a marketing infrastructure will have to be established to bring excess fish produce to major commercial centres in the years ahead. The ground work towards this will have to be laid. An outlay of Rs. 28.00 lakhs has been projected for this scheme.

3. Production and Distribution of Carp and Catfish

Carp and Catfish are being developed basically for stocking village ponds and for meeting the needs of deficit States. In order to meet domestic demand for fingerlings more fish farms will have to be constructed in addition to the one at Soreng. Consequently three more farms will be constructed in the remaining three districts. These farms will serve the dual purpose of demonstration and education for the rural populace who are interested in starting rearing units. Training programmes will be conducted for short durations at regular intervals depending on the number of turn-outs. In addition two exclusive fish seed production farms will be set-up for seed

production of Indian major carp. These are in great demand within and from neighbouring States. The outlay proposed for this is Rs. 35.00 lakhs.

4. Conservation of Riverine Fisheries

Conservation has to be taken up on a priority basis in view of rapid depletion of the local varieties of fish. In addition since most rivers are being stocked with trout raised on Govt. owned farms this aspect assumes greater importance. Constant patrolling is the key to discouraging poaching. Inspectors, sub-inspectors and fishery guards will have to be increased in sufficient numbers to effectively patrol the projected 500 kms. of streams and rivers. Those on constant patrol will have to be provided with the necessary equipments to enhance their capabilities. In addition construction of quarters at strategic areas will have to be undertaken in view of the difficult terrain and isolated regions over which most of the patrolling will have to be done. The outlay provided for this scheme is Rs. 20.00 lakhs.

5. Propagation of Mahaseer

Mahaseer has been one of the major victims of poaching. In order to rejuvenate this species a mahaseer propagation farm is proposed. The objectives of this unit will be to raise this species in farms through induced breeding for eventual release in rivers to maintain the stock. A study of its breeding habits and the locations is necessary for creating restricted zones. A total outlay of Rs. 4.00 lakhs is projected for this scheme.

6. Extension and Training

The main thrust of the extension and training programme is aimed at bringing about a general improvement in the living standards of the rural populace by enabling them to adopt the practice of fish rearing within their premises. The benefits that are anticipated to accrue are monetary benefits from the sale of fish produce and improvement in health conditions due to the nutritional value of fish in the diet. In order to ensure them success in this new venture adequate guidance and financial assistance must be provided. As far as possible labour intensive methods and indigenous materials will be utilised in the construction of ponds. The proposed three Mirror Crap farms to be constructed in the plan period, in addition to the one at Soreng, will be used as demonstration and training centres. Financial constraint has been one of the major problem. Loans in the form of cash and kind will be appropriately combined to enable the rural populace to overcome this obstacle. A suitable number of competent training officers will also have to be appointed. A sum of Rs. 9.00 lakhs has been projected for loans and Rs. 2.00 lakhs for extension and training requirements.

7. Survey and Research

In order to have a viable Fishery Department it is essential to maintain a survey and research cell. This cell will be involved in conducting various studies regarding breeding habits of fish, feasibility of introducing new varieties of fish and other related matters. A token provision of Rs. 1.00 lakh has been provided.

OUTLAY AND EXPENDITURE

Fisheries

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Quantity	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Fisheries direction and administration	0.38	0.90	0.90	6.00	—	1.00	—
2. Production and stocking of trout fish	5.24	5.30	5.30	28.00	18.00	5.30	3.00
3. Production and distribution of carp & catfish.	2.60	1.50	1.50	35.00	23.00	6.50	3.00
4. Conservation of Riverine fish	1.73	4.65	4.65	20.00	10.00	4.00	2.00
5. Propagation of Mahaseer	—	2.00	2.00	4.00	—	1.00	—
6. Extention and training including loans	1.14	0.65	0.65	11.00	—	1.00	—
7. Survey and Research	0.12	—	—	1.00	—	0.20	—
TOTAL :	11.21	15.00	15.00	105.00	51.00	19.00	8.00

SELECTED TARGETS AND ACHIEVEMENT

Fisheries

Item	Units	1979-80 Actuals	Targets		
			1980-81	1980-85	1981-82
1	2	3	4	5	6
PRODUCTION					
1. Fish Production	(‘000 Tonnes)				
(a) Inland	..	0.017	0.024	0.339	0.046
(b) Marine	..	—	—	—	—
Total	..	0.017	0.024	0.339	0.046
PHYSICAL PROGRAMME					
2. Boats (Mechanised)	Nos	1.00	2.00	4.00	2.00
3. Refrigerations	Nos	—	—	3.00	—
(a) Freezing Plants	Capacity (mts)	—	—	0.50	—
4. Fish Seed					
(a) Production	Million	—	—	—	—
(1) Fry	..	—	—	—	—
(2) Fingerlings	..	0.02	0.50	13.20	0.50
(b) Distributed	..	—	—	—	—
(1) Fry	..	—	—	—	—
(2) Fingerlings	..	0.02	0.40	11.00	0.40
5. Fish seed Farms	Nos	1.00	1.00	5.00	1.00
6. Water area	Hectares	0.80	0.50	3.40	1.00

Wild Life and Environmental Conservation

The State situated as it is in the Himalayan region is endowed with rich flora and fauna. Environmental conservation and development is therefore of utmost importance to maintain a satisfactory ecological balance. The need to maintain the ecological balance by integrating it with the overall developmental process has already been stressed forcibly by no less a person than the Prime Minister herself and hence in selected areas like Sikkim, Wild Life and Environmental Conservation assume a place of pride. This is particularly so when one is conscious of extensive poaching and meaningless depredation of Wild Life leading to alarming possibilities of some of the rarest species facing extinction.

Review

A beginning on Wild Life Conservation was made only from the year 1977, although prior to that, some sort of wild life protection did exist. In the year 1977, a separate Wild Life Wing was started in the Department of Forest and one of the main items of work undertaken by the wing was to prepare a census of wild life and to send expeditionary forces in the difficult terrain primarily for the purpose of demolishing traps laid to destroy valuable wild life like musk deer, and panda. Another important feature of wild life conservation was the demarcation of an extensive area in the high altitudes of North Sikkim which was declared as a National Park and which is now called the Khangchendzonga National Park. This area which is rich in wild life like musk deer, panda shaepi and pheasants, is more or less inaccessible but has nevertheless been the happy hunting ground for many a poacher. The object of the National Park is not only to develop a natural habitat for these animals but also to provide the basic infrastructure needed to prevent the incidence of poaching. Over the last two years several expeditionary teams were thus sent to these areas and it is indeed something of a revelation that more than 160 kms of musk deer traps have already been demolished. In order to make such operations really successful selected personnel of the wild life wing have been given training in wild life management at the Forest Research Institute, Dehradun and wild life guards have been given training in the handling of weapons, unarmed combats and wireless telegraphy. The Wild Life wing has also been provided with certain essential equipment needed for the purpose of combating poaching. Despite this beginning, which has already yielded good results a lot of ground has yet to be covered since the areas rich in wild life are vulnerable to extensive poaching.

Objectives

The main objectives of Wild Life Conservation in the Sixth Plan would therefore be :—

- (a) To adopt more intensive methods of preservation of wild life in the natural habitats.
- (b) To develop the infrastructure of particular areas declared as sanctuaries.
- (c) To carry out an extensive survey of wild life in the State; and
- (d) To propagate wild life by special measures.

In order to achieve these objectives, the following schemes are proposed for implementation :—

1. *Strengthening of wild life administration*

It is necessary to have adequately trained staff who would be responsible for overall wild life management. Suitable number of posts of wild life wardens and wild life guards will therefore be

created after adequate training is imparted. In a scheme of this type where constant patrolling is required, the wild life wing also have to be provided with suitable equipments which include various high altitude equipment like climbing boots, snow goggles, sleeping bags, alpine tents, binoculars, altimeters, walkie-talkies, remote sensing equipments etc. Besides equipment, reasonable amount of mobility will also have to be ensured by the provision of pickups. Taking into account all these requirements, a total amount of Rs. 21 lakhs is proposed for the scheme during the plan period.

2. Development of sanctuaries

Apart from the Kanchendzonga National Park there are certain other sanctuaries in the State which are proposed to be developed not only for the maintenance of Wild Life but also for the invaluable flora. The development of sanctuaries requires the construction of fencing in certain areas and regular maintenance work for which labourers will have to be continuously engaged. A total amount of Rs. 7 lakhs is envisaged for this purpose.

3. Survey of Wild Life and conduct of census

Despite the enforcement of the Wild Life Protection Act a large number of poachers still intrude into the dense forest areas and indulge in activities prejudicial to the interest of conservation. While demolition of traps and the apprehension of poachers would be a regular part of the work of the wild life wing, a thorough survey and census of wild life, particularly in sanctuaries, has to be carried out so that a more accurate and scientific record of rare wild life species is made available for future years. Since a census of wild life is very difficult task, scientific instruments will have to be adequately provided for the purpose. The outlay proposed for this is Rs. 9 lakhs.

4. Development of infrastructure in selected regions

Since the areas where wild life activities are predominant are in the remote mountainous regions which are virtually inaccessible, the construction of link roads, buildings for residential and other purposes will have to be a necessary adjunct to the programme. Bunkers, checkposts and watch towers will be constructed in a phased manner within the Kanchendzonga National Park primarily for the purpose of enabling the conservation staff to carry on their work effectively. 'Habitat improvement' which is an artificial way of enriching the sanctuaries by planting fodder trees, fruit trees, berries and nectar yielding plants, so that there would be a healthy growth of wild animals, would also contribute to the improvement of the infrastructure. An additional nursery within the Kanchendzonga National Park will therefore be developed for this purpose. The overall outlay for these purposes is fixed at Rs. 12 lakhs.

5. Propagation and conservation of wild life

The idea of captive breeding has become popular in the face of the threat of extinction of valuable species. During the plan period, a beginning is therefore proposed to raise musk deer, panda and pheasants in controlled conditions and after breeding, to release them in their natural habitat. This would be a pilot project which is worth the effort when one considers the value of these animals.

Since the importance of wild life conservation is yet to be fully realised by the common man, the wild life wing will also project the interesting features of wild life through publicity measures, like film shows and the release of posters. This will be complemented by preparing a blue print for setting up a modern zoo at Gangtok wherein the animals thriving in the State would be housed as far as possible in their natural conditions. Since the development of a zoo is a costly proposition only a nominal amount is projected for the purpose which is essentially for conducting a feasibility study. The total outlay for these purposes is Rs. 6 lakhs.

OUTLAY AND EXPENDITURE

Wild Life Preservation

Rupees in lakhs

Name of the Scheme	1979-80 Actuals	1980 - 81		1980 - 85		1981 - 82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Wild life Administration including training	1.30	3.05	5.00	21.00	—	5.00	—
2. Development & Sanctuaries	1.00	0.35	0.35	7.00	—	0.50	—
3. Survey of wild life and conduct of census	0.90	0.50	1.00	9.00	—	1.00	—
4. Development of infrastructure	=	1.00	2.00	12.00	12.00	2.50	2.50
5. Propagation and conservation of wild life.	0.93	0.10	0.10	6.00	—	—	—
TOTAL	4.23	5.00	8.45	55.00	12.00	9.00	2.50

Forests

As is wellknown, the entire Himalayan region is endowed with rich natural flora and fauna and being a State within the eastern Himalayan belt, Sikkim is a natural paradise for nature lovers conservationists, botanists, zoologists and environmentalists. The State is richly endowed with forest wealth and out of a total area of 7,300 sq kms 2,646 sq kms are covered with forests including khas and gorucharan lands. In the recent past, all over the world great emphasis has been laid on the need to maintain the eco system because disturbance in ecology has caused various avoidable calamities resulting in loss of life and property. As in many other parts of the country, in Sikkim also, the ecological balance has been disturbed through indiscriminate felling and poaching of wild animals. It is therefore imperative to preserve the environment by following stringent protective measures including wild life preservation. As a matter of fact the Prime Minister herself in her keynote address at the launching of the World Conservation strategy in India had observed that "one of our immediate tasks is to restore the eco system of the Himalayas and other mountainous ranges". This is therefore a matter of foremost priority in the planning system. The strategy in the Sixth five year plan as far as forestry is concerned would therefore naturally be confined primarily to conservation and development of forests to be followed by scientific exploitation of forest wealth. Conservation being the keystone to the success of forestry, an endeavour would be made to do away with the system of contracting away forest areas and instead the motto that every tree felled should be replaced by planting of atleast another if not more would be scrupulously followed. One of the existing practices is called marking system, according to which a person or a group of persons to whom timber is allotted for personal or industrial purposes is given an area where trees are marked for felling. A part from the fact that this very often results in the grant of more timber than is necessary, it also results in illegal felling. It is therefore necessary to replace the system through the opening of timber sale depots at strategic points through which the requisite quantity of timber can be made available to the concerned parties. Another factor which has adversely affected conservation measures has been the tendency to allow cattle to graze in reserve forest areas without any control whatsoever. This has naturally resulted in poor regeneration and soil erosion. This system would be replaced by marking out reserve forest areas exclusively for the purpose of grazing and enclosing these areas suitably so that grazing could be confined to selected pastures. A further practice contributing to the denudation of forest is large scale encroachment particularly on khas and gorucharan lands which will have to be stopped by implementing a package of schemes which will include proper demarcation and survey of forest lands, watch and ward and eviction of the unauthorised encroachments through law enforcement agencies.

The conservation of forests has quite naturally got to be complemented by a massive programme of afforestation. Quick growing species both for industrial and rural domestic purposes will have to be planted on a larger scale and minor forest produce will have to be systematically developed without disturbing the environment. Although conservation and afforestation would thus occupy a cardinal position in forestry development, society has come to depend upon forest as a base for meeting their various demands in life. A policy of development without destruction has therefore to be followed in which the fact that forestry resources constitute renewable resources should be well understood. It is necessary to consider forestry as a way of life offering services to the welfare of the community and hence a scientific exploitation system should be introduced wherein a balance has to be struck between the need to supply

vital raw material for industrial and domestic needs and for the maintenance of ecological balance. A Forest Department Corporation would have to be organised for the purpose.

Objectives

This being the background to forestry development the main objectives of the plan would be :

- (a) Maintenance of the ecological balance by protection and environmental conservation on the flora and fauna,
- (b) Enhanced forestry production programme,
and
- (c) Scientific exploitation to meet the rural and urban needs which will include development of communication facilities.

The above objectives can be attained only by following an integrated approach wherein there would be a happy blend between protection and production forestry. Brief details of the schemes that are programmed to be implemented within the plan period and the financial outlays are mentioned below.

1. Inventory Planning and Resource Management

Under this sub sector the main emphasis will be on survey, demarcation and settlement of forest lands. Forest areas consist of reserve forest, khas and gorucharan land. It is estimated that boundaries of khas and gorucharan extend to approximately 12,800 kms. Unless a proper demarcation of such lands is completed as early as possible there would be no end to encroachment and consequent destruction of valuable forests. During the year 1979-80 survey and demarcation which included clearance of the boundaries and fixation of pillars was only about 100 kms. By end of 1979-80 approximately 1800 kms have been completed leaving a balance of 11,000 kms. If the entire length has to be surveyed and demarcated before the close of the Sixth Five Year Plan period it will mean that more than 2,000 kms will have to be surveyed every year on an average. This is too steep an increase and therefore a progressive increase from 150 kms in 1980-81 to 500 kms by the end of 84-85 is contemplated for which purpose a sum of Rs. 35 lakhs has been purposed.

As far as the Reserve forests are concerned, apart from survey and enumeration of the trees within forest areas the survey of boundaries has also to be conducted. Enumeration of trees is important in order to evaluate the quantum of resources that would be available. This will lead to better management of forestry resources. During the plan period apart from tree enumeration an evaluation survey of young plantations and a natural regeneration survey in the sal belt would be undertaken. The total extent of enumeration so far conducted is only 25,000 hectares. During the plan period 40,000 hectares are proposed to be enumerated and 1500 kms of reserve forest boundaries will be surveyed. This is a scheme which will incidentally provide substantial employment opportunities to the rural people. An outlay of Rs. 20 lakhs is contemplated for the purpose.

Another important aspect of resource management is that of cultural operations. Under this, young plantations, both departmental and taungya, have to be tended since it is only by such operations that the plantations would do well with good girth of trees. In fact, this is a major silvicultural operation under implementation. It is proposed to cover an extent of 9,000 hectares during the five year period for this purpose. A sum of Rs. 20 lakhs is earmarked for this project.

Apart from these major items of survey, a special botanical survey has also been underway

for the past few years and as a logical follow up to this, it is proposed to construct a herbarium cum-museum for which an outlay of Rs. 5 lakhs has been proposed. This herbarium will contain specimens of rare and important species found in the Sikkim forests.

Thus the total outlay contemplated for inventory, planning and resource management for the five year period is Rs. 80 lakhs.

2. *Production Forestry*

It is under production forestry that the greatest emphasis has to be laid because it is in this sector that plantations for afforestation are undertaken which would in the future years constitute the base of forest wealth. Plantations producing forest raw materials are to be raised for industrial purposes and for domestic needs including fuel wood. They are also to be extensively raised to maintain the eco system. In order to meet the increasing demand of household and industrial timber a target of 4,200 hectares is proposed for plantation of which 3,200 hectares would be under long rotation and 1,000 hectares under short rotation timber. The rate of plantation at present is about 600 hectares which has to be stepped up progressively in order to meet the ever increasing demand from industry as well as the rural sector. An outlay of Rs. 40 lakhs is accordingly proposed for covering the area which will include 800 hectares under the taungya system. Any new plantation will require fencing since otherwise the young plants are liable to be destroyed by stray cattle. Fencing is fairly expensive because the areas are remote and the labour and material costs tend to be high. Only 70 kms are therefore proposed to be fenced during the plan period for which an outlay of Rs. 10 lakhs is proposed.

In order to cater to a massive afforestation programme it is also necessary to have well equipped nurseries which would be in a position to supply the saplings required for covering the area. As far as possible the nurseries would be located nearabout the plantation areas so that transportation costs can be minimised. By the end of the plan period 65 hectares of nurseries are proposed to be established which would be in a position to raise 30 lakhs saplings per annum. An outlay of Rs. 35 lakhs is proposed for the purpose.

The plantation programme will require some establishment costs which will include the purchase of vehicles and other overhead expenses. Subsidy is also to be paid to the taungyadars at the rate of Rs. 500 per family. An amount of Rs. 4 and 5 lakhs respectively are proposed for these purposes.

Farm forestry is another important adjunct to the plantation programme under which fuel wood plantation occupies a place of importance in the State. In Sikkim a large segment of the population depends upon fuel wood supply for their energy requirements since other forms of energy available are limited. The large concentration of armed forces in remote areas has aggravated the problem. As a matter of fact the demand for fuel wood is currently estimated at 22,000 piles per annum for which approximately 400 hectares have to be clear felled. Since the Forest Department cannot escape the onerous responsibility of meeting this demand, plantations of quick growing species are proposed to be undertaken along with fencing to cover nearly 800 hectares. The demand for fuel wood is most pronounced in and around Gangtok and experience has been that as a result of this the forest areas surrounding Gangtok town have been indiscriminately destroyed leading to problems of erosion and denudation. There are several other forest areas in the interior where low quality timber useful for fuel wood are available in abundance which have not been exploited because of the heavy transport cost involved. It is

therefore proposed to grant a transport subsidy either to the Forest Department or to the Forest Development Corporation so that the extra transportation costs are met and at the same time the demand for timber is assured to the public and the army. A total outlay of Rs. 40 lakhs is proposed for fuels wood plantations of which about Rs. 15 lakhs is for transport subsidy and the remaining would be the cost of planting, maintenance and fencing of 900 hectares.

An outlay of Rs. 8 lakhs is proposed for developing pastures within forest areas which would be essentially for the purpose of controlling the grazing of cattle in the forest areas. Various varieties of grasses and fodder plants would be planted on a ranch basis for this purpose.

The State Government have initiated sericulture plantation programme which has held out rich promise since some of the areas in the State have been found to be ideal for the purpose. Unfortunately the plantation has not been followed up by any initiative on commercial ventures and therefore the sericulture programme as such has not yet been developed. During the plan period it is proposed to draw up a comprehensive sericulture programme in consultation with the Central Silk Board which would not only include the development of nurseries but also extensive plantations and commercial utilisation. An outlay of Rs. 20 lakhs is included for facilitating the plantation programme.

As far as social forestry is concerned considerable importance is being attached to it at the National level and since a huge amount of money is involved, it is necessary to reconsider the possibility of this being revived as a partially assisted Centrally Sponsored scheme. Emphasis on social forestry is primarily for the purpose of making available to the rural population forestry resources for domestic life. For this, the strategy would be to select fast growing species and species yielding fruits, fodder and plant them in degraded forest areas, waste lands, panchayat lands and so on. The targeted coverage for the five year period is 2000 hectares which will be supported by the creation of nurseries. Under the programme, saplings will also be planted on road sides with ornamental and fruit trees so as to generally beautify the highways. The total outlay proposed for the scheme is Rs. 98 lakhs. Besides this for what is called extension forestry an amount of Rs. 6 lakhs is proposed primarily to meet the cost of saplings which are distributed on National days like Vanamahotsava, the object of which is to promote tree consciousness among the population. The total outlay for all the plantation programmes thus works out to Rs. 266 lakhs for the five year period.

3. Resource, Development and Utilisation

As has already been mentioned the available resources of forests have to be utilised to the optimum level without causing destruction and without converting a renewable resource into a non-renewable resource. During the plan period a Forest Development Corporation is proposed to be set up and for this purpose an adequate share capital base will have to be provided. The Corporation will naturally be responsible for all commercial operations and in particular will undertake mechanical logging of cardamom cultivation and medicinal plantations in selected areas. For logging purposes, equipments like skyline cranes, power chain saws, loading devices, tractors, gravity ropeways etc have to be provided. Further, a number of jeeps and trucks will also have to be made available for the purpose. After exploitation of the forest resources they have to be put to use either through production units under the control of the Corporation or they have to be sold at remunerative prices to private industry. A Government departmental undertaking called a Wood Working Centre which produces quality furniture is an ongoing concern. The Forest Development Corporation would be expected to take over the working of the Wood Working Centre. An amount of Rs. 45 lakhs is proposed under the 'head utilisation' for meeting the

purpose of mechanical logging, medicinal and cardomom plantation as well as Wood Working Centre which would either form the share capital base of the proposed Corporation, or would constitute supporting finance.

The exploitation of forest wealth can be best served by providing a good communication system within the forest areas. 20 kms of logging road and 100 kms of inspection path including log bridges are proposed to be constructed within the forest areas during the plan period for which an outlay of Rs. 45 lakhs is proposed. Besides roads, certain buildings also have be constructed to accommodate the forest guards and other officials who would have to live in out of the way places. Taking note of the need for an administrative building at headquarters for the Forest Department and the need to provide accommodation in remote areas an outlay of Rs. 50 lakhs is accordingly projected in the plan for buildings.

4. Protection Forestry

Valuable forests have to be protected from fire hazards and so every year fire line clearances have been undertaken. Mobile squads equipped with wireless sets have also been pressed into service. From an average of 180 kms per year of fire line clearance it is proposed to progressively step up the target to 300 kms per year by 1984-85. More wireless sets and checkpoints are also to be provided. An outlay of Rs. 10 lakhs is accordingly proposed for the plan period.

5. Strengthening of the forestry organisation

In order to successfully implement the forestry development programmes it is necessary to provide for strengthening the forestry organisation particularly by creating special cells for social forestry, evaluation, monitoring and statistics. More territorial sub-divisions are also needed and considering the increasing number of disputes on the ground of encroachment into forest territory a forest survey and settlement division is also considered to be necessary. A public relations unit has already been started in the Forest Department which also requires expansion. An outlay of Rs. 47 lakhs is proposed for meeting these overhead requirements.

6. Research, Education and Training

This is necessary for supporting an expanded forestry programme. In the State, main emphasis would be to obtain trained man power to execute the programmes in the field. Thus, personnel in the cadre of foresters, rangers and upwards would be regularly sent out for training in established All India Institutions for which an amount of Rs. 12 lakhs is proposed for the purpose of meeting all these training requirements.

7. Miscellaneous

A modest sum of Rs. 3 lakhs is provided for the improvement and upkeep of the State Guest House which has been traditionally under the control of the Forest Department. The forest department has also been traditionally entrusted with the creation and maintenance of parks and gardens with many parts of the State. An outlay of Rs. 7 lakhs is provided for this purpose.

Likewise, maintenance and development of orchidarium which preserves and propagates the invaluable orchid species of Sikkim has also been a traditional responsibility of the department. An outlay of Rs. 10 lakhs is earmarked for the purpose.

OUTLAYS AND EXPENDITURE

Forest

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Of which Capital	Proposed Outlay	Of which capital
1	2	3	4	5	6	7	8
1. Inventory Planning & Resource Management							
(a) Survey and demarcation	2.21	3.00	3.00	35.00	—	6.00	—
(b) Working Plan	2.55	3.00	3.00	20.00	—	4.00	—
(c) Cultural Operation	3.20	3.50	3.50	20.00	—	3.50	—
(d) Botanical Survey	0.14	0.50	0.50	5.00	—	1.20	—
2. Production Forestry							
(a) Departmental & Taungya Plantations	4.70	3.85	3.85	25.00	—	4.00	—
(b) Euclyptus and pulpwool plantations	0.70	2.25	2.25	15.00	—	3.00	—
(c) Fencing	1.90	1.40	1.40	10.00	—	2.00	—
(d) Nurseries	5.60	5.00	5.00	35.00	—	6.00	—
(e) Amenities to Taungyadars	1.30	1.00	1.00	5.00	—	1.00	—
(f) Establishment	0.05	0.50	0.50	4.00	—	1.00	—
(g) Fuel Wood Plantations	1.25	2.00	2.00	40.00	—	7.00	—
(h) Development of Pasture	1.30	1.00	1.00	8.00	—	2.00	—
(i) Sericulture	3.80	5.00	5.00	20.00	—	5.00	—
(j) Social Forestry	5.05	10.00	10.00	98.00	—	12.50	—
(k) Extention Forestry	1.30	1.00	1.00	6.00	—	1.50	—

OUTLAYS AND EXPENDITURE

Forest

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Of which Capital	Proposed Outlay	Of which capital
1	2	3	4	5	6	7	8
3. Resource Development & utilisation							
(a) Logging	3.70	4.00	4.00	30.00	—	7.00	—
(b) Cardamom Cultivation	4.60	2.50	2.50	5.00	—	2.50	—
(c) Medicinal Plantation	0.35	1.00	1.00	8.00	—	2.00	—
(d) Wood Working Centre	1.90	1.50	1.50	2.00	—	1.00	—
(e) Communications	1.75	8.00	8.00	45.00	—	9.00	—
(f) Buildings	6.40	7.00	7.00	50.00	—	9.00	—
4. Protection Forestry							
(a) Forest Production	3.20	2.00	2.00	10.00	—	2.50	—
5. Organisation							
(a) Strengthening Organisation	0.80	5.50	5.50	35.00	—	5.00	—
(b) Research Education & Training	1.75	2.00	2.00	12.00	—	2.30	—
(c) Planning, Statistical & Public Relations Unit	0.30	2.50	2.50	12.00	—	1.50	—
6. Miscellaneous							
(a) Parks & Gardens	1.06	1.00	1.00	7.00	—	1.50	—
(b) Development of Orchidarium	1.85	1.00	1.00	10.00	—	2.00	—
(c) State Guest House	—	—	—	3.00	—	1.00	—
TOTAL :	62.71	81.00	81.00	575.00	—	106.00	—

SELECTED TARGETS AND ACHIEVEMENT

Forest

Sl. No.	Item	Units	1979-80 Base year Level	1980-81		1980-85 Proposed Target	1981-82 Proposed Target
				Target	Anti. Expdr.		
1	2	3	4	5	6	7	8
1.	Plantation of quick growing species						
	(a) Fuel Wood Plantation	Hectares	405 (Cumulative)	100	40	700	120
	(b) Euclyptus & pulpwood		210 (Cumulative)	200	120	300	250
2.	Economic & Commercial Plantation	Hectares	3000 (Cumulative)	640	400	3200	650
3.	Social Forestry Plantation in degraded forest etc.	Hectares	3645 (Cumulative)	820	120	2000	400
4.	Communications	Kms	30 (Cumulative)	4	4	20	4
	Inspection path	Kms	—	20	20	100	20

Panchayats

There are 215 Panchayat blocks in Sikkim. These panchayats are not organised on a pattern similar to those found in the rest of the country but none-the-less they constitute important forums for holding meetings and discussing matters of general interest to the community as a whole. In order to facilitate the holding of such meetings the Government took up a programme of constructing 50 Panchayat Ghars as a first phase. 41 out of 50 have already been completed and the remaining number will be over within a year or two.

The Government are thinking of decentralising development and therefore the scope of the panchayats will have to be widened and ordinary developmental works will have to be taken up at this level. The new Panchayat Act is in the process of being drafted and thereafter it is possible to reorganise the system more or less on the pattern prevalent in some of the States. It would become necessary to equip panchayats with Secretaries and to provide some sort of financial assistance for day to day administration. It might also become necessary to grant allowances to the members of the panchayats. Sammelans at panchayat level have proved to be popular since villagers from various parts are able to meet and discuss their problems. Hence many more Sammelans will also be arranged at the panchayat level. In view of the incipient stage of panchayat development in the State an outlay of only Rs. 25 lakhs is proposed for the five year period to cover various items of expenditure under this head.

Co-operation

Cooperatives as an institute was evolved for the upliftment of the rural masses socially and economically. However, before the commencement of the fifth plan very little was being done in the name of co-operation in Sikkim. Subsequently it was organised and restructured on the lines of the recommendations of the study team constituted by the Government of India with the primary objective of percolating the fruits of economic development to the lowest rungs of society.

In order, therefore, to enable the Co-operatives to achieve this objective in a hilly state like Sikkim where general backwardness, tradition mindedness, poverty and lack of education have inhibited the growth potential, it is of paramount importance to accord emphasis for assisting and helping the growth of these institutions organisationally, operationally and financially.

Ever since its adoption 35 Multipurpose Cooperative Societies have been organised as base level institutions. The functions of these institutions have been an amalgam of (i) credit (ii) marketing (iii) distribution of consumer goods and (iv) supply of farm requirements. In addition to this, there are a number of cooperative societies dealing exclusively on various purposes like consumer, milk, transport, labour contract marketing, canteen etc. To date there are approximately 65 societies.

At the State level, a Milk Producers Cooperative Union has been organised to handle the Milk procurement and distribution programme. The conversion of State Bank of Sikkim into a State Cooperative Bank, as recommended by the team is however not yet completed. To coordinate and streamline the supply, and distribution and marketing functions of the MPCU, Apex supply and Marketing Federation as recommended by the Study Team is expected to come into operation by the end of 80/81. Unlike in other states, the Cooperative movement in Sikkim has just completed 4 years of its continuous functioning and thus the movement is still at its incipient stage. Financial requirements of these Cooperatives are being met to a limited extent from the resources available with the State Bank of Sikkim. Being in the infant stage, these societies have yet to develop and qualify for receiving financial assistance from external sources like NODC, ARDC etc.

Despite all these constraints, the Cooperatives are maintaining steady progress. Each M.P.C.S. today is conducting :

- (i) credit business of over Rs. 0.50 lakhs ;
- (ii) consumer business of over Rs. 1.00 lakhs turnover yearly on an average. Besides these, some of the Societies are undertaking marketing of cash crops like orange, ginger, cardomom etc. About 15,000 villagers have already been brought under the Cooperative fold and is envisaged to increase it to 26,000 by the end of this plan period, with the target of enrolling 2000-2500 fresh members every year.

A new Cooperative Societies Act and Rules framed on lines of the modern trends of Cooperative development in the country have been enforced to ensure smooth functioning.

The main objectives of Co-operation would therefore be :

1. To organise an Apex level Credit Institution and a Supply Marketing Federation which will form the bulwark of the Co-operative system;
2. To supply necessary and vital inputs to existing cooperative societies so that they can function economically in their respective fields;
3. To gear up the distribution and storage infrastructure so that a smooth functioning of the various cooperative societies is ensured;
4. To organise other cooperative societies in economic sectors where they are required and to provide the necessary inputs.

In order to achieve the above objectives the following schemes are proposed for implementation.

Direction and Administration

To equip the department for handling the increasing responsibilities a through reorganisation of the administrative set-up will have to be undertaken.

In the past the department has been functioning with a bare minimum of 40 staff members headed by a Secretary cum Ex-Officio Registrar. With the anticipated and imminent conversion of State Bank of Sikkim into Sikkim State Cooperative Bank the volume of work is expected to increase tremendously due to the availability of loanable funds both medium term and long term. In addition the sheer increase in the scope and depth of work necessitates undertaking such reorganisation. In keeping with this the posts of a Joint Registrar and a Deputy Registrar is proposed for creation in the higher administrative echelons. A suitable number of Assistant Registrars will also have to be appointed as supportive staff. In addition, proposal for the creation of two district offices headed by assistant Registrars has already been submitted. This has been deemed necessary for ensuring, close and effective supervision on the working of the cooperatives. Circle Inspectors play a crucial role as agents of control and consultation for the cooperatives. As such their numbers will be suitably increased. A total of Rs 36.25 lakhs is proposed for the plan period.

Training, Education, Publicity and Information

In order to fully impress upon the members of various cooperative societies the principles of cooperative institution and the economic and social benefits that can accrue from them and in addition, to enable them to manage their cooperatives with a degree of professionalism some amount of education and training must be imparted to them.

The cooperative department itself must be staffed by competent people to discharge the myriad and demanding duties. Especially now with the formation of an apex Bank imminent in the near future the complexity and volume of work is bound to increase. Departmental staff will be sent out for various training programmes. In order to have a systematic means of educating the numerous members of the cooperative societies the department has already sought the assistance of the Directorate of Education and N.C.U.I. to enable them to formulate a suitable and proper education programme. Appointment of education officers assisted by a suitable number of instructors will therefore be necessary. Dissimination of the latest developments in the field of cooperation among staff and society members is essential. To enable this regular subscription to various journals, magazines and publications will have to be made. A total of Rs. 4.75 lakhs is proposed for the plan.

Credit Co-operatives

Unless the rural populace can be induced into joining the various cooperative societies based on its inherent merits the system will have failed in its major objective attempts will therefore be made to

broaden the membership base by educating them on the benefits of being a member and by gearing up MPCS to cater to the basic needs of these people. Under the universal membership programme financial assistance will be provided to the most disadvantaged lot to purchase a share capital of a society they desire to be a member of. During the plan period total membership is anticipated to increase from 15,000 to 26,000. A scheme of providing working capital to MPCS will also be undertaken. These working capital will be solely intended for providing loans to society members for meeting their contingency needs a facet of their credit needs which has not been taken into account. However a stipulation that such loans shall not exceed Rs. 200 will be strictly imposed.

Share capital assistance will also be provided to MPCS and FSS in order to increase their equity base so that borrowing potential will be enhanced. A ceiling will be set and the assistance will be tapered off over a short period of time. With the anticipated conversion of the State Bank of Sikkim into State Co-operative Bank a nominal Govt. assistance by way of managerial, rental, and other miscellaneous subsidies will be provided.

In order to induce rural population engaged in animal husbandry to procure improved breeds from outside the state transport subsidies will be provided. Rental subsidies will also have to be provided to MPCS since rents constitute a major portion of their expense. A total of Rs. 15.50 lakhs is proposed for the plan period.

Processing Co-operatives

In Sikkim there is little scope for developing large processing units. However the establishment of a few need based small processing units in the rural agricultural sectors hold some promise. Setting up of these basic agriculture processing units would go a long way in minimising over all cost of finished products. During the plan period it is proposed to set up result oriented and need based small processing units like, oil expellers, rice haulers, wheat grinders and maize shellers with thrashers. A total of Rs. 2.00 lakhs is envisaged for the above projects which represents 50% of the States share of the total anticipated cost.

Warehousing and Storage Co-operatives

Lack of storage facilities has been one of the major problems faced by co-operative societies. Not infrequently disruptions in the communication systems due to landslides have left these societies and the rural populace at large deprived of vital commodities. Hence in order to ensure availability of vital commodities at all times and to undertake marketing of farm produce, distribution of fertilisers and other essential commodities it is imperative that sufficient storage capacity be generated. State Govt. will therefore provide financial assistance to 30 MPCS amounting to a flat 0.50 lakhs per MPCS for constructing 50 MT shop cum godown facilities in a phased manner. Additional fund requirements over and above this will be met by each individual MPCS from their own internal resources or through borrowing. Funds will also have to be set aside to enable MPCS to acquire land. Since State Govt. does not have enough land it will have to be acquired from private parties.

The institution of an Apex supply and Marketing Federation is also of paramount importance and in keeping with the recommendations of NCDC. It has been agreed to in principal and a project profile has already been prepared. In anticipation that the Federation will come into operation by 1980-81 it is necessary for the State Govt. to set aside funds to assist the Federation in constructing its basic infrastructure 5 units, functioning as office cum storage, will be set up at strategic market centres.

A total of Rs. 20.00 lakhs is proposed for the plan period.

Marketing Cooperatives

Under this scheme, primary emphasis will be placed on assisting base level cooperative institutions and the Apex Supply and Marketing Federation, which is still in the blueprint stage, with various combinations of grants subsidies and loan in order to enable them to undertake the important task of marketing agricultural products on a larger scale. Where as the MPCS will undertake the task of procuring marketable crops from the farmers it will be the function of the Apex Supply and Marketing Federation to market the confluence of these products outside within the State.

During the plan period the target for total cash crops to be marketed has been set at 8,115 MTS. In order to accomplish this both the base level and Apex Institution must be financially solvent and managerially competent. However, in the case of the base level institution this has rarely been the case as they are still in the infancy stage, and since the Apex Institution has yet to be formed it is imperative that judicious amounts of financial assistance must be provided. In keeping with this, margin money, to boost the equity base, will be provided. A certain amount of fund will be set aside to protect these institutions from the vagaries of price fluctuation, since the bulk of their operation will be buying and selling of commodities and agricultural produce. Transport cost constitutes one of the major operating expenses and as such subsidies based on total tonnage shipped will be provided. Managerial subsidies on a tapering basis will also be given to induce these institutions to hire qualified personnel. Currently most of the base level institutes are functioning in rented buildings and houses. Even the apex supply and marketing federation will have to operate on rented buildings initially till its own offices are constructed. To alleviate the burden of exorbitant rental, it is proposed to provide rental subsidies. In order to give the apex Institution a strong grounding additional funds will be given to enable them to purchase transport facilities and other by miscellaneous items. The former will be limited to 25% of the total cost, the balance being provided NCDC in the form of loan and subsidies.

A total of Rs. 48.00 lakhs is proposed for the plan period.

Consumer Co-operatives

One of the primary functions of MPCS has been the distribution of consumer products to the rural populace at reasonable prices. This function is essential if unscrupulous exploitation of the rural populace by traders is to be prevented. Coverage on a more comprehensive basis of all rural areas with this primary service has yet to be effected. To do so MPCS will be encouraged to open at least 13 branches in remote and isolated corners where the rural populace are more susceptible to exploitation. To enable the MPCS and their branches to undertake this function effectively financial assistance through grants and subsidies will have to be provided. Consequently an assistance in the the form of working capital grants, managerial, interest and transport subsidies must be provided which will be gradually tapered off over time. Since inventory constitutes one of the major assets in the MPCS an inventory loss fund will be maintained. Assistance will also be extended to the proposed new branches in order to get them established.

The Apex Supply and Marketing Federation will undertake procuring all consumer commodities for distribution to MPCS. Since the purchasing is to be centralised in the Apex Institution it is expected that more favourable prices will be obtained due to its inherent superior bargaining

position. Currently this function is being performed by MPCS at Singtam and Jorethang and will be continued so until the Apex Institution comes into operation sometime in 1980-81. Annual turn over of sales is expected to be Rs. 1.5 crores. In order for the Apex Institution to undertake this it is proposed to grant state share capital participation to augment its working capital requirements in a phased manner. Financial assistance will also be provided for it to undertake special and important activities like consumer, education, and consumer sales development. Provision for inventory loss and purchase of transport vehicles will also be kept.

Most of the urban consumer cooperatives are facing liquidity problems resulting in frequent stock outs. Some amount of financial assistance is therefore proposed to be extended to these societies. In addition funds for the rehabilitation of weak consumer societies will also be provided in the form of grants. Ten such societies have been earmarked for this. During the plan period student cooperative stores will also be organised and operated purely on an experimental basis. A total of Rs. 29.00 lakhs is proposed for the plan period.

Other Co-operatives

The role of the Cooperative Department will be gradually extended to cover a part of the farmer, artisans and self employed workers in the rural areas. During the period, efforts would be made to organise Societies of weavers and small industrial workers so as to stimulate production in the village industry sector. In order to meet the probable share capital requirements and to offer managerial, rental and other subsidies to these new Cooperatives a total of Rs. 4.00 lakhs is proposed for the plan period.

Co-operative Housing

This is a new scheme. During the plan period it is proposed to organise at least ten Primary Housing Cooperatives and one Apex Housing Finance Society by enrolling as many as 100 members. To begin with emphasis will be given to start such societies with members of fixed income group mainly Government employees. It is proposed to acquire 90% of the total loan requirements of the Primary Housing Societies from LIC through the Housing Federation of the State at an interest rate of 9.5% per annum. The Apex Federation will make these funds available to the Primary Cooperatives at an additional interest of 0.50% to 1%. The balance of the fund requirements will be met through Government share participation and from the members themselves. Assistance from the State Government to the Apex and Primary Societies will also be provided for rental, managerial and other costs. Due to an acute shortage of land in Gangtok, Government assistance will be sought in acquiring land. In connection with this it is proposed to provide these societies with liberal assistance in lieu of free Government land. A total of Rs. 3.40 lakhs is proposed for the plan period.

Dairy Co-operatives

Under this scheme primary emphasis will be placed on strengthening of Milk Union and further development of Primary Milk Producers Cooperative Societies.

In order to enable the Union to shoulder greater responsibilities assigned to it effectively and efficiently, liberal Government assistance in the form of managerial and rental subsidies and assistance in the purchase of trucks will be provided. Feed for cattle will also be subsidised in order to encourage use of balanced feed to the animals. For the plan period it is proposed to supply 3720 MTS of feed. In addition working capital grant to strengthen the Union's capital requirements will be provided in a phased manner over four years.

During the plan period it is proposed to establish 50 additional primary cooperative Societies. Working capital grants will be provided to enable them to achieve the target of handling 53 lakh litres of milk during the plan period. Assistance for constructing a small office cum testing room in 50 societies will also be provided. Further more managerial subsidies and one time grant for the purchase of furniture and fixture will be provided. A total of Rs. 37.10 lakhs is proposed for the plan period.

OUTLAYS & EXPENDITURES

Cooperation

Rupees in Lakhs

Major Head of Development	Minor Head of Development	Actual Expenditure 1979/80	1980/81		1980-85		1981-82	
			Approved Outlays	Anticipated Expenditure	Proposed Outlay	Capital	Proposed Outlay	Capital content
1	2	3	4	5	6	7	8	9
Cooperation								
	Direction and Administration	1.40	4.00	5.25	36.25	4.00	7.00	1.10
	Education, Training, Publicity & Information	0.37	1.00	0.75	4.75	Nil	0.50	Nil
	Credit Coops.	8.10	4.00	4.00	15.50	8.00	2.40	1.40
	Processing Coops.	Nil	4.00	Nil	2.00	Nil	0.30	Nil
	Warehousing & Storage Coops.	1.26	1.50	1.50	20.00	8.00	2.50	Nil
	Marketing Coops.	2.75	2.00	2.00	48.00	15.00	5.00	2.00
	Consumer Coops.	3.70	5.00	5.00	29.00	16.00	5.00	2.50
	Other Coops.	0.57	0.50	0.50	4.00	1.50	0.70	Nil
	Housing Coops.	Nil	Nil	Nil	3.40	1.20	0.60	0.30
	Dairy Coops.	Nil	Nil	3.00	37.10	15.60	6.00	3.50
	TOTAL :	18.15	22.00	22.00	200.00	69.30	30.00	10.80

SELECTED TARGETS AND ACHIEVEMENTS

Cooperation

Sl. No.	Item	Unit	Achievements 1979-80 (Cumulative)	1980-81		Proposed Target	
				Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7	8
1.	Short term Loans	Rs. in Lakh	40.25	12.00	5.60	8.00	80.00
2.	Medium Term Loans	„	8.15	5.00	2.00	4.00	40.00
3.	Long Term Loans	„	Nil	2.00	2.00	4.00	20.00
4.	Retail sales of Fertilizers	„	0.50	Nil	0.15	1.00	19.00
5.	Retail sale of consumer goods by rural consumer coops.	„	100.00	35.00	35.00	40.00	220.00
6.	Retail sales of consumer goods by urban consumer coops.	„	60.00	15.00	15.00	20.00	100.00
7.	Cooperative Storage	Tonnes	50.00	35.00	35.00	250.00	2000.00
8.	Processing Units :	No. cumula-					
	(a) Organised	tive	Nil	Nil	Nil	6.00	26.00
	(b) Installed		Nil	Nil	Nil	Nil	Nil
9.	Storage owned capacity with Coops.	Tonnes cumulative	500.00	500.00	500.00	800.00	2,000.00

Flood Control

Many of the bazars and villages in the State are situated on the banks of rivers and streams and are therefore exposed to the hazards of periodical floods particularly on account of erosion of the river banks. Every year large scale damage occurs and so the training of river banks with protective works has to be undertaken to protect some of the more important bazars and villages of the State. One such bazar is Singtam for which protective work has already been completed. Other bazars include Rangpo, Ranipul and Jorethang. A phased programme of training the river banks in these bazars and in a few selected villages will be undertaken during the plan period for which an outlay of Rs. 50 lakhs is proposed.

OUTLAYS AND EXPENDITURE
Flood Control

Name of the Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
Flood Control	4.28	6.00	11.00	60 00	—	15.00	—

Review

With the tempo of development in various fields of plan activities increasing tremendously, the power sector has had to shoulder a great burden since various user departments and the consuming public have placed an enormous demand on it. Actually the power demand shot up steeply from about 2 MW in 1975 to a peak demand of 6.5 MW by the end of 1979-80. In this period the installed capacity of generation increased from 2.85 MW to 6.82 MW, thanks to the trial commissioning of the Lower Lagyap Hydel Project in September, 1979. The Lower Lagyap Project is likely to be fully commissioned by 1982-83 and thereafter the installed capacity would increase by a further 9 MW. The load characteristics of the State are however not very conducive to the prevailing conditions of generation because the maximum demand occurs in winter when the generation becomes minimum due to the low level of water in the hydel units. Taking into account possible growth rates, the future strategy of generation has to be geared towards the tapping of potential through small hydel schemes each capable of generating 10 to 20 MW of firm power and capable of being implemented in a short period. The State along with the Central Water Commission would therefore carry out more and more investigations for smaller hydel projects with the objective of ensuring that the future demand of the State for power would be fully met and that it would be possible to export surplus power to the neighbouring State. This will also ensure the generation of internal revenues for the State. Till such time the investigation on small hydel schemes is completed the main work would be in extending the transmission and distribution system so that transmission of power to a large part of the State, whenever the demand occurs, would be easily possible as soon as the generation picks up.

During the last plan a number of transmission and distribution schemes have been taken up and most of them have been completed so that all the four districts of the State are now fully interconnected by suitable grid circuits for distribution of power from any available source, in any part of the State. In the generation field, the Rimbi Micro Hydel Scheme has been augmented from 200 to 600 KW. The Rongnichu Hydel Project which was subjected to heavy damages is under complete renovation which, when, completed will deliver the rated output of 2.1 MW. Considering the acute short fall in generation and the increasing power demand which is likely to last for some more years, 4 diesel generating units are being installed having a total installed capacity of 1.6 MW. This diesel scheme is primarily meant to supplement generation during winter months when there is peak demand and is intended to be a stand by source in the capital town whenever the hydel generation fails in supply on account of unavoidable circumstances. The Lower Lagyap Hydel Project is likely to be commissioned by the end of 1982-83 when the installed capacity of hydel units in the State will rise to 14.9 MW during winter, supported by standby diesel capacity of 2.77 MW. The load survey of the State which was conducted jointly by C.E.A. and the State Power Department has revealed that the peak demand of the State by end of 1982-83 will be of the order of 14 MW and by 84-85 it will be 18 MW. The shortfall during winter will therefore be considerable, for which some alternate arrange-

ments have to be considered including borrowing the deficit amount of power from the State of West Bengal. A 66 KW inter State line, being constructed with the help of a Central loan is likely to be completed by the end of 1980-81 which will be helpful in such a situation.

Objectives

The main objectives in the power sector for the five year period are :

- (a) To utilise existing hydel projects to maximum capacity so that generation matches the installed capacity,
- (b) To quickly investigate smaller hydel schemes and
- (c) To intensify transmission and distribution so as to spread out the benefits of electricity to a wide area and to minimise transmission losses.

Keeping these objectives in view details of the schemes proposed are given below :

1. Power Development

Some small Hydro-Electric schemes are under investigation of which, one scheme called Chakung Hydro Electric Scheme is in an advanced stage of investigation. The Project report is likely to be submitted to the C.E.A. by the end of 1981-82 for scrutiny and approval. This scheme, is likely to produce a firm generation of 18 MW. Another scheme under investigation is the Rathong Hydro Electric Scheme, which is estimated to provide a generation of 10 MW. Hydrological investigations are continuing on the scheme. The detailed project report on this scheme is expected to be submitted to the C.E.A. for scrutiny by the end of 1983-84. Besides the above schemes, preliminary investigations on two rivers Rangpo and Rimbi rivers are proposed to be taken up from 1981-82. An outlay of Rs. 18.00 lakhs is earmarked for these purposes.

2. Power Projects

In the absence of any new hydel generation scheme in hand, steps have been taken during the last plan to augment the capacity of existing schemes through extensive renovation and by installation of new machines. Under this, four schemes have been under implementation of which the Rimbi scheme has been commissioned and the others are in advanced stages of completion. They are briefly summarised as under.

(a) Augmentation of Rimbi Micro Hydel Scheme

Augmentation of Rimbi Micro Hydel Scheme with an addition of $2 \times 200 = 400$ KW set was taken up during the last plan. two units of 200 KW each, supplied by M/s Jyoti Ltd. of Baroda, have been installed and commissioned in early 1980, thereby making the total installed capacity at Rimbi 600 KW. However, during the time of implementation, which took a considerably long time due to late delivery of the units by M/s Jyoti Ltd., a number of works have been added to the scheme as a result of heavy monsoon damages in the head works and water conductor system. Though the units have been commissioned some additional works in the intake and overflow channel have to be carried out in 80-81 and 81-82. The latest revised estimate of the scheme has gone up to Rs. 59.89 lakhs compared to the previous estimate of Rs. 53.20 lakhs. In spite of these additional works, completion of which is likely to take another 2 years time, the generation from this power house will not be affected.

As part of the new schemes to be implemented during the 6th Five Year Plan it is proposed to replace the 200 KW units by 200 KW horizontal sets, identical to the one provided under augmentation scheme. For the purpose an outlay of Rs. 10 lakhs has been proposed. Total outlay for Rimbi during the plan period is fixed at Rs. 18 lakhs.

(b) *Renovation of Rothak Micro Hydel Scheme*

The Rothak Micro Hydel Scheme having an installed capacity of 200 KW has been in operation for the last 10 years and has been subjected to number of damages in the civil structures which require complete renovation. An outlay of Rs. 5 lakhs was provided during 79-80 which has now been revised to Rs. 7.00 lakhs. The revision has become unavoidable due to monsoon damages and high rate of tender on account of price rise of construction materials. The entire renovation works are expected to be completed by middle of 1981. A spill over outlay of Rs. 4 lakhs is provided for the purpose.

(c) *Recommissioning of Rongnichu Hydro Electric Scheme*

The Rongnichu Hydro Electric Scheme, which was the sole source of generation in the State prior to lower Lagyap Hydel Project, was commissioned in 1964. In the subsequent years of operation it had been subjected to severe damages in its civil structures like the head works, water conductor system and the forebay. The turbines were also damaged beyond repairs. Major renovation of the scheme, though conceived of as early as 1977-78, could not be taken up for want of supplementary source of generation. After the Lower Lagyap Hydel Project was test commissioned in September, 1979, an extensive renovation programme for the Rongnichu Hydel Electric Scheme was taken up in 1979-80. The major components of works and financial implications under this scheme can be categorised as under : —

(a) Re-construction of head works and trench intake	17.76	Lakhs
(b) Approach road to the Intake site	2.38	,
(c) Minor repairs of the entire length of water conductor system	3.86	„
(d) Reconstruction of channel at 31 to 36 Chainage	10.00	„
(e) Construction of silt trap	35.00	„
(f) Repairs of forebay	5.00	„
(g) Repairs of turbines	25.00	„
(h) Repairs of control pannel, governor and replacement of sluice valves, etc.	5.00	„
	<hr/>	
TOTAL :	104.00	„
	<hr/>	

The entire renovation programme is being implemented on the advice and guidance regarding designs provided by the C.W.C. and C.E.A. Of the above schemes two major works i.e. reconstruction of channel at 31 to 36 chainage and the repairs of the turbines have been taken up already and are progressing. The turbines are expected to be commissioned by the end of 1980-81. The remaining works of which reconstruction of head work and repairs of the forebay require top priority for commissioning the turbines are, however, delayed due to the fact that the designs for these works are yet to be supplied by the Central Water Commission. However, considerable progress is expected to be achieved during 1980-81 if the designs are finalised in time.

The entire scheme will be completed and the Power House commissioned by the end of 1981-82.

An outlay of Rs. 71.00 lakhs has been proposed during 1980-85 duly accounting for the expenditure already incurred up to 31.3.80.

(d) Diesel generating scheme at Gangtok

The deficit between the available generation and energy demand in the State, after the Rongnichu Hydel Scheme was shut down for major renovation works, was of the order of 4 MW. Though the Lower Lagyap was test commissioned it could not produce more than 2 MW average generation during the winter months. This is likely to continue with slight improvement for another few years till the Lower Lagyap and the Rongnichu Hydel Scheme are fully commissioned. As a result, the State faced acute power shortage and had to undergo severe load shedding between December to April last. The state authorities having faced this trouble approached the Planning Commission for an alternative arrangement which could supplement generation in the quickest possible time. The Planning Commission have accordingly approved the installation of diesel generating units having an installed capacity of 1.6 MW on a crash basis so that the position of supply is eased in the coming winter. Quick action have been taken and orders for the machineries and equipments have been awarded to the Contractors to achieve the target of commissioning the sets during the year 1980-81 itself. The estimated cost of the project will be of the order of Rs. 117.00 lakhs. The detailed project report with plans and estimate is being submitted to the C.E.A. and Planning Commission for according-post-facto approval. Since the provision allocated against this scheme for the year 1980-81 has been found to be inadequate with respect to the target of physical achievement, it has been proposed to revise the provision from Rs. 40.00 to Rs.80.00 lakhs. The balance amount of Rs. 37.00 lakhs has been provided in the plan outlay of 1981-82 to clear the liability. With the commissioning of this scheme, Gangtok will have a reliable stand by source of power in the event of any failures in the hydel stations in the States.

3. Transmission & Distribution

Transmission and Distribution schemes form the major portion of the development activities of the Power Department. The activities under this head of development can be categorised as under :—

(a) Direction & Administration

The outlay provided under this scheme is meant for meeting the expenditure on account of salaries and other allowances including office expenses for the establishment of the Power Department engaged in the Plan activities. Besides this, the provision includes the expenditure of the maintenance and operation staff posted in the Lagyap Project. This includes the probable expenditure on account of creation of a post of Superintending Engineer and one Executive Engineer. It is proposed to create a post of Superintending Engineer to look after the generation cell of the department and one post of Executive Engineer with two Assistant Engineers who would be entrusted with the schemes to be financed by the Rural Electrification Corporation. It is further proposed to create a Division to look after the commercial activities associated with Revenue collection of the Department. A total outlay of Rs. 66.77 lakhs is provided for the purpose in the Plan period.

(b) Remodelling of distribution system

The remodelling of distribution system at Gangtok and adjoining areas have been taken up in 1978-79 with a view to providing a proper distribution system for evacuation of power from Lagyap. Though the schemes were to be completed on priority, they could not be achieved due

to financial constraints. The schemes comprising addition and alteration of distribution lines and distribution sub-stations have now been proposed to be completed by 1982-83. Of the total estimated cost of Rs. 120.43 lakhs the expenditure as on 31-8-80 is Rs. 79.69 lakhs. An amount of Rs. 41 lakhs is therefore provided as spill over liability for this ongoing scheme for the 1980-85 plan.

(c) *North Sikkim Transmission & Distribution Schemes*

The North Sikkim Transmission and Distribution Scheme comprising 66 KV line, one 2.5 MVA, 6/11 KV Sub-Stations and distribution lines has been in progress for the last two years. The latest revised estimate of the scheme is Rs. 191 lakhs. Of this estimated cost an amount of Rs. 105 lakhs has been spilled over to the Sixth Five Year Plan. The 66 KV line section executed by NHEPC has been completed and a major portion of 11 KV line has also been completed. The 11 KV lines could be completed alongwith the L. T. distribution system in 1981-82. The 66/11 KV sub-station will however take some time to complete.

(d) *Miscellaneous distribution lines and sub-stations*

A number of transmission and distribution schemes are under implementation. These schemes were sanctioned during the course of the past few years; but they have remained incomplete because the availability of funds was not upto the expected level. Annexure 1 gives the list of ongoing schemes with cost estimates and the spill over liability. Since early commissioning of these schemes is important in view of the need to connect important localities with 11 KV lines top priority will be accorded for quick completion of the schemes. The distribution of electricity to widely scattered regions of the State will have to be matched by properly equipped workshops and hence the workshop at Rimbi, Jorethang will also be made fully functional. Certain new schemes will also be taken up to cater to the demands of other load centres. Details of such schemes are given in annexure 2. A total outlay of Rs. 584.78 lakhs is proposed for these schemes of which Rs. 355.72 lakhs will be for spill over items.

(e) *Buildings*

An outlay of Rs 102.45 lakhs is proposed for construction of residential and non-residential buildings for the Power Department. This amount will be utilised for construction of an office building at Gangtok since the department is currently functioning in a semi permanent structure with make do arrangements, for constructing division and sub-division offices and for quarters within project areas. This includes a spill over liability of nearly Rs. 23 lakhs.

4. Rural Electrification

This is a part of the minimum needs programme. Villages in Sikkim lie in remote inaccessible areas and since the general infrastructure is poor the Rural Electrification programmes have proceeded rather sluggishly. Despite this 48 villages have been electrified. During the plan period another 96 villages are proposed to be electrified and in doing so funds from the Rural Electrification Corporation would be tapped, wherever possible. An outlay of Rs. 222 lakhs is provided for this, which will indicate nearly Rs. 92 lakhs as spill over. Details of continuing and new schemes are given in Annexure 3.

ANNEXURE-I

1. Continuing Schemes :

(Rupees in Lakhs)

Name of Scheme	Latest Revised Estimate	Actual Expenditure 1979-80	Cumulative Expenditure as on 31.3.80	Balance
1. 11-KV lines in Remodelling Schemes in Gtk. and Singtam	43.42	11.96	23.83	19.59
2. 11/0.43 KV distribution line Sub-Stations under remodelling schemes in Gangtok and Singtam	61.64	10.80	10.80	50.84
3. Civil constructions under Remodelling schemes in Gangtok and Singtam	15.37	6.04	6.11	9.26
4. (a) 66-KV NHPC Work	57.68	47.68	57.68	Nil
4. (b) 66-KV Transmission Line-Extension to Phoodung (Electrical Works)	8.91	3.15	3.15	5.76
5. 66-KV Transmission Line - Extension to Phoodung (Civil Works)	7.87	0.78	0.78	7.09
6. 66/11 KV 2.5 MVA Sub Station at Phoodung (Electrical Works)	25.00	0.19	0.19	24.81
7. 66/11 KV Sub-Station at Phoodung (Civil Works)	19.00	Nil	Nil	19.00
8. 11 KV Transmission Line Dikchu-Chungthang.	25.37	6.76	20.84	4.53
9. 11 KV Line from Chungthang to Lachen	9.41	Nil	Nil	9.41
10. 11-KV line from Chungthang to Lachung	9.82	Nil	2.05	7.77
11. 11/11-KV Sub-Station at Mangan	3.17	Nil	Nil	3.17
12. 11/0.43-KV Sub-Station between Dikchu to Lachen-Lachung	5.72	Nil	Nil	5.72
13. L.T. Distribution Lines between Dikchu to Lachen & Lachung	14.21	Nil	1.30	12.91
14. Civil Works for Sub-Station between Dikchu and Lacha-Lachen	4.90	Nil	Nil	4.90
15. Expenditure Works completed in 79-80	4.26	4.26	4.26	Nil
15. (a) Electrification of 13th 17th Mile GNR Army Cantts	7.08	3.54	3.70	3.38
16. Electrification of Pani House	0.55	0.22	0.44	0.11
17. Electrification of Middle Camp	1.03	0.18	0.38	0.65
18. Electrification of Namthang & Tek	3.65	0.08	0.09	3.56
19. 11 KV Line from upper Khamdong to Tunin	4.57	1.02	2.07	2.50
20. Electrification of Makha Bazar	1.24	0.28	0.46	0.78
21. 11 KV Line from Singtam to Lower Samdung	12.52	3.95	6.05	6.47
22. Electrification of Manglay Bazar	2.87	2.67	2.67	0.20

Name of Scheme	Latest Revised Estimate	Actual Expenditure 1979-80	Cumulative Expenditure as on 31.3.80	Balance
23. Electrification of Yangang Bazar	4.41	2.45	2.66	1.75
24. Electrification of Rongong	2.21	0.62	0.93	1.28
25. Electrification of Phensang	5.73	0.88	1.52	4.21
26. Electrification of Dikchu Bazar	3.35	0.84	2.30	1.05
27. 11 KV line from Pelling to Samdung	2.00	0.42	1.00	1.00
28. Electrification of Lingchom	3.31	0.11	0.34	2.97
29. Electrification of Sardung	1.60	0.06	0.12	1.48
30. Electrification of Khechepery	3.32	0.17	0.20	3.12
31. Electrification of Reshi Bazar	4.99	2.18	3.85	1.14
32. Electrification of Turuk	4.12	0.95	1.95	2.17
33. Electrification of Phurchachu	0.61	0.47	0.47	0.14
34. Electrification of Sadam	3.68	0.73	0.96	2.72
35. Electrification of Sumbuk	4.50	0.37	0.77	3.73
36. Electrification of Manglabarey Bazar	0.53	Nil	Nil	0.53
37. 11 KV line from Geyzing to Kaluk	5.41	1.48	4.26	1.15
38. 11 KV line from Sribadam to Soreng	6.24	3.04	5.41	0.83
39. Electrification of Fangla	1.41	0.64	0.84	0.57
40. Establishment of Workshop at Jorethang	2.00	0.10	0.10	1.90
41. Establishment of a workshop at Rimbi	3.00	Nil	Nil	3.00
42. Works completed in 79-80	4.91	4.91	4.91	Nil
43. 11 KV Melli-Rothak line including S/S (80-81)	31.00	Nil	Nil	31.00
44. Replacement of four nos, 3.3-KV transformers in North Sikkim (80-81)	1.56	Nil	Nil	1.56
45. Electrification of Army Cantts. upto Kupup in G.N. Road (80-81)	38.00	Nil	Nil	38.00
46. Underground Cable Works at Gangtok (80-81)	30.00	Nil	Nil	30.00
47. Street Lightings in Gangtok at adjoining areas (80-81)	18.00	Nil	Nil	18.00
Total Continuing Schemes	535.15	123.98	179.44	355.72

ANNEXURE— 2

New Schemes

1. Rothak-Legshep 11-KV line
2. Sombaria-Hillay 11-KV line
3. Namchi Damthang 11-KV line
4. Remodelling of Distribution at Rangpo & Singtam.
5. Remodelling of Distribution at Namchi, Naya bazar.
6. (a) Remodelling of Tathangchen, Chanbari, Tadung, Syalgaon.
6. (b) 11-KV line from Sardung to Dentam.
7. Improvement of Distribution at Mangan.
8. Electrification of Tong, Tingchem, Naga, Rakdong in North Sikkim
9. Civil constructions for Sub-Station and attendants for T. & D. Schemes.
10. Electrification of Lower Burtuk, Bhojoghari Lower Syari, Lower Tadung.
11. 11-KV line from Makha to Lingmo.
12. 11-KV line from Pakyong to Rongli via Machung.
13. 11-KV line from Namthang to Namchi via Phong - Maniram Bhanjang.
14. 11-KV line from Jorethang to Sombaria via Tharpu.
15. 11-KV line from Reshi to Rinchenpong
16. Electrification of Majhitar
17. Civil construction for the T & D Schemes
18. Electrification of Army Cantts, between Kupup to Rongli
19. Remodelling of Distribution system at Rabdentse and Gyalshing
20. 11 KV line from Ralang to Rabongla
21. 11 KV line from Dikchu to Lower Samdong
22. Changing of wooden poles by steel poles for fire schemes
23. Procurement of Testing equipments
24. 11 KV line from Tintek to Pangthang
25. 11 KV line from Lingmo to Sokpey
26. Undergroud Cable distribution workers at Gangtok Phase II
27. Improvement of distribution system at Pakyong, Ranipul, Sirwani, Rabongla, Kewzings
Legshep
28. Changing wooden poles by steel poles for 5 schemes
29. Civil constructions for Sub-Station and attendant
30. 66 KV line from Melli to Legshep
31. 11 KV line from Rongyak to Pakyong via Bhusuk —
32. Electrification of Mangsila
33. Electrification of Tholung Gompa
34. Electrification of Yumthang Gompa
35. Electrification of Lingthem Gompa
36. 11 KV line from Sankhalay to Dikchu
37. Rongli-Phadamchen 11 KV line
38. Civil construction for T & D Schemes
39. Changing Wooden Poles
40. 66 KV line from Melli to Legshep and 3.0 MVA Sub-Station at Legshep

ANNEXURE—3

1. Continuing Schemes

Sl. No.	Name of Scheme	Revised Estimate	Actual 1979-80	Cumulative Exp. as on 31.3.80	Balance
1	Electrification of Labrang	1.79	0.61	1.41	0.38
2	„ Namok	1.32	0.58	1.02	0.30
3	„ Ramthang	1.63	0.08	0.82	0.81
4	„ Phoodong	2.14	1.07	1.62	0.52
5	„ Sumik Lingzey	1.22	0.22	0.91	0.31
6	„ Chanday & Kokolay	3.20	0.03	1.24	1.96
7	„ Tumin	3.43	0.03	0.03	2.40
8	„ Patuk	3.00	0.01	0.60	2.40
9	„ Samdung Khasey	5.28	NIL	NIL	5.28
10	„ Lower Samdung	3.00	NIL	NIL	3.00
11	„ Tintek	5.68	NIL	NIL	5.68
12	„ Rongyak	1.54	0.51	1.35	0.19
13	„ Meru Busty	1.57	0.96	1.39	0.18
14	„ Ranka	4.88	1.16	2.91	1.97
15	„ Parving	4.44	0.87	2.16	2.28
16	„ 6th Mile Tadung	0.28	0.04	0.25	0.03
17	„ Amdo GNR	1.30	0.65	0.95	0.35
18	„ Luing	5.13	NIL	0.43	4.70
19	„ Burtuk	1.98	0.26	1.51	0.47
20	„ Amdo Golai	0.35	0.07	0.32	0.03
21	„ Rautey	1.22	0.34	1.22	0.00
22	„ Sajong-Kayathang	2.10	0.41	1.58	0.52
23	„ Lower Sichey	3.85	0.84	1.60	2.25
24	„ Dikling	4.35	0.61	1.74	2.61
25	„ Namchabong	2.77	0.26	1.08	1.69
26	„ Sumin-Lingey	0.56	0.09	0.42	0.14
27	„ Sakyong-Nagathang	2.21	0.67	1.75	0.46
28	„ Lindon-Barbing Dhajay	5.36	1.49	2.67	2.69
29	„ Chilisey Kingston	1.19	0.51	0.79	0.40
30	„ Ben	1.37	0.42	1.01	0.36
31	„ Nampruk	1.85	0.61	1.31	0.54
32	„ Turung	3.02	0.76	1.70	1.32
33	„ Wok	3.25	0.10	0.72	2.53
34	„ Burfung-Lingtam	2.26	NIL	0.87	1.39
35	„ Old Namchi	0.87	0.44	0.79	0.08
36	„ Lower Nandu Gaon	2.97	0.58	1.07	1.90
37	„ Singhithang	1.20	0.70	1.11	0.09
38	„ Burmiok Tokel	4.54	1.00	2.12	2.42
39	„ Samdung	6.90	0.67	2.74	4.16

Sl. No.	Name of Scheme	Revised Estimate	Actual 1979-80	Cumulative Exp. as on 61.3 80	Balance
40	Electrification of Chumbumg	3.26	0.68	1.41	1.85
41	„ Zoom	1.65	0.94	1.44	0.21
42	„ Geylling	1.28	0.73	1.09	0.19
43	„ Martam	4.00	1.38	2.59	1.41
44	„ Yangthang	1.68	0.02	0.66	1.02
45	„ Bhaluthang	1.69	0.99	1.60	0.09
46	„ Singling Village	1.92	—	—	1.92
47	„ Malbasay	3.05	—	—	3.05
48	„ Sindrang-Singyang	3.35	—	—	3.35
49	„ Assam Gaucharan	5.11	—	—	5.11
50	„ Naitam	4.01	—	—	4.01
51	„ Nandok	5.34	—	—	5.34
52	„ Aho Village	3.22	—	—	3.22
53	„ Changey Village	3.12	—	—	3.12
TOTAL :		146.68	22.36	54.00	92.68

New Schemes

1. Burung/Upper Chalamthang
2. Rabdong
3. Upper Nazitam
4. Kartok
5. Sajung
6. Budang
7. Rateypani
8. Electrification of Kopchang
9. Navey
10. Shayam
11. Chawang
12. Sotak
13. Upper Sangmo
14. Middle Yangang
15. Pacheykhani
16. Righu
17. Nampong
18. Phamthana
19. Nay
20. Namrek
21. Rumbuk
22. Sorok
23. Mallidara
24. Kabray

25. Lamaten
26. Polytam
27. Tingda
28. Burfok Lingdong
29. Lingdok
30. Hee-Gaythang
31. Toyang
32. Chisco pani
33. Poklok
34. Chojei Village
35. Upper Djongu
36. Satay Lakha
37. Lum-ger-Gangtok
38. Thami Dara
39. Sumin (above J.P.H.)
40. Lower Sangmo
41. Upper Yangang
42. Peku (near Ben)
43. Tinik (S)

OUTLAYS AND EXPENDITURE

Power

Rupees in lakhs

Name of the Scheme	1979-80 Actuals	1980 - 81		1980 - 85		1981 - 82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
A. Power Development							
Survey and Investigations							
(a) Continuing Schemes							
(i) Investigation of Chakung & Rothak Hydrel Project	1.78	1.50	2.00	5.00	—	3.00	
(ii) Investigation of Rathong Hydrel Project	—	0.50	3.00	8.00	—	2.00	
(b) New Schemes							
(iii) Preliminary investigation Rangpo chu, Rimbi river and other medium rivers in the State	—	—	—	5.00	—	1.00	
Total Power Development (A)	1.78	2.00	5.00	18.00	—	6.00	

OUTLAYS AND EXPENDITURE

Power

Rupees in Lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Appd. Outlay	Anticipated Expenditure	Proposed outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
B GENERATION SCHEMES							
(a) Continuing Schemes							
(i) Augmentation of Rimbi Micro Hydel scheme	14.95	3.00	3.00	8.00	—	5.00	—
(ii) Renovation of Rothak Micro Hydel Scheme	2.99	2.00	3.00	4.00	4.00	1.00	1.00
(iii) Renovation of Rongnichu Hydel scheme	28.99	48.00	44.00 40.00	71.00	71.00	15.00	15.00
(iv) New Diesel schemes at Gangtok	—	32.00 48.00	35.00 34.00	117.00	117.00	63.00	63.00
TOTAL :	46.93	99.00 133.00	100.00 130.00	200.00	192.00	84.00	79.00
(b) New Schemes							
Replacement of 2 x 100 KW sets by 1 x 200 KW new identical set at Rimbi	—	—	—	10.00	10.00	5.00	5.00
Total generation (a+b)=(B)	46.93	99.00 133.00	100.00 130.00	210.00	202.00	89.00	84.00

OUTLAYS AND EXPENDITURE

Power

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
C. TRANSMISSION & DISTRIBUTION SCHEMES							
(a) Continuing Scheme							
(i) Direction and Administration (Strengthening of Admn)	3.75	8.51	8.50 8.51	66.77	—	12.31	—
(ii) T & D Schemes	123.98	81.49	90.00 81.49	355.72	20.00	105.00	10.00
(iii) Construction of Buildings	9.94	10.00	16.50 10.00	22.45	22.45	1.45	1.45
TOTAL (a)	137.67	100.00	115.00 100.00	444.94	42.45	118.76	11.45
(b) New Schemes							
(i) Trans. & Dist. Schemes	—	—	—	375.06	55.00	26.24	5.00
(ii) Construction of Buildings	—	—	—	80.00	80.00	20.00	20.00
TOTAL (b)	—	—	—	455.06	135.00	46.24	25.00
Total T & D schemes (a+b)=C :	137.67	100.00	115.00 100.00	900.00	177.45	165.00	36.45
D. RURAL ELECTRIFICATION							
(a) Continuing Schemes							
(i) State plan schemes	22.36	15.00	20.00 15.00	70.00	—	20.00	—
(ii) R. M. N. P. schemes	—	10.00	10.00	22.68	—	5.00	—
Total Continuing scheme (a) :	22.36	25.00	30.00 25.00	92.68	—	25.00	—
(b) New Schemes							
(i) State plan schemes	—	—	—	88.08	—	10.00	—
(ii) R. M. N. P. schemes	—	—	—	41.24	—	5.00	—
Total new schemes (b) :	—	—	—	129.32	—	15.00	—
Total R. E (a) + (b)=D :	22.36	25.00	30.00 25.00	222.00	—	40.00	—
GRAND TOTAL A+B+C+D :	208.74	220.00 260.00	250.00 260.00	1,350.00	379.45	300.00	120.45

SELECTED TARGETS AND ACHIEVEMENT

Power

Sl. No.	Item	Units	Five Year Plan 1980-85		1979-80 Achv.	1980-81		Proposed Target 1981-82
			1979-80 Base year Level	1984-85 Terminal Yr. Target		Target	Antd. Achv.	
1	2	3	4	5	6	7	8	9
1. Installed capacity		MW	Cumulative	Cumulative				
	(i) Rongnichu Hydel Scheme		—	2.10	—	2.10	1.00	1.10
	(ii) Rimbi Micro Hydel		0.20	0.60	0.40	—	—	—
	(iii) Rothak Micro Hydel		0.20	0.20	—	—	—	—
	(iv) Manul Micro Hydel		0.50	—	—	—	—	—
	(v) Diesel P. H. Gangtok		0.37	1.97	—	1.60	0.80	0.80
	(vi) Lower Lagyap Hydel		6.00	12.00	6.00	—	—	—
	Sub-TOTAL :	MW	6.82	16.87	6.40	3.70	1.80	1.90
2. Electricity generated		KMWH	Actuals	Target		Cumulative	Cumulative	Cumulative
	(i) Rongnichu Hydel Scheme		2.00	10.00	—	—	0.20	8.40
	(ii) Rimbi Micro Hydel		0.80	4.00	0.20	1.00	1.00	1.50
	(iii) Rothak Micro Hydel		0.60	0.80	—	0.70	0.80	0.80
	(iv) Manul Micro Hydel		0.10	—	—	0.10	0.10	—
	(v) Diesel P. H. Gangtok		0.80	—	—	1.00	1.00	0.50
	(vi) Lower Lagyap Project		4.30	50.00	4.30	12.00	15.00	21.00
	Sub-TOTAL :		8.60	64.80	4.50	14.80	18.00	32.00
3. Electricity Sold		MKWH						
	(a) Within the State		4.00	25.00	—	12.00	11.00	15.00
	(b) Export to West Bengal		—	20.00	—	—	—	10.00
	Total Electricity sold :	MKWH	4.00	45.00	—	12.00	11.00	25.00
4 Transmission Lines								
	220 Kv and above		—	—	—	—	—	—
5. Rural Electrification			Cumulative					
	(i) Village Electrified	Nos	53	144	5	40	27	20
	(ii) Pump sets Energised		—	—	—	—	—	—
	(iii) Tube well Energised		—	—	—	—	—	—
	TOTAL :	Nos	53	144	5	40	27	20

Industries

The process of Industrialisation and economic development of the State has been engaging the attention of the Government of Sikkim for quite sometime. Faced with the inherent problems and the handicaps the State has, like hilly terrain, nonavailability of plain lands, lack of local entrepreneurship, etc, the State's role in ushering in industrialisation assumes higher dimensions when compared with other States in the country. Because of this background, the State was mostly engaged in development of carpet weaving and wood carving activities. Among the larger units, there were only four establishments, namely: Sikkim distilleries, Government Fruit Preservation Factory, Sikkim Mining Corporation and Sikkim Jewels.

Within the last four years, a base has been created for the promotion and development of new industries and to assist existing industries. The formation of the Directorate of Industries in 1976 to look after all aspects related to industrialisation, establishment of Sikkim Industrial Development and Investment Corporation Limited to cater to term credit needs, allocation of scarce raw materials, promotion of joint ventures, opening of Small Industries Service Institute to help in project preparation, technical assistance, training etc., the establishment of a District Industries Centre at Jorethang to provide a nucleus of services under one umbrella, establishment of an Industrial Training Institute to impart training in different trades are some of the most important steps taken by the Government in carving out a path towards industrialisation.

Review

The Directorate of Industries, made considerable headway in the promotion and development of industries, especially, in the small scale sector. Policy guidelines for achieving industrial growth were framed. To help industries to avail of the various facilities from the Government and other agencies, like raw materials, power and water supply, credit, marketing etc. registration formalities for existing as well as new units were introduced as a result of which 137 units as on 31st March, 1980 were registered with the Directorate of Industries.

Various incentives that are available from the Central and State Governments like capital subsidy transport subsidy, subsidy on interest, power, concession in sales and income tax, marketing assistance, machinery on hire purchase basis and pre-operative expenses were extended to units and wide publicity given to such incentives. The Directorate has already processed 19 cases and subsidies granted amount to Rs. 4.98 lakhs. The Directorate has also helped deserving entrepreneurs by extending industrial loans to establish their ventures. In all, 256 industrial loans amounting to Rs. 11.99 lakhs were granted during the period 1976-80. The loans were given for various purposes viz; blanket weaving, rice mills, printing presses, motor garages, match manufacturing, knitting etc.

Keeping in line with the Government of India's policy, a District Industries Centre was set up at Jorethang in 1978 with a skeleton staff to look after both South and West Districts. The DIC has already made its impact felt by initiating proposals for bringing up new industries in the vicinity and helping them with industrial loans, raw materials etc. They have assisted 10 units and also registered 31 small scale industrial units.

One Mini Industrial Estate with six sheds at Jorethang is under completion while the industrial Estate at Tadong is being planned out.

Objectives & Strategy

The main objectives during the Sixth Five Year plan (1980-85) would be :—

- (i) to promote and develop small scale Industries on a wider scale and to strengthen the existing industries ;
- (ii) to provide suitable infrastructural facilities especially developed land and constructing industrial estates ;
- (iii) to help entrepreneurs in indentifying new industrial possibilities and also helping the existing industries in optimum utilisation of installed capacities ; and
- (iv) to help rural artisans in self employment opportunities.

It is widely recognised that industrialisation holds the key to rapid economic development. Industrial development cannot however be achieved without entrepreneurship development, particularly in the case of village and small scale industries. Depending upon the emphasis, one becomes the by product of the other. In fact, they are two sides of the same coin. Entrepreneurship development in turn involves 3 categories of activities. They are stimulatory, supporting and sustenance activities. The stimulatory activities include entrepreneurial education, planned publicity about entrepreneurship opportunities, identification of potential entrepreneurs in a given area, motivating them by providing techno managerial assistance through training, helping entrepreneurs in selecting new products and preparing project feasibility reports etc.

The supporting activities include all those which would help entrepreneurs in establishing and running their own enterprises. These activities include among other things, registration of units, arranging finance, provision of infrastructural facilities, granting incentives, marketing assistance etc.

The sustaining activities would help to ensure continued efficient and profitable functioning of the enterprises. The major objective of these activities is to prevent sickness and closure for want of help from different agencies.

The Directorate of Industries plans to conduct a number of programmes for entrepreneurship development in different parts of the State during the plan period. As a support measure for this programme, necessary provision is proposed in the plan outlay towards incentives for new industries, modernisation of existing units, information and publicity, loans to existing and new units, preparation of project reports etc.

Whatever industrialisation has taken place has been mainly in the field of rural industries in which household industries play a key role. Most of the rural artisans who do not possess formal education have nonetheless certain inherent skills and hence the strategy of making use of such skills would be to impart training at their doorstep and by setting up demonstration units so that a step towards productive organisation can be taken. In order to achieve this purpose, the national scheme of TRYSEM would be introduced in as many rural areas as possible and after the trainees complete their training every effort would be made to provide them with improved tools and also to tie up their other requirements. In implementing schemes of this nature attempts would be made to particularly identify various experts in traditional crafts who would be utilised as trainers.

One of the problems acutely felt for promoting industries in the State is the non-availability of land. Unless areas are earmarked for industrial purposes both for development and construction of industrial estates, it would be difficult to sustain the programme of entrepreneurship development. As the principle objective of industrial estates programme is to achieve the promotion of small scale industries by providing facilities, assistance and guidance, urgent steps would be initiated to acquire suitable lands. This work would be carried out on a priority basis.

The Sikkim Industrial Development and Investment Corporation Limited would also be strengthened to undertake activities on a bigger scale so as to cater to the requirements of the existing and new entrepreneurs. In view of the smallness of the State, functions carried on by the Small Industries Development Corporations and State Financial Corporations in other States are rolled in this Corporation. Opening of raw material depots, enlarging the field in the supply of scarce raw materials, entrusting the work connected with the location, establishment and management of industrial estates, supply of machinery on hire purchase basis, etc are some the areas which would be looked after by the Corporation.

With a view to achieving the above objectives, a Project Identification Cell has been recently set up to collect all possible data from various sources. The Cell will function as a data bank on which projects, which have relevance to the State would be conceived of. It is expected that the cell would be the prime mover in suggesting industries, helping industrialists with project reports and other type of assistance. Action is being taken to attach technical persons with interdisciplinary background and supporting staff to make the cell a compact one.

As regards optimum utilisation of the installed capacities, provision is proposed for the Government Fruit Preservation Factory to achieve fuller utilisation, expansion of Sikkim Flour Mill to raise the capacity from 30 tonnes to 50 tonnes per day to have better returns with a minor increase in the investment and entering into new lines viz crown and digital electronic watches by Sikkim Time Corporation.

Schemes

1. Direction and Administration

The implementation of the programme of industrialisation in all its aspects solely rests with the Directorate of Industries. The responsibilities include identification of industrial opportunities, preparation of project reports, granting industrial loans, raw materials, subsidies, incentives etc. To carry out all these essential tasks, the Directorate, apart from having a full complement of staff will also be strengthened in the years to come. The Directorate proposes to promote atleast 80 modern small scale industrial units during the period and to ensure that these units function efficiently, considerable care has to be taken in scrutinising all the proposals.

Considering the past annual outlay of Rs. 3.00 lakhs per year, which amounts to Rs. 15.00 lakhs for the Five Year period, an extra provision of Rs. 2.50 lakhs is made to meet the additional requirement. In all, an outlay of Rs. 17.50 lakhs is proposed for the period, 1980—85.

2. Incentives for new Industries

A provision of Rs. 10.00 lakhs is proposed for the period 1980—85. As there are quite a number of units which are entitled for this, action will be taken by the Directorate to help the existing units to avail of these incentives.

In order to attract and encourage industries, various incentives like transport subsidy, central investment subsidy, subsidy on interest, power, concession in sales tax and income tax, marketing assistance and pre-operative expenses were announced. The provision proposed includes the incentives likely to be offered to the new units and also those that would come up by the plan period.

3. Modernisation of Small Scale Units

A token provision of Rs. 1.50 lakhs is proposed for this purpose. Measures were already initiated to improve the production techniques by providing improved tools and equipment to artisans engaged in leather working, carpentry and blacksmithy. While continuing efforts in this direction, the units which require modernisation in areas like management, equipment, layout, market etc. would be considered for assistance.

4. Information and Publicity

A provision of Rs. 5.00 lakhs is proposed on this account. It is the aim of the Directorate to inform all concerned about the activities of the organisation, the facilities that are available to start industries etc. at their doorsteps. A number of booklets have already been prepared detailing what has been mentioned above and circulated on a wider scale. It would be the endeavour of the Directorate to enlarge its activities so that more response would be expected from the intending entrepreneurs.

5. Entrepreneurship Development

An amount of Rs. 3.00 lakhs is provided for this purpose. To successfully implement the small scale industries development programme for the next five years, the entrepreneurship base would have to be strengthened considerably. A comprehensive programme of training is accordingly envisaged for existing industries to increase their productivity as well as to the prospective entrepreneurs.

As ultimately the success of any venture depends on the human factor, utmost care will have to be taken to identify, select and motivate the right type of persons to start industries. From the Entrepreneurship Development Programme, it is expected that these objectives can be met. The Directorate has already conducted four such programmes during the past four years and the results have been quite encouraging. This programme would be followed with more vigour and intensity during the plan period.

6. Training to Rural Artisans

To create a wider base at the village level, efforts have been made to train rural artisans in cutting, knitting, weaving, blacksmithy etc. During the year 1979-80, an amount of Rs. 1.94 lakhs was spent in training, giving machines for knitting, sewing and other purposes as a follow up measure after successful completion of training. The Directorate would like to pursue this activity on a bigger scale during the plan period. The number of people who have taken advantage of the scheme is 217. An outlay of Rs. 7.00 lakhs is proposed during the plan period to continue this activity. This programme will be integrated as far as possible with 'TRYSEM' so that most of the expenses on stipends, training raw material and trainer's fees would be covered under TRYSEM. The outlay proposed is intended specially for follow up. Main areas of training would be carpentry and blacksmithy which will benefit scheduled castes,

7. Loans to Small Scale Industries

A provision of Rs. 10.00 lakhs is proposed towards this item. The Directorate has over the last four years assisted 226 units and advanced industrial loans to the tune of Rs. 11.33 lakhs for the establishment of various type of units. As the tempo of industrialisation is to increase, and considering the past experience, a provision of Rs. 10.00 lakhs is made for the purpose.

8. District Industries Centre

In conformity with the industrial policy announced by the Government of India in December, 1977 for setting up DICs in each district all over the country to provide all embracing help under one single roof to the entrepreneurs and artisans, one District Industries Centre was set up in August, 1978 at Jorethang covering South and West Districts of the State of Sikkim.

The DIC located at Jorethang is providing considerable help and assistance such as identification of suitable schemes, preparation of feasibility reports, arrangements for supply of machinery and equipment, provision of raw materials, credit facilities and inputs for marketing facilities, etc. to the entrepreneurs/artisans from South and West Districts.

During a short span of its establishment, 31 units have been registered and 11 units have already gone into production, manufacturing items like bread and biscuits, soap cakes, automobile repairing and servicing, rice dehusking-cum-wheat grinding, etc. These units provide employment for 128 persons. A large number of artisans have also been assisted financially for the purchase of improved tools and equipment and to meet the portion of their working capital requirement for setting up their self employment ventures. In addition to these, three training courses in cutting, tailoring and knitting were also conducted for women folk of the Districts and a number of trainees successfully completed the training programmes. As a follow up measures, these trainees were provided with knitting, Sewing machines for their own self employment ventures and supplement their incomes. To achieve the employment objective of the plan, the planning strategy of Sikkim aims at protection for the existing livelihood of rural artisans and substantial increase in employment through rural industrialisation.

Since entrepreneurs in South and West Districts are still in a latent stage and people are shy to take up any new ventures, various promotional schemes like entrepreneurship development programme, information and publicity, training to rural artisans, etc. are proposed to be taken up in the plan period.

During the plan period, it is proposed to set up units based on local skill, demand and resources.

An outlay of Rs. 12.00 lakhs has been made for the Plan Period 1980-85 as 50% State contribution to the scheme as per financing pattern of the D.I.C.

9. Industrial Estates

This is the most important activity the Directorate would like to take on a priority basis. As it is, one mini industrial estate at Jorethang measuring 6 acres with six sheds is under completion and the other estate at Tadong measuring 14 acres is under planning state. In the difficult topographical condition in which the State is placed, it would be the primary responsibility of the state to acquire sites at appropriate locations for establishment of industrial estates. Unless the step is taken it would be difficult to launch industrial activities on a firm footing. The most pressing need today is

the acquisition of land. Unless the basic infrastructural facilities are provided, it would be a difficult task to motivate entrepreneurs to take up to industrial activities. Keeping this in view, a provision of Rs.80 lakhs is proposed mainly for acquiring plots and developing them for industries at Majitar and Melli.

10. Handloom and Handicrafts

Handloom and Handicrafts constitute an important aspect of industry in Sikkim. A separate institution called the Government Institute of Cottage Industries has been functioning from 1957 which was initially constituted primarily as a training centre imparting training to young boys and girls of Sikkim, for the purpose of preserving some of the traditional crafts and thereafter to provide them with gainful employment opportunities. The accent in this institute has therefore been multifaceted. This could be broadly categorised as training, preservation of well known handicrafts and the provision of employment opportunities. Initially there were only 28 trainees who were trained in carpet weaving, lepcha handloom weaving, carpentry and handmade paper making. Since the inception of this institute more than 300 trainees have passed out of the institution but an accurate assessment of the trainees who have followed up the training by setting up units of their own has not been made because of the difficulties in keeping track of them. However, a number of them have been serving in the institution on the production side and some of them have become sufficiently experienced and have taken over the role of instructors.

During the course of the past few years, the institution has gained in popularity and the products produced have been vastly appreciated and they provide a ready market in the larger cities of the country. The intake in the institution has consequently increased and a branch of the institution was opened at Lachung and another at Chungthang has recently been set up. During the past few years or so the need to ensure that the ex-trainees go into production either by starting households industries or by joining the institution in the production section has been particularly looked into and the result has been encouraging. In 1979-80, the total production in the institute went up considerably. The total value of production was Rs. 5,85,774.76p. In order to facilitate the sale of the products of the institute a sales emporium has been opened at Delhi.

During the Sixth plan the main thrust would be to provide more facilities for the trainees and open up more branches of the institute in other regions of the State so that people in the remoter localities will also have opportunities of gainful employment. The branches proposed to be opened are at Lachen, Phensong, Geyzing and Singtam. There will also be a diversification of the trades taught so that regional requirements are met. The total provision earmarked for the GICI for the five year period is Rs. 126 lakhs, which will take into account the cost of stipends, raw materials, additional building space, new centres and the field level organisation through which marketing would be arranged and raw material procured and stocked at strategic points so that they could be made available at the appropriate time and place to the trainees.

Other than the GICI the Directorate of Industries has also been responsible for the development of handloom and handicrafts.

Though not much has been done in the field, of handloom the Directorate proposes to encourage this activity on a modest scale. The amount spent during 1979-80 is Rs. 4,000/- only but there is a proposal to start a training-cum-production centre at Namchi under the auspices of the District Industries Centre, Jorethang. A token outlay of Rs. 5.00 lakhs, is, therefore, proposed to provide loans and other equipment to the weavers.

Regarding handicrafts a scheme for construction of community worksheds for carpet weavers, bamboo and matting crafts is under completion at Rabangla, Raleykhesey and Kaluk. An amount of Rs. 1.63 lakhs was spent during 1979-80.

A provision of Rs. 7.00 lakhs is proposed mainly with the intention to help the craftsmen for purchase of various tools and equipments. The Directorate, in this connection would link up with the Govt. Institute of Cottage Industries so that the trainees passing out from the Institute in different trades can avail of financial assistance to set up their own ventures.

11. Village and Khadi Industries

A Village and Khadi Industries Board was set up in 1974 by converting a unit of the Bihar Gramodyog into a full fledged Board. Thereafter, it has gradually expanded its activities. Its main activities were imparting training in khadi weaving and starting village industries like fibre, handmade paper, bee keeping, leather industries etc. A number of training-cum-production centres were also set up and schemes involving the use of local raw materials have been formulated. The Khadi Board has been functioning in a rented building and many of its training-cum-production centres are also housed in hired buildings. During the Sixth plan period a phased programme of building construction will therefore be undertaken with the emphasis on a headquarter building at Gangtok. The programme of training in spinning, weaving, dyeing and printing for which stipends wages and cost of raw material constitute the main expenditure would be intensified. Among the village industries that would be implemented during the plan period are handmade paper, fibre industry, cane and bamboo work, bee keeping, leather industry, carpentry, blacksmithy, pottery, fruit processing and medicinal plants. A total outlay of Rs. 99 lakhs is proposed for Village and Khadi Industries.

Large and Medium Industries

There are no large industries in the State. However, an attempt was made earlier to start a large paper factory to produce tissue paper and carbon paper with the help of the Hindusthan Paper Corporation. Although the feasibility survey indicated that the project would be worthwhile, this has not yet been cleared by the Government of India. Since however, this is a project which would be of great benefit to the State, it is presumed that it will be revived and so a token provision of Rs. 10 lakhs is provided for the purpose.

Medium Industries

Sikkim Industrial Development and Investment Corporation (SIDICO)

With a view to providing assistance for term loans margin money, scarce raw materials etc. the Sikkim Industrial Development and investment Corporation Limited was established in the year 1977. The authorised share capital of SIDICO is Rs. 100.00 lakhs and the paid up share capital as on 31st March, 1980 was Rs. 31.30 lakhs. SIDICO has so far sanctioned loans to the tune of Rs. 21 lakhs to 8 units in 1977-78, Rs. 18.07 lakhs to 6 units during 1978-79 and Rs. 12.75 lakhs to 12 units in 1979-80. SIDICO has been supplying scarce raw materials like paraffin wax, mutton tallow, fatty acids, cement, woollen carpet yard etc. to the industrial units.

SIDICO is expected to play an important role in the years to come. Its share capital has therefore to be fully subscribed. If found feasible it will function like a Holding company being responsible for the overall management of other smaller public sector undertakings which have already come up as well as those expected to come up in the future. It will also be responsible for

initiating joint venture units and would develop industrial land so that the infrastructure is ready for new industries. Among the larger industries contemplated are a cold storage unit, a solvent extraction unit and a deoresins plant etc. This will naturally need the widening of the share capital base, an outlay of Rs. 65 lakhs is therefore proposed for this purpose.

2. Sikkim Flour Mill

The setting up of the Sikkim Flour Mill was the result of a project report prepared by the National Industrial Development Corporation, New Delhi. The erection of the Flour Mill with a 30 tonnes capacity per day was entrusted on a turnkey basis to the Project and Equipment Corporation of India, New Delhi. The factory building and installation of machinery were completed in 1979. An amount of Rs. 43 lakhs was spent by 1979-80. Trial runs commenced in June, 1980. Though initially started under the aegis of the Government, a company wholly owned by the Government of Sikkim under the name and style of Sikkim Flour Mill Limited was floated on 30th April, 1980.

An amount of Rs. 18.00 lakhs is propose, for the plan period towards the construction of the new building, purchase of a new truck and additional machinery to increase the capacity from 30 tonnes to 50 tonnes per day.

3. Sikkim Time Corporation (SITCO)

The Sikkim Time Corporation was set up as a State owned Watch Assembly Unit during the year 1976-77 at Gangtok. This unit was set up with the collaboration of the Hindusthan Machine Tools Limited. 60 boys and girls were specially trained in the assembly work by the HMT at Bangalore. The unit has a capacity to assemble 2.5 lakhs watches and according to the agreement, the HMT air transports components and collects back the assembled watches. Though the unit started in a private building, it is now housed in its own premises. The Corporation has been making steady progress since 1977 and in the year 1979-80, SITCO topped all HMT assemble units in the country by assembling 2.10 lakhs of completely knocked down watches in spite of the problems the unit faced regarding supply of watch components and electricity. SITCO has assembled 4,04,105 Semi-knocked down watches and 3,34,900 CKD watches till date since its inception.

Future Plans

After carefully studying all watch components and also considering the position of availability of technicians at present in Sikkim, SITCO plans to take up a project of manufacturing one million crowns by working 2 shifts. This project is considered to be economically viable the understanding is...that HMT would train the personnel of SITCO for this purpose.

SITCO also plans to go in for the manufacture of digital electronic watches. This Project is for the assembly of one lakh watches per annum on a single shift basis. The watches to be assembled will be of LCD digital types and majority of the components, testing equipment, assembly tools, jigs and fixtures would have to be imported. The new assembly unit will generate direct employment opportunities for 40 persons and indirect employment to more than 100 persons in packing, marketing, servicing, etc.

Keeping in view the above schemes, a provision of Rs. 50 lakhs is proposed for the entire plan period 1980-85.

4. Govt. Fruit Preservation Factory

This unit was established in the year 1958. This is the only departmental unit run by the State. This factory was established in the heart of orange growing areas primarily to process

the oranges available in the vicinity and market the products. Within the period of two decades of its existence the factory has established a good reputation for its products marketed under the brand name of 'SIKKIM SUPREME'. The factory was established as a departmental unit with an investment from the State only and the management of the Factory was vested in a Board of control constituted by the State. For a short spell of three years, the management was entrusted with a private company, M/s. Sikkim Industrial Corporation Limited. The sales of the company have increased from Rs. 27.67 lakhs in 1973-74 to Rs. 45.02 lakhs in the year 1979-80.

Expansion Programme

Hard pressed by circumstances and realising the urgency for modernisation, expansion and diversification, an expert Committee from DGTD in 1976 analysed the problems of the factory and made recommendations for retrieving the situation by additional investment of Rs. 17.00 lakhs in a phased manner. The State made available financial assistance to the tune of Rs. 7.17 lakhs for this purpose as envisaged in Phase I of this scheme in 1976-77. At the close of the year 1977-78, the factory submitted a detailed plan proposing investment of Rs. 105 lakhs during the years 1978-79 to 1980-81. The implementation of this scheme envisaged the import of a poly-citrus plant from Italy (an automatic orange juice cum oil extractor) on the basis of clearance and recommendation of the DGTD, addition of indigenous balancing and processing equipment, construction of civil structures, replacement of obsolete equipment, etc. All these equipments for which orders were placed, have been installed and commissioned with the exception of the Polycitrus plant which is under installation.

The plant and machinery envisaged would require a total amount of Rs. 23.70 lakhs which includes a provision of Rs. 17.00 lakhs for starting a pectin manufacturing unit. Pectin is a very costly commercial item used in fruit processing units and other industries. This can be manufactured out of large quantities of orange peel and pomace and other waste materials from apples, peaches, etc. As pectin can be made from the existing waste materials and as there is an acute shortage of pectin in the country, there will be enough justification for this outlay. As it is, the requirement of pectin for the unit itself is estimated at 2,000 kg. for the current year which is expected to go up to 6,000 kg. in the next 2-3 years. The balance requirement would be for the purchase of squash bottling units and other minor equipments. The civil structures for which a provision of Rs. 12.17 lakhs is made is for construction of staff quarters, factory, civil works, store godown, electrification works and for Sip-Up sales counter and Bombay Sales Office. It is also proposed to add an additional truck for transportation of incoming raw materials and out going finished products. Due to increase in the activities, a Jeep is also quite necessary. In view of the additional capacity created for processing various fruits (from 500 MT to 2000 MT for oranges and from 200 MT to 1000 MT for pineapples per annum apart from additional capacity created for peaches, plum, mangoes, etc.) and as the inventories are usually held for six months, an increase in the working capital is very keenly felt. The trade cycle of converting raw material to cash on an average is six months and bulk of the supply is on credit against open tender/accepted orders. Taking into account all the relevant factors, it is felt that unless a loan of Rs. 20.00 lakhs is granted for this purpose, the unit would find it difficult to meet the enhanced physical targets of production.

Semi Processing Units

A provision of Rs. 10.00 lakhs is proposed for establishing two semi processing units at selected strategic areas to process fruits at the time of peak season and supply the same to the parent unit.

Establishing such units will result in better use of fruits available in season near the centres of production thereby reducing not only the transport costs but also the wastage in transport. It is also proposed to have a few experimental centres for growing oranges, plum, peaches, lemon, etc. in the nearby area of the Factory. The total employment estimated to be generated in the Sixth Plan would be 255 persons besides indirect employment in other sectors. A total outlay of Rs. 69 lakhs is accordingly proposed for the Factory.

5. Industrial Survey & Reports

The starting point for ushering in healthy industrialisation presupposes identification of industrial opportunities. For this purpose, conducting industrial surveys and preparation of industrial survey reports backed up by preparation of detailed project reports is a must. During the previous years, such reports were prepared by a Team of officials lead by the Industrial Development Bank of India, Ministry of Industry, National Industrial Development Corporation Limited for the Roller Flour Mill and Powerloom Project, etc. A token provision of Rs. 5.00 lakhs is proposed, to continue efforts in this direction particularly in the area of preparing specific project reports, feasibility studies, industrial profiles, etc.

OUTLAYS AND EXPENDITURE

STATEMET—GN-2

Industries

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Small Scale Industries							
(a) Direction & Administration	1.92	3.00	3.00	17.50	—	2.75	—
(b) Incentives for New Industries	—	1.00	1.00	10.00	—	1.50	—
(c) Modernisation of Small Scale Industries	0.03	0.30	0.30	1.50	—	0.30	—
(d) Information & Publicity Centre	0.20	1.00	1.00	5.00	—	1.00	—
(e) Entrepreneurship Development	0.07	0.50	0.50	3.00	—	0.75	—
(f) Training to Rural Artisans	1.94	3.00	3.00	7.00	—	1.50	—
(g) Loans to Small Scale Industries	0.63	1.00	1.00	10.00	10.00	1.50	1.50
(h) District Industries Centre	0.50	2.00	2.00	12.00	—	2.20	—
(2) Industrial Estate	9.60	6.00	6.00	80.00	70.00	12.00	11.00
(3) Handloom Industries	0.04	1.00	1.00	5.00	2.50	0.50	0.25
(4) Handicrafts	1.63	1.00	1.00	7.00	3.50	1.00	0.50
(5) Sericulture	0.10	0.20	—	—	—	—	—
(6) G.I.C.I.	11.25	23.00	23.00	126.00	8.00	29.00	—
(7) Khadi & Village Industries	6.22	15.00	15.00	99.00	40.00	20.00	7.00
Total Small Scale Industries	34.13	58.00	57.80	383.00	134.00	74.00	20.25
2. Large & Medium Industries							
(1) Paper Factory	—	—	—	10.00	—	—	—
(2) Sikkim Industrial Development and Investment Corporation Ltd.	31.30	10.00	10.00	65.00	65.00	20.00	20.00
(3) Sikkim Flour Mill	43.00	2.00	9.00	18.00	18.00	6.00	6.00
(4) Sikkim Time Corporation	—	2.00	2.00	50.00	50.00	3.00	3.00
(5) Government Fruit Preservation Factory	24.00	7.00	12.00	69.00	69.00	22.00	22.00
(6) Industrial Survey and Reports	0.28	1.00	1.00	5.00	—	1.00	—
Total large & Medium Industries :	98.58	22.00	34.00	217.00	202.00	52.00	51.00
Total Industries :	132.71	80.00	91.80	600.00	336.00	126.00	71.25

SELECTED TARGETS AND ACHIEVEMENTS

Industries

Sl. No.	Item	Unit	Actuals 1979-80 Achievements	1980-81		1980-85 Targets	1981-82 Targets
				Targets	Anticipated Achievements		
1	2	3	4	5	6	7	8
VILLAGE & SMALL SCALE INDUSTRIES							
1. Small Scale Industries							
		Nos					
	(a) Units Functioning	Rs. in Lakhs	72	15	15	80	30
	(b) Production	(cumulative)	237.90	233.40	233.40	983.40	308.40
	(c) Persons Employed	Nos. (cumulative)	1170	780	780	1300	900
2. Industrial Estate/Areas							
	(a) Estate/Areas functioning	Nos	—	1	1	4	2
	(b) No. of Units	Nos	—	10	10	60	20
	(c) Production	Rs. in Lakhs	—	50.00	50.00	300.00	100.00
	(d) Employment	Nos	—	80	80	480	160
3. Handloom Industries							
	(a) Production	Metres	—	7,500	7000	15,000	14,500
	(b) Employment	Nos	—	8	8	16	16
4. Handicraft							
	(i) Production	Rs. In Lakhs	0.82	1.20	1.20	4.20	1.70
	(ii) Employment	Nos	41	61	61	210	86
5. District Industries Centres							
	(a) No. of units Assisted	Nos	5	6	6	28	14
	(b) No. of Artisans assisted	Nos	14	20	20	110	45
	(c) Financial assistance rendered to Industrial units	Rs. in Lakhs	0.25	2.00	2.00	10.00	4.25

Mining and Metallurgy

The State of Sikkim is endowed with rich geological resources which are to be properly assessed and tapped. To harness this natural resource and utilise it for the betterment of living conditions of the people, a concerted, multi-pronged effort is called for.

Review

In the past, the entire geological activity in the State has been carried out by National agencies, of which the Geological Survey of India has been the prime agency. Other Government organisations viz. the Department of Energy, the Indian Bureau of Mines too have contributed significantly in the geological investigation in the State in some specialised fields. More recently, the Oil & Natural Gas Commission, the Mineral Exploitation Corporation, etc. have also partaken in some restricted spheres.

Moderate to fair amount of success has been achieved during these investigations leading to sufficiently detailed exploratory effort in certain sectors namely : base metals, graphite, dolomite, coal etc.

Base Metals

Base metals constitute the main natural resource of the State. Already quite a lot of exploration of base metals has been carried out in the State. As a matter of fact, the deposits at Rangpo are being commercially mined by the Sikkim Mining Corporation. Another deposit located at Dikchu is currently being developed by the MEC and this is expected to be ready for commercial exploitation by 1982-83. There are other located deposits in West and East Sikkim which have to be further explored. The Sikkim Mining Corporation has however been plagued with various problems not the least of which have been erratic power supply. As a result of this, heavy losses have accumulated. The power supply is now better but the equipment in the unit particularly in the beneficiation plant needs reconditioning since optimum results could not be achieved from the concentrates produced and the quantity of ore treated, due to various factors such as insufficient equipment in crushing, grinding and flotation sections. It will therefore be necessary to recondition the beneficiation plant for which additional equipment has to be purchased. Similarly, equipment for the mine, workshop and laboratory will also have to be procured so that optimum results are obtained. As far as Dikchu is concerned it is expected that the preliminary development will be completed by the MEC by 1981-82. After this a DPR has to be prepared and thereafter commercial exploitation has to commence. Since it is necessary to synchronise the commercial exploitation with the submission of the detailed project report, the ancillary infrastructure consisting of buildings, the mill, laboratory etc has to be planned out immediately. Thus considerable attention will be paid both at Rangpo and at Dikchu to make full use of the productive capacity of the mines which could bring in valuable revenue for the State. As a matter of fact, the revenue generation from the Sikkim Mining Corporation itself is expected to be in the region of about Rs. 45 lakhs in a year provided the power position is stable and all the equipments are installed.

Graphite

The graphite deposit of West Sikkim (Chitrey) has been tested by exploratory drilling by GST in the past but the final findings are not available.

Dolomite

Good occurrence of dolomite is available near Rishi (West Sikkim). This has been geologically investigated in some detail by the GSI.

Coal

Gondwana coal exposed in the Rangit Valley and near Namchi (West Sikkim & South Sikkim) have been tested by some drilling effort by the GSI in the past.

In this backdrop, the role of the State Government to assess the potentialities of these deposits, test and explore other lesser known, but important resources need not be overemphasised.

In the category of the lesser known but potential resources fall— (a) the numerous thermal springs and mineral water, (b) building-cum-ornamental stones, (c) Phosphate rich rocks, (d) Magnesite, (e) Tungsten, (f) Glass sands & quartzites, (g) Quartz and felspathic occurrences for porcelain (h) numerous old copper workings (i) talc, etc.

With hardly two Mining Engineers and one Chemist manning the local Department of Mines & Geology, it has not been possible to put in any concerted field effort in the desired direction. The attainments have been mainly in the fields of—

(1) Preparation of mineral inventories, (2) Extension of the Mines and Minerals (Regulation & Development) Act, 1957 to the State, (3) Drafting and formulation of the Minor Mineral Concession Rules, (4) Mining & quarry lease documents (5) Preliminary sampling of rock, mineral water resources and their analysis, (6) Planning and setting up the requisite infrastructure for initiation of geological-cum-mining activity on a large scale, etc.

Further, a full fledged chemical laboratory has been established capable of qualitative and quantitative analysis in respect of all major and minor elements. Minor Mineral (Concession) Rules 1980 have been finalised. The Department is on the verge of launching a well planned geological cum-mining exploratory programme.

To be able to achieve the desired results in a reasonable time, sufficient men and material resources will have to be deployed in different sectors. The growth rate from the present near Nil base, will have to be steep in the beginning.

Objective

Keeping in view the above factors, the main objectives of the plan may be summarised as follows :—

- (a) to establish the department of Mines and Geology in such manner as to equip itself with the necessary expertise and facilities for carrying out intensive investigative work in respect of the mineral and geological resources.
- (b) to provide sufficient resources to the Sikkim Mining Corporation so that it will be in a position to optimise the production of quality concentrates of copper, zinc and lead.

Schemes

Following are the different schemes/projects proposed to be taken up during the VI Plan Period

(1) Mineral Exploration

(a) *Thermal Springs and Mineral Waters*

Geologically mobile belts and structurally weak zones are known for hosting thermal springs. Where major cracks and fissures extend to greater depths and reach the hot interiors of the crust, they provide the necessary channel-ways for the circulating ground waters which get heated up and find their way to the surface. The original source and the local chemical environment, through which the waters pass, decide the ultimate chemistry of the emanating waters. In many cases, these thermal waters are known to have therapeutic values. Some waters are chemically suitable for human consumption.

Once the chemical suitability of waters for drinking purpose and their therapeutic properties are established in one or more springs, the scheme offers tremendous potential for development of tourism. Even if the waters have none of the above properties, being thermal alone make them suitable for bathing and other purposes. Utilization of thermal waters for this purpose is well known in India and abroad (ex. Manikaran H. P. Sona. Haryana, Baden, W. Germany).

Some of the spring waters may be recording fairly high temperatures making them suitable for tapping geothermal energy. In the present day of all round energy crisis, this source of energy will offer a very promising field for development. In the mountainous state of Sikkim, geothermal energy can be utilized for heating residential premises, setting up of green houses and so on, as are being experimented upon in Ladakh.

A number of thermal springs are known to occur all over the State. The scheme envisages careful study of the thermal fields, understanding the geological controls, temperature measurements at different times and periods of the year, detailed chemical analysis including major-miner and trace-elements, plus other physico-chemical parameters viz. rate of flow, P.H. etc. Radioactivity and dissolved radon measurements are also envisaged. Where gasses co-exist with waters, detailed analysis of organic and inorganic contents including helium, will have to be done.

Following this study and dependant on results, some fields which have shown interesting chemistry, especially the contents of dissolved radon and helium, will be taken up for underground investigations by drilling to reach the reservoir and test its chemistry. Those fields which have fairly high temperatures, will also be tested by drilling to measure the geothermal gradients and assess their potentiality for harnessing geothermal energy. Others will be subjected to genetic studies. Simultaneously with these studies, the areas around the thermal fields will be developed for purposes of tourism.

Those waters, having chemical composition fit for human consumption, will be tapped, with suitable reservoirs and outlets designed and constructed. The water will be filtered and bottled at site, and marketed locally and in bigger markets after due publicity. The scheme offers much scope for generation of self employment avenues, besides development of areas in North Sikkim where some of the spring are located. Thereby, it is expected to benefit the scheduled tribes of the region.

(b) *Base Metal Investigation*

Apart from Rangpo and Dikchu there are two other noteworthy base metal sulphide occurrences (1) Jagdumb near Chakung (West Sikkim) and (2) Pachekhiani-Rorathang (East Sikkim). At former

location under ground workings totalling 71 meters developed by the I.B.M. exist. Some drilling was also carried out by the G.S.I. in the sixties. There are no results or reports of these investigations. Informally it is learnt that 4 separate bands of ore were intercepted at different depths. At Pachekhani and Rorathang some attempt to mine by way of haphazard adits is seen. Here too, drilling is reported to have been carried out. In recent years, geochemical investigations were also carried out by the G.S.I.

Besides these more important occurrences, there are a large number of lesser known sulphide occurrences at Siribong, Khanikhola, Sisnai Khola (near Chakung, West Sikkim) Manpur Khola, Dong basti, Ratepani, Pussi, Chidam (South Sikkim). All these need to be carefully studied, sampled, mapped, assessed and sub-surface investigated, wherever necessary.

(c) *Dolomite :*

Fairly large occurrence of dolomite is known in the Rangit river valley at Rishi (West Sikkim) and minor occurrence of banded dolomite are known near Bhanjan (South Sikkim). Likelihood of the presence of dolomite occurrence in un-metamorphosed calc - granulites of North Sikkim cannot be ruled out. Possibility of inter - bedded lime-stone with dolomites or separate bands / zones of limestone rock within dolomites is always there. Formation of dolomite itself is, many a times by alteration of limestone and sometimes is by deposition from sea water. In the first eventuality, presence of unaltered limestone within the dolomite is likely.

Limestone forming the basic raw material for manufacture of cement holds great promise. Pure dolomite can be used as a source of carbon-dioxide, in agriculture and as an excellent building material.

Need to thoroughly explore this useful resource in the State is, therefore, important.

The plan of action envisages careful evaluation of this mineral resource, precise assessment of its potentiality and suitability of material for specific subsequent utilization. All this study is aimed at developing the already known resource of Rishi for speedy commercial exploitation. Besides, geological investigation is planned for bringing more potential occurrences in other parts of the State to light and developing the already known, lesser important ones.

(d) *Building stones and material for porcelain and Glass industry :*

The State abounds in number and variety of geological material which can be profitably and most effectively utilised for building / construction purposes within and outside the State. In this category will come both ordinary and ornamental Stones. These include (i) granites of the Darjeeling and Kanchenjunga groups exposed in abundance around Chungthang in the North, Rangli in the East and Geysing-Dentam area in the West (ii) basic igneous sills seen at several localities (iii) Quartzites of the Buxa and Chungthang groups exposed mostly in the North (iv) Calc granulites and dolomites - where these are banded they present a good ornamental material. Apart from being used as ordinary building stone, some selected varieties, duly polished hold much promise for indigenous and export markets. The proposed plan envisages in the first step a careful survey and inventory of all the geological materials that are suitable for building purposes. The studies include testing their resistance to physical stresses and chemical agents of weathering. Rock samples will be subjected to rock mechanical strength testing studies, etc. The areas of suitable building material will be demarcated. Those rock types which have potential of developing into good ornamental varieties and some granites and migmatites having attractive textures

will be out into convenient sized slabs and polished to perfect glaze. These are expected to fetch good return.

North Sikkim, has good abundance of rocks which can be suitably and profitably used for porcelain and possibly glass industries. The rocks and areas worth investigating are the numerous and extensive pegmatite veins intrusive in the Kanchenjunga group of crystallines exposed between Chungthang and Lachen, Chungthang - Lachung and beyond in the North. Some pegmatites are so well zoned that quartz and felspar zones are well developed and clearly separated. These can be tested for their suitability in porcelain, and glass industry.

There are several zones exposing white quartz veins with little amount of mica dispersed here and there. This material may be useful for glass industry.

Minor minerals viz. building stones, gravel, ordinary clay, sand etc. which are being exploited in several regions of the State have been proposed to be brought under the purview of the Department. To regulate this mining supervisors and mining guards have to be recruited.

(e) *Graphite*

One of the important industrial minerals finding extensive use in electronic industry, as refractory material, and as moderator in atomic reactors, occurs in the western parts of the State at Chitrey. It is formed as a result of high temperature intrusion of igneous rocks into organic carbon bearing sedimentary rocks. An important geological setting presenting this picture is seen in West Sikkim in Calc granulites which have been metamorphosed to varying degree by intrusive granites. Calc granulites extend right across from West Sikkim passing through North (Singhik-Tong area) to East Sikkim beyond Rangli.

A systematic study of the already known occurrence of Chitrey graphite is programmed as a first step. It will be followed by extending survey to areas of North and East Sikkim for possible localisation of graphite deposits. In Chitrey, the investigations will include a careful study of the results obtained by the G.S.I. in their investigations, followed by an independent assessment of the occurrence. It is understood that the inaccessibility of the region had greatly affected the GSI exploration. Extensive test pitting and sampling of the graphite to test the near surface behaviour, grade of ore etc. and detailed mapping to understand the configuration properly is envisaged. If the results are encouraging drilling is envisaged in the latter part of the plan period. By this time, it is expected that survey and systematic sampling of the skarn zones of North Sikkim and East Sikkim will also be taken up.

The ruggedness of terrain and difficulty of approach had affected the GSI exploratory effort considerably. It is, therefore, considered necessary to have some infrastructure by way of small rest house, and storage accommodation for housing drilling and exploratory equipment at Uttare.

The site for detailed exploration at Chitre is 10-12 km. from Uttare. An approach road will be necessary in the later part of the plan.

(f) *Coal*

The Goudwana group of rocks which contain practically all the major coal deposits of the country, are exposed in the Ranjit river valley (South Sikkim) in the form of a "Tectonic window". The Rangit river has eroded through the older dalling group of rocks which are overlying the younger Gondwana rocks as a result of "thrusting", and has exposed the Gondwana sediments. These are made up essentially of sandstones and inter-bedded coal seams.

Namchi is situated on Gondwana rocks and occurrence of coal is seen in the Ranjit river and Namchi areas. Some drilling has been done in the past by the G.S.I.

The programme envisages careful study of available results, map and plot, the known coaliferous horizons; test the grade of coal and assess its suitability for different purposes. If warranted, an independent drilling programme can be taken up. The importance of this natural resource and need for development for exploitation need not be emphasised.

(g) *Other Geological Resources*

In addition to the above mentioned more promising rock and mineral resources, there are a large number of lesser known occurrences which may turn out to be potential areas for development, once the requisite men and material inputs have been provided and geological effort becomes possible. These areas include :—

1. Tungsten — Known in the skarn zones of West Sikkim.
2. Talc — In the metamorphosed rocks of the Rothak Khola, West Sikkim.
3. Magnesite — In the meta-sedimentaries and meta-basies of the Ranjit river valley, West Sikkim.
4. Rock Phosphate — Quartz veins, basic sills and the meta-sedimentaries of South Sikkim (Namchi Bhanjan-Damthang-Tarku) are known to contain sometimes high percentage of apatite (Phospite mineral). Effort is necessary to locate essentially phosphate rich zones.
5. Rare metals — The skarn zones (calcareous rocks intruded by igneous rocks) and the numerous pegmatites of the State can be systematically tested for their rare-metal potential.

Lower priority has been assigned to these investigations as adequate technical man power may be difficult to obtain.

For the various schemes outlined above extra Man power and materials are required. The exact requirement can be worked out only when the schemes get off the ground. However, on a rough assessment it is found that about 20 each of mining engineers and geologists are required. Appointment of such personnel will naturally have to be followed up by the recruitment of basic supporting staff both on the technical and ministerial side. Essential equipments for survey and laboratory will also have to be procured, and, atleast a few drilling rigs and vehicles have to be purchased. For catering to these various requirements an outlay of Rs. 73 lakhs is projected for the five year period which will be suitably apportioned between men and materials.

2. *Training Schemes*

There is acute shortage of trained man power in the State which has caused delay in initiating geological activity in the state. To encourage bright students of the state to pursue higher studies in the field of Earth sciences with an aim to meet the growing requirements of the state, a provision of Rs. 1 lakh is kept in the Plan proposal. Under this, it is, proposed to offer 2 scholarships each year, for a period of 4 years after 10+2 course.

3. *Laboratories*

A well equipped chemical laboratory along with petrology wing is very essential for any successful analysis of rock samples and the like. A composite building for the purpose has already been sanctioned.

In order to complete the construction work and to procure a few more equipments particularly in the petrology side a provision of Rs. 6 lakhs is proposed for the plan period.

4. Sikkim Mining Corporation

(a) Mine Development

Eversince the Corporation was formed, only 0.15 million tonnes of ore had been mined upto the year 1978-79 out of the reserves of 0.66 million tonne. This was due to the fact that continuous supply of power was not made available to the Corporation. Even during the year 1979-80, though power supply was resumed in the month of September, continuous and stable power was not available, and the production of ore was limited to 4400 tonnes (Copper concentrate—253.95 tonnes, Zinc concentrate—116.95 tonnes and Lead concentrate—40.00 tonnes). Upto the year 1978-79, the ore content in the hilly feature above the New adit level was stopped utilising gravity and no complication was involved in hoisting. Now that the ore in the top levels is almost exhausted, ore is being stopped out in the levels between New adit and the No. 1 level and brought out by using a 30 HP hoist. With the ore stopped between the New adit level and No 1 level, development has to be taken up below No. 1 level.

At present a vertical shaft is being used for hoisting ore from No. 1 level to the New adit level, and this shaft has to be taken down to the lower levels along with a few winzes from No. 1 level to No. 2 level and further below. To exploit the ore to the optimum extent additional mining equipment has to be provided. The costliest of this is an electric winder which is necessary to hoist men from deeper levels. A list of proposed equipment is tabulated below.

S. No.	Year	Particulars	Quantity Required
1	1980-81	(i) Air winch HJA	3 Nos.
		(ii) Jack Hammer with airleg & lubricators	3 sets
		(iii) Explosives magazine 10T capacity	1 No.
		(iv) Sludge Pumps	2 Nos.
		(v) Sump Pumps	2 Nos.
		(vi) Wire rope for air which 3/8"	300 m.
		(vii) Road Ripper S-22	2 Nos.
		(viii) Centrifugal Pumps (2+30 HP)	2 set
		(ix) Ventilation survey instruments	1 set
		(x) Rail switches	3 sets
		(xi) Pneumatic Picks	2 Nos.
		(xii) Cap Lamps	50 Nos.
		(xiii) Shaft Sinking	50. m.
		(xiv) Miscellaneous	—

Sl. No.	Year	Particulars	Quantity required
2	1981-82	(i) Jack Hammer with airlegs and lubricators	3 sets.
		(ii) Tipping Tubs	10 Nos.
		(iii) Rhino-100 shots exploder	2 Nos.
		(iv) Guide Rope 1/4"	400 m.
		(v) Hoisting Buckets	4 Nos.
		(vi) GI Pipes (4", 2", 1" & 1/4")	60 m.
		(vii) Shift sinking	
		(viii) Miscellaneous	
3	1982-83	(i) Electric Winder 75 HP	1 set.
		(ii) Underground Diamond Drill	1 set.
		(iii) Shaft fittings between NA/L and No. 3/L	
		(iv) Jack Hammer with airleg and lubricators	3 sets.
		(v) Winding ropes 1/4" dis.	400 m.
		(vi) Shaft Sinking	
		(vii) Miscellaneous	
4	1983-84	(i) Jack Hammer with airlegs and lubricators	3 sets.
		(ii) Cap lamps	50 Nos.
		(iii) Auxiliary Fan	2 sets.
		(iv) Rhino—100 shots exploder	2 Nos.
		(v) Rail line 24 lbs.	5 tonne
		(vi) Shaft sinking	
5.	1984-85	(i) Sludge pump	2 Nos.
		(ii) Sump pumos	2 Nos.
		(iii) G I. Pipes (4", 2", 1", & 1/2"d)	
		(iv) Hoisting Buckets	2 Nos.
		(v) Air winch	2 Nos.
		(vi) Tipping Tubs	11 Nos.
		(vii) Turn Table	4 Nos.
		(viii) Miscellaneous	

(b) *Beneficiation Plant*

The beneficiation plant was designed for the ore analysing 1.19% copper, 1.2% lead and 2.52% zinc. But during the past few months, the quality of the ore has changed approximately to 1.3% copper, 1.7% lead, and 4% zinc. As a result, the flotation cells are not able to cope with a richer ore and substantial quantities of zinc are lost in the tailings. To recover better concentrates and to improve the quality of the concentrates from contamination, additions of more cells and improvement in the beneficiation plant are required to be made immediately.

In the original plant installed, a symon Cone Crusher was procured and this was able to give the required ore of the size-1/2" so that the Ball Mill could produce the designed capacity. Unfortu-

nately, the Cone Crusher was damaged and in its place a Secondary Jaw Crusher was installed which is not able to crush the ore to-1/2". As a result, the capacity of the beneficiation plant has been considerably reduced. Efforts are being made to repair the Symon Cone Crusher and put it into commission for obtaining the targetted production.

Coarse ore bin is very small in size (10'X10'X10') and only 100 tonnes of ore can be accommodated. It is essential to keep in hand sufficient ore to run the plant for 3 days at least, i.e., 300 tonnes. Due to insufficient space near the bin, it may not be possible to construct a new ore bin but the present bin can be extended backward towards the main road, and, thus, the size of the bin will be 10'X18'X10'. This can be extended without any alteration in apron feeder. The other alternative is to construct two bins of the same capacity (100 tonnes) on both the sides of the present bin but feeding to Jaw crusher will be difficult and this may involve extra expenditure for providing two belt feeders from new bins to jaw crusher.

The ore coming from the mine is wet and the moisture is confined mostly to the ore in small size. As a result in the earlier periods, the Symon Cone Crusher was getting choked up and the efficiency was low. To overcome this difficulty, it is advisable to screen the ore coming from the Primary Cone Crusher and ore of the size above 1/2" fed to the Cone Crusher so that optimum results are obtained in the crushing section. For the modifications, addition of a few belt conveyors and a vibrating screen are required to be purchased.

The ore from fine ore bin is fed to ball mill manually through an inclined chute provided with water jets. This does not ensure regular homogeneous feeding at a constant rate through out the shift, which is essential for maintaining dynamic equilibrium of the process. One disc feeder has to be installed at the feed end of the ball mill.

Flotation feed contains 80-85%—200 mesh which is not sufficient for liberation of minerals from one another and from waste rocks. For finer grinding, secondary grinding is essential but due to heavy expenditure, it has not been recommended. Alternately, secondary classification through hydrocyclone has been preferred. This arrangement will eliminate coarser particles going to flotation, which is one of the sources of contamination in concentrates produced and losses of mineral through tailings.

One 3'x4' ball mill is available. This will be used for regrinding of scavenger bulk float for further liberation of sphalerite from chalcopyrite and galena. The idea is to collect free particles of chalcopyrite and galena with the help of a weak collector as first bulk float which may be subjected to one cleaning before separation of chalcopyrite from galena. Then with the help of a strong collector, second bulk float can be collected. This may contain unliberated particles consisting of minerals enclosed in siliceous gangue, or two/three minerals attached together. This second float from bulk circuit can be diverted for regrinding to achieve free minerals for further collection. This arrangement will ensure maximum recovery of chalcopyrite and galena with less impurities of sphalerite. Sphalerite content in the bulk concentrate exerts a considerable influence, on separation technique. Once the sphalerite joins the bulk concentrate, it goes either with copper concentrate or with lead concentrate depending upon the depressor used for separation. It is essential to minimize the sphalerite content in the bulk concentrate. For third bulk concentrate after regrinding 25 cft cells have been included.

Recovery of zinc mineral is poor because of the inadequacy of the existing cells. For higher recovery in all the concentrates; at least 20 more cells have to be added in the plant.

Lead concentrate contains 6-8% zinc and 3-4% copper. Decoppering and dezincing of lead concentrate are essential for upgrading the final lead concentrate. It has been observed that the underflow from copper/lead separation circuit, i.e., lead concentrate, contains 90-95% water, which is not suitable for froth flotation process. Before decoppering and dezincing, it is essential to thicken the slurry to 25% solid by eliminating water through thickener. After proper conditioning, copper may be eliminated through 12 cft cells. Then the lead concentrate will be conditioned for float- ing available zinc, thus producing a lead concentrate free from copper and zinc. This arrangement will require one thickner, one conditioner and extra 12 cft cells, and will ensure high grade lead concentrate.

Reagents are prepared in concrete tanks and fed to the flotation circuit through polythene pipes and plastic valves. This does not ensure regular feeding at constant rates which is essential for process control. The reagent rates vary as the solution head in the tank goes down. There are jamming problems also. To eliminate these, "disc and cup" reagent feeders have to be installed. Reagents preparation tanks will be provided with agitators and steel tanks for keeping the solutions.

List of additional equipment needed is given below :—

Sl. No.	Equipment	Quantity
1.	Belt Conveyors-0.6m x 9m	2 Nos.
2.	Vibrating Screen - 4" x 6"	½" set.
3.	Disc. Feeder-Capacity 5 Ton/hour	24 Nos.
4.	25 cu. ft. cells	6 Nos.
5.	12. cu. ft. cells	8 Nos.
6.	Sump and pump	2 Nos.
7.	Hydro clone with Pump	1 No.
8.	Conditioners - 9M x 9M	2 Nos.
9.	Vertical Centrifugal pumps	8 Nos.
10.	SRL pumps	4 Nos.
11.	Lead Concentrate Thickener	1 No.
12.	Reagent Feeder	3 Sets.

(c) *Laboratory*

The existing Laboratory in the Corporation is proposed to be strengthened by procuring the following equipment :—

1. Muffle furnace for fire assay for determining precious metals and roasting the ore for hydro-metallurgical tests.
2. Electrolysis unit for economical determination of copper and lead (At present only titration methods are used)
3. Disc Pulverisor for grinding the ore samples.
4. Moisture Meter for determination of moisture content in the concentrates.
5. Spectronic—20 for determining the metallic contents in traces in the tailings.
6. Miscellaneous.

(d) *Workshop*

At present, there is limited equipment in the workshop provided for the Corporation which is hardly adequate to meet the day-to-day requirements. With the expanded activities in the Five-

Year plan, the workshop shed has to be strengthened. It is also found that the workshop does not have sufficient tools for lifting the ball mill, jaw crusher, etc., for repair works.

Thus it is proposed to provide the following materials to the workshop.

<i>(A) Mechanical</i>	<i>Quantity</i>
1. Triple spur gear chain pulley block capacity 10T Lift from 3 meters 3 onwards.	1 No.
2. Triple spur gear chain pulley block capacity 5T Lift from 3 meters & onwards	1 No.
3. Traversing Type Jack Capacity 10T	2 Nos.
4. Hydraulic Jack capacity 10T	1 No.
5. Hydraulic Jack capacity 5T	1 No.
6. Stationary (elec.) hand drill—3mm capacity drilling (HP-3/4) continuous rating, PH-3	1 No.
7. All gear head lathe for 6 ft. bed with self centering chuck suitable for 8" size, independent dog chuck telescopic copper turning attachment, elct. coolant pump & motor suitable for 3PH, 50 cycle, 440V.	1 No.
 <i>(B) Electrical</i>	
1. Trailing Cable, 0.06 sw. in. size (as per spec. BS—708 or IS691) 5 core, 650V, 3PH, conductor current carrying capacity 70 Amp.	100m.
2. Portable motor generator welding set, 20-300- Amos. 3 PH, 50 cycle with non-conducting head screen, fully insulated electrode holder, chipping goggles & 100 mts. elec. welding cable (300 Amps. Cu. conductor, twisted, braided and insulated Spec-as per IS : 434. 1:1964.	1 set.
3. Industrial Extension Ladder upto 30ft. Rubberised legs.	2 Nos.
4. Standard Model emergency light.	4 Nos.
5. Stand-delta starter V-400/440, 3PH, 50cy. HP—10	2 Nos.
6. Direct On - line starter HP-10, V-400/440, 3pH, cy-50	2 Nos.
7. Direct on—line starter HP-3, V-400/440, 3pH, cy-50	2 Nos.
8. Switch fuse unit 100 Amps, 440V, 3pH, 50- cycle.	1 No.
9. Storage battery 12V, 25 plates, 180 Amp-hour	2 Nos.
10. PVC or pliable armoured flexible cables. Suitable for 150 Amps, 650V, single core cu-conductor.	100m.
11. PVC or pliable armoured flexible cable, suitable for 100 Amps. 650V. single core, cu-conductor	100m.
12. Miscellaneous	

For the various schemes meant for the SMC an outlay of Rs. 50 lakhs is contemplated. It is expected that the corporation would generate sufficient revenues to meet ordinary administrative expenditure.

5. *The Dikchu Prospect*

The MEC is likely to complete its work of preliminary exploration etc. by 1981-82 and thereafter a DPR is to be prepared on the basis of which the State Govt. will have to decide how best to go about the Commercial exploitation of the mine. Since supporting infrastructure is the responsibility of the State, a token provision of Rs. 10 lakhs is provided for this purpose in the plan.

OUTLAYS AND EXPENDITURE

Mining & Metallurgy

Rupees in lakhs

Name of the Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Sikkim Mining Corporation	5.00	16.00	16.00	50.00	—	6.00	—
2. Dikchu Mines	—	—	—	20.00	10.00	—	—
Mines & Geology Department							
(i) Direction & Administration	—	3.65	7.65	38.00	—	6.00	—
(ii) Mineral Exploration	—	0.30	0.30	35.00	—	9.00	—
(iii) Training	—	0.05	0.05	1.00	—	0.30	—
(iv) Capital	5.97	2.00	2.00	6.00	6.00	2.70	2.70
TOTAL :	10.97	22.00	26.00	140.00 152.00	16.00	24.00	2.70

SELECTED TARGETS & ACHIEVEMENTS
Mining & Matallurgy

Scheme	Unit	1979-80 Actuals	1980-81		Proposed Target	
			Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
1. Sikkim Mining Corporation	M/tonne	411	2550	1705	12724	2550
	(concentrates)					
	Value	0.075	0.51	0.34	2.36	0.50
	(Rupees in crores)					

Roads and Bridges

The importance of road development in a hilly State like Sikkim, where no alternative means of communication are available, needs no emphasis. A proper communication network is a basic requirement for socio-economic development. Road building activities will provide besides access to inaccessible area; rural employment opportunities paving the path for socio-economic growth.

Review of Progress

During the first three plans, the State had concentrated in providing bare minimum access to interior areas in the form of bridle roads with weak bridges, suitable for animal traffic. Besides, a few jeepable roads to District Headquarters and marketing centres for the railhead were also provided. With the growth of development activities both bridle and jeepable roads require improvement for traffic of trucks.

During the subsequent plans, an attempt was made for conversion of bridle roads to jeepable roads and this was supplemented by a limited Expansion Programme.

In brief, the State had at the end of 1979-80, 872 kms. of roads in various categories, of which 547 kms. is surfaced and 325 kms. is unsurfaced. In addition work was started to ultimately cover 243 kms. of road under expansion, primarily to serve interior villages under the Minimum Needs programme.

Apart from this, a large length of 4 ft. wide foot tracks and foot bridges across gorges for inter village communication for men and animals has been developed. Unfortunately, these tracks were neither maintained by the Government nor by the villagers, as a result of which the earthen tracks were damaged. Restoration of the damages and improvement of such existing tracks by providing soling, drainage besides providing foot bridges across gorges is therefore, required to be done under the Rural Development Programme.

Policies and Objectives

The main objective is development of a communication network to ultimately connect various marketing centres providing access to interior villages for economical transportation of goods and passengers. Accordingly, the existing road network in the form of motorable, jeepable, bridle and foot tracks is proposed to be reclassified in accordance with the All India Classification as State Highway, Major District Roads and other District Roads, although almost all the existing roads are far below the standard required for the classification, and stretches of the road classified as State Highway today exist in a jeepable bridle form.

The objectives, therefore, are :—

1. Improvement of existing non-standard road to minimum standards required under the new classification, and providing surfacing to those roads which are unsurfaced.
2. Construction of missing links connecting two existing roads including construction of missing bridges.

3. Replacement of existing weak bridges and weak pavements (built for animal and jeepable traffic) to meet the growing need.
4. Improvement and expansion of urban roads in Gangtok Municipal area, District Headquarters and major marketing centres.
5. Expansion of road network to provide access to more villages under the Minimum Needs Programme.
6. Improvement of existing village tracks for pedestrians and construction of foot bridges on streams and gorges for inter-village communication under Rural Development Programme and
7. To provide slope protections in identified areas of land slides and erosion affecting the communication.

Brief details of schemes proposed are as follows :—

(a) Removal of Deficiencies in Existing Network

With a view to bring down cost of transportation of goods and passengers and to obtain maximum utility of existing roads/earlier investments, it is proposed to accord higher priority towards a consolidation programme such as construction of (i) Missing Link Roads (ii) Missing Major/ and Minor Bridges (iii) Improvement of low grade sections and (iv) Slope Treatment and protective works in identified places.

Missing Road Links

78 kms. of road was started in the 5th Plan requiring a spillover provision of Rs. 111.00 lakhs. Besides completion of the work undertaken in the 5th Plan it is proposed to undertake 89 kms. of road during the 6th Plan, for which a sum of Rs. 170 Lakhs is proposed against an estimated cost of Rs. 229 lakhs. Accordingly, outlay proposed is Rs. 281.00 lakhs.

Missing Bridges

A sum of Rs. 99.50 lakhs is required as spillover provision for completion of Missing Major/Minor Bridges undertaken in the 5th Plan. In addition a large number of bridges are required to be built on the roads completed and nearing completion and so a sum of Rs. 240 lakhs is proposed for this against an estimated cost of Rs. 295 lakhs.

Accordingly, outlay proposed is Rs. 339.50 lakhs.

Improvement of Low Grade Sections

Against a total length of 872 kms. at the end of 1979-80, as much as 755 kms. length of road is below minimum standard required as most of these roads were initially built in the form of jeepable/bridle. With the increase in the cost of petrol, transportation of goods and passengers by jeeps and smaller trucks (one tonner) has become exorbitantly costly and, therefore, upgrading the road to make it suitable for heavier diesel trucks is of utmost importance not only to affect economy in transportation but also to conserve energy.

To convert all such roads into truckable standards would require a huge amount and so only a modest beginning is proposed. 74 kms. of existing low grade road is prepared to be upgraded to standard specifications and surfacing of 196 kms. out of 325 kms. of unsurfaced road is targeted for. An outlay of Rs. 257 lakhs is proposed for upgrading 74 kms. and surfacing 196 kms. of road.

In addition, Gangtok town roads require improvement. These have been planned by the Gangtok Municipal Corporation. Although the Gangtok Municipal Corporation's Programme is very exhaustive an outlay of only Rs. 110 lakhs is proposed to meet a part of their demands for improvement of roads in the Municipal area.

Accordingly, the Outlay proposed under this head is Rs. 587.50 lakhs.

Slope Treatment & Protection Works

In a young mountainous State, with maximum rivulets per unit area, high intensity and long duration rainfall, steep slopes and unstable formation, the construction and maintenance of roads is very costly, as it requires extensive protection and treatment of slopes. In certain areas, there are large land slides and extensive toe erosion by major rivers requiring extensive toe and slope protection works to reduce traffic interruption and accidents. While quantum of work required to be done under this Programme is very extensive an outlay of Rs. 220 lakhs is proposed for treatment to specially identified places.

Thus total Outlay proposed under Removal of deficiencies is Rs. 1,298 lakhs.

(b) Replacement

This provides for replacement of existing narrow and weak bridges by permanent bridges, replacement of existing weak and worn out pavements by new pavements to cater for heavier traffic and to consequently economise the cost of transportation of consumer goods. Under this scheme it is proposed to replace six important bridges falling on main roads, and replace the existing pavement of two State Highways and a few other major District Roads. A provision of Rs. 291.00 lakhs is proposed for these works.

A number of schemes were also taken up during the last plan which are nearing completion. These works are expected to be completed within this plan period and a sum of Rs. 149.50 lakhs has been provided for completion of these works.

Thus total Outlay proposed under the scheme is Rs. 440.50 lakhs. The scheme details are given in the statement TR I.

Minimum Needs Programme (Expansion)

The entire State is a rural area except for Gangtok and two other marketing centres and the present economy of this State is based essentially on agriculture. While the output from agriculture per unit area is far below National level on account of obvious terrain and climatic condition, even the produce find a limited market due to lack of communication facilities and the consumer goods reach villages on headload at an exorbitant cost. Therefore, Rural Economy is adversely affected in the State.

For the development of rural areas, by providing rural industries and improved method of cultivation, the basic requirement would be to provide access to inaccessible areas and, therefore, expansion of existing road network and provision of inter-village communication at least for men and animals is of utmost importance in the State and proposed under the Minimum Needs programme.

Expansion of Existing Road Network

165 Kms. of road expansion under Minimum Needs Programme was undertaken during the

5th Plan and the same is expected to be completed during the 6th Plan. A sum of Rs. 159.50 lakhs is proposed as spillover provision for completion of these ongoing roads.

In addition it is proposed to take up 180 Kms. of road expansion of which priority for 160 Kms. has already been fixed and remaining 20 Kms. will be finalised during the coming years. An Outlay of Rs. 318 lakhs is proposed for this.

An outlay of Rs. 10.00 lakhs is also proposed for Link Roads.

Accordingly, total Outlay for Expansion of existing road network proposed is Rs 487.50 lakhs.

Inter-Village Communication for Pedestrian & Animals

The Department of Rural Development had provided a large mileage of foot tracks and foot bridges during the previous Plans. Unfortunately, the earthen foot tracks on steep slope have been damaged and require restoration and improvement including provision for soiling and drainages on such foot tracks. In addition a large number of foot tracks are required, to provide inter-Village communication especially in areas where a villager has to walk 7 days to reach the nearest marketing centre and go back with a bag of salt after 15 days. These conditions are perhaps not applicable in any part of the country and, therefore, development of such communication, needs to be given higher priority.

Both for completion of ongoing schemes, improvement of existing tracks, and construction of foot bridges across streams, rivulets and gorges by the Department of Rural Development an Outlay of Rs. 480 lakhs is proposed.

Thus under the Minimum Needs Programme, total Outlay proposed is Rs. 967.50 lakhs.

Additional Facilities to Cater for Traffic Needs

With the growing industrial activities in the State, roads are required to be built in specific industrial areas like Tadong, Jorethang, Majitar, etc. besides improvement and expansion of road network in main marketing centres and District Headquarters.

In addition, the growing tourist traffic in the State has encouraged opening up of a few areas of tourist attraction. These works are proposed to be taken in the later years of the 6th Plan, and accordingly, a nominal Outlay of Rs. 50 lakhs is proposed.

As is well known the only means of communication in the State is through the roads. From time to time, the Government have been assessing the possibility of connecting Gangtok through air. As a result of a dialogue with the ministry of Civil Aviation it has now been found that 'STOL' aircraft can bring Sikkim within the air map of India. A site on a ridge across Gangtok town has accordingly been selected for the purpose of an airport but before it can be handed over to the Ministry of Civil Aviation, it will have to be developed by levelling and construction of an approach road. A tentative estimate of Rs. 160 lakhs has been prepared for the purpose which will have to be further reviewed and up dated in consultation with the Ministry. In view of the imminence of the project being undertaken a provision of Rs. 30 lakhs is however proposed for the plan period more as an entry point.

Machinery and Equipment :

The need to increase machinery and equipment to cope with increased activities of Road Development and other constructions may not need emphasis. There are two mechanical work-

shops, one at Gangtok and the other at Jorethang, for the maintenance and repairs of road machinery but not adequately equipped. With the increased number of road machinery and other activities in the remote areas, these two workshops are required to be equipped for meeting the demands of repairs. The time taken for transportation of the machinery from remote areas to these workshops for repairers is very long, resulting in heavy cost of transportation besides prolonged delay in the repair of the machine, thus hampering the progress of development.

It is, therefore, proposed to set up two small workshops to cater for minor repairs and strengthen the existing workshops at Gangtok and Jorethang by providing workshops equipments and tools for frequent major/minor repairs. It is also proposed to create two fabrication cells, one for Jorethang one at Gangtok, for fabrication of structure like roof truss, window frames and grills, etc. This will not only economise the cost of the construction and expedite progress but also create employment. An Outlay of Rs. 175 lakhs is proposed under Machinery and Equipment.

Direction and Administration

With the increase in the quantum of road development programmes it has been felt necessary to reorganise the Department and strengthen it. The Government have been considering providing two different Circles, one for South/West and the other for North/East located at Jorethang and Gangtok respectively, whereas at present there is only one Circle in the Roads Department. It is, therefore, proposed to create one additional Circle during the period of 6th Plan.

The State of Sikkim at present has no facilities of any laboratory to improve quality of works. It is, therefore, proposed to establish one laboratory during the 6th Plan.

In addition it is also proposed to undertake survey investigation of new projects.

Accordingly, an Outlay of Rs. 93 lakhs is proposed for establishment of one Circle, establishment of laboratory, research development, survey investigation and training of personnel.

OUTLAYS AND EXPENDITURE

Roads and Bridges

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Quantity	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Removal of deficiencies in existing net work	216.5	226.00	226.00	1428.00	1428.00	255.00	255.00
2. Replacement	25.00	52.50	52.50	440.50	440.50	71.00	71.00
3. Expansion Include Rs. 30 lakhs as airport	80.00	68.50	68.50	477.50	477.50	73.00	73.00
4. Additional facilities	—	—	—	80.00	80.00	1.00	—
5. Link Roads	13.50	3.00	3.00	10.00	10.00	3.00	3.00
6. Inter Village Communication	45.00	50.00	50.00	480.00	—	55.00	—
7. Centrally Sponsored Item	—	2.00	2.00	16.00	16.00	2.00	2.00
8. Machineries	11.00	16.00	16.00	175.00	175.00	25.00	25.00
9. Direction & Administration	7.50	12.00	12.00	93.00	—	15.00	—
TOTAL :	398.50	430.00	430.00	3200.00	2627.00	500.00	429.00

SELECTED TARGETS AND ACHIEVEMENTS

Roads and Bridges

Sl. No.	Item	Units	1979-80 Base year Level	1980-81		Proposed target	
				Proposed Target	Anticipated Achievements	1980-85	1981-82
1	2	3	4	5	6	7	8
1.	State Highway	Kms Commulative					
	(a) Surfaced	„	197	197	197	217	197
	(b) Unsurfaced	„	20	20	20	—	20
2.	Major District Road						
	(a) Surfaced	„	234	234	234	282	234
	(b) Unsurfaced	„	109	109	109	93	109
7.	Other District Road						
	(a) Surfaced	„	116	16	116	194	116
	(b) Unsurfaced	„	196	216	216	407	256
4.	Village Roads						
	Unsurfaced	„	2715	2735	2735	3045	2775

FIVE YEAR PLAN 1980--85

Roads Sector

Item	Category SH/MDR etc.	Total cost	Expendi- ture upto 1979-80	Proposed outlay 1980-85	1980-81	1981-82
1	2	3	4	5	6	7
I Removal of deficiencies in the existing network						
(A) Missing Road Links						
<i>(a) Spill-over Schemes</i>						
1. Simchuthang—Yangang	— 14	ODR	26.00	13.50	12.50	1.00 6.00
2. Legship—Tashiding	— 13	„	52.00	16.00	36.00	8.00 8.00
3. Phong—Bermoik	— 24	„	48.00	16.50	31.50	8.00 8.00
4. Road to Goshkhan Dara	— 2	„	6.00	—	6.00	2.00 2.00
5. Melli—Turuk — Chidam Bhanjyang	— 21	„	42.00	24.00	18.00	— 6.00
6. Other minor roads	4	„	8.00	1.00	7.00	— 2.00
TOTAL :		78	182.00	71.00	111.00	19.00 32.00
<i>(b) New Schemes</i>						
1. Duga — Pakyong	— 13	MDR	39.00	—	20.00	1.00 3.00
2. Ranipul — Lingzey	— 6	ODR	15.00	—	15.00	1.00 3.00
3. Pangthang — Lingdok	— 12	„	30.00	—	30.00	1.50 3.50
4. Tharpu—Malabassey—Soreng	— 20	„	50.00	—	30.00	1.50 3.50
5. Dikchu—Namphok	— 8	„	20.00	—	20.00	2.00 1.00
6. Raley—Samdong	— 5	„	12.00	—	12.00	1.00 1.00
7. Chuwate—Pendani	— 5	„	13.00	—	13.00	1.10 1.00
8. Soreng—Hilley	— 20	„	50.00	—	30.00	1.00 4.00
TOTAL :		— 89	229.00	—	170.00	10.00 18.00
(B) Missing Major Bridges						
<i>(a) Spill over Works</i>						
1. Rangchang on Makha— Dikchu road	220+50''	MDR	10.00	5.50	4.50	3.50 —
2. Tumin on M. D. road	110''	„	3.50	—	3.50	0.85 1.65
3. Lachung on Lachung Sarchu road	250''	ODR	8.50	2.00	6.50	3.00 0.50
4. Rabi Khola on Melli Phong Road		MDR	9.00	1.00	8.00	3.00 2.00
5. Rangpo Khola on Namphok Yangang road	120''	ODR	5.50	—	5.50	1.65 0.85
TOTAL :			36.50	8.50	28.00	12.00 11.00

	1	2	3	4	5	6	7
<i>(b) New Schemes Bridges on</i>							
1. Rongli--Rolep		ODR	10.00	—	10.00	1.50	3.50
2. Machong--Rongli		ODR	15.00	—	15.00	2.00	5.00
3. Melli--Phong		MDR	15.00	—	15.00	5.50	4.50
4. G. R. B. A. Road		MDR	15.00	—	15.00	1.00	1.00
5. Sokpay--Kimboobotay		ODR	20.00	—	20.00	3.00	4.00
6. Legship--Tashiding		MDR	60.00	—	25.00	0.50	9.50
7. Roads nearing completion			50.00	—	30.00	0.50	1.50
TOTAL :			185.00	—	130.00	14.00	20.00

(C) Missing Minor Bridges

(a) Spill Over Schemes Bridges on

1. Makha -- Dikchu Road		MDR	15.00	5.50	9.50	2.00	3.00
2. Penlong -- Dikchu Road		ODR	5.00	—	10.00	0.70	1.30
3. Machong -- Rongli Road		ODR	10.00	—	10.00	1.50	3.00
4. Melli -- Phong Road		MDR	15.00	3.00	10.00	2.00	3.00
5. Yuksom -- Tashiding Road		ODR	15.00	—	15.00	3.00	2.00
6. Reshi--Rinchenpong		MDR	15.00	—	15.00	3.00	2.00
7. Rongli--Rolep Road		ODR	5.00	—	5.00	1.00	3.00
8. Other roads							
TOTAL :			80.00	8.50	71.00	13.20	17.30

(b) New Schemes Bridges on

1. Rongli--Rolep Road		ODR	15.00	—	15.00	4.80	2.20
2. S.B.S. Road		„	5.00	—	5.00	1.00	2.00
3. Chidam Bhanjyang road		„	10.00	—	10.00	2.00	4.00
4. Phone--Bermiok Road		„	15.00	—	15.00	4.00	1.00
5. Rumtek-- Song Road		MDR	5.00	—	5.00	1.00	2.00
6. Melli--Turuk Road		ODR	10.00	—	10.00	2.50	3.50
7. Other roads nearing completion			50.00	—	10.00	1.50	3.50
TOTAL :			110.00	—	110.00	16.80	19.20

(D) Improvement of Low Grade Sectors

(a) Spill over Schemes

1. Penlong-Lingdok	—	13	ODR	13.00	4.00	9.00	4.00	2.00
2. Assam-Pakyong	—	16	MDR	12.00	5.50	6.50	2.70	1.80
3. Dikchu-Saklang-Mangan	—	26	MDR	2.00	1.00	1.00	1.00	—
4. Sanklang-Bey-Sakyong	—	19	ODR	13.00	2.50	10.50	4.00	2.00
5. Lingtham-Lingdem	—	5	ODR	10.00	6.50	3.50	2.80	0.70
6. Namchi-Phong	—	13	MDR	13.00	5.50	7.50	1.00	3.00
7. Pelong-Tintek	—	20	ODR	20.00	14.00	6.00	2.00	4.00
8. Pakyong-Machong	—	16	ODR	5.00	—	5.00	1.00	2.00
9. Pelling-Dentam	—	20	ODR	3.00	2.00	1.00	1.00	—
10. Pelling-Rimbi	—	15	ODR	20.00	—	20.00	5.00	5.00

	1	2	3	4	5	6	7	
11. Rabongla-Ralong	—	13	MDR	26.00	1.00	25.00	5.00	5.00
12. Melli-Phong	—	26	MDR	26.00	12.00	14.00	4.50	1.50
13. Gangtok - Rumtek-Song Khamdong	—	40	MDR	15.00	2.00	13.00	1.00	4.00
14. Nayabazar-Legship	—	27	SH	13.00	10.00	3.03	2.00	1.00
15. Khamdong-Tintek	—	26	ODR	52.00	20.00	32.00	6.00	6.00
16. Makha-Yangang	—	23	ODR	46.00	31.00	15.00	2.00	5.00
17. Kaluk-Dentam	—	20	MDR	3.00	1.00	2.00	2.00	—
18. Tarku-Damthang	—	20	SH	30.00	—	30.00	3.00	4.00
19. Damthang-Rabongla	—	13	ODR	10.00	3.50	6.50	2.00	2.00
20. Namchi-Damthang	—	13	SH	5.00	—	5.00	1.00	2.00
21. Urban Roads			ODR	10.00	5.00	5.00	2.00	1.00
TOTAL :				347.00	126.00	226.50	55.00	52.00

(b) *New Schemes*

1. Dikchu-Sangkalang- Mangan	—	26	MDR	78.00	—	15.00	3.00	2.00
2. Sakalang-Bey-Sakyong	—	10	ODR	44.00	—	20.00	2.00	2.00
3. Makha-Dikchu	—	20	SH	30.00	—	30.00	3.00	3.00
4. Pakyong-Machung	—	16	ODR	32.00	—	10.00	2.00	—
5. Gangtok-Rongneck Bhusuk-Assam	—	21	MDR	21.00	—	21.00	2.00	2.00
6. Rimbi-Khechiperi	—	10	ODR	10.00	—	10.00	2.00	3.00
7. Nayabazar-Soreng	—	26	MDR	20.00	—	20.00	2.00	3.00
8. Rimbi-Yuksorn	—	21	ODR	2.00	—	2.00	2.00	—
9. Geyzing-Pelling	—	10	MDR	10.00	—	10.00	2.00	2.00
10. Pelling — Dentam — 20			ODR	20.00	—	10.00	2.00	—
11. Kaluk — Soreng — 16			MDR	16.00	—	16.00	2.00	3.00
12. Pabong — Simchuthang			ODR	10.00	—	10.00	1.00	2.00
13. Geyzing — Legship — 16			SH	10.00	—	10.00	2.00	1.00
14. Urban roads only dist. HQ (PWD)			3/4	23.00	—	23.00	3.00	2.00
(LSG) — Other Bazars				30.00	—	30.00	2.00	3.00
G — Gangtok Town				110.00	—	110.00	15.00	25.00
15: Other roads				20.00	—	20.00	4.00	2.00
TOTAL :				486.00	—	367.00	51.00	66.00

E. Slope Treatment and Protective Works

(a) Spillover schemes				30.00	10.00	20.00	15.00	5.00
(b) New Schemes				200.00	—	200.00	20.00	35.00
TOTAL :				230.00	10.00	220.00	35.00	40.00

	1	2	3	4	5	6	7
II. REPLACEMENT							
(A) Major Bridges							
<i>(a) Spillover Schemes</i>							
1. Nehru Bridge at Melli	SH	90.00	37.00	43.00	10.00	10.00	
2. Dikchu Bridge on Makha-Dikchu Road 140' + 80'	MDR	10.00	5.00	5.00	2.00	3.00	
3. Adam Bridge on Gangtok-Rumtek	MDR	10.30	4.50	5.50	2.00	3.50	
4. Akbar Bridge over rangit	SH	80.00	—	80.00	5.00	10.00	
5. Takcham Bridge on Assam Pakyong — 250'	MDR	2.50	1.50	1.00	1.00	—	
TOTAL :		182.50	48.00	134.00	20.00	26.50	
<i>(b) New Schemes</i>							
1. Legship Bridge over Rangit on Legship — Rabongla rd — 200'	SH	30.00	—	30.00	1.00	2.00	
2. Dentam Bridge on Dentam Kaluk Road — 150'	MDR	10.00	—	10.00	0.50	2.50	
3. Hee Bridge on Dentam road	MDR	10.00	—	10.00	0.50	2.50	
4. Rimbi Bridge on Pelling Rimbi Road — 150'	ODR	10.00	—	10.00	1.00	2.00	
5. Ringyang Bridge on Naya Bazar — Sombaria Road — 150'	MDR	10.00	—	10.00	1.00	2.00	
6. Mamring Bridge over Teesta — 500'	MDR	75.00	—	30.00	1.00	—	
TOTAL :		145.00	—	100.00	5.00	11.00	
(B) Weak Pavement Strengthening							
<i>(a) Spillover Schemes</i>							
1. Nayabazar-Soreng-Dentam-26	MDR	10.00	5.00	5.00	1.50	3.50	
TOTAL :		10.00	5.00	5.00	1.50	3.50	
<i>(b) New Schemes</i>							
1. Legship Rabongla-26	SH	40.00	—	40.00	3.00	5.00	
2. Dentam-Kaluk--20	MDR	20.00	—	20.00	3.00	4.00	
3. Nayabazar-Sombaria-28	MDR	20.00	—	20.00	3.00	3.00	
4. Singtam-Makha-16	SH	16.00	—	16.00	2.00	8.00	
5. Other Rbads		50.00	—	30.00	—	—	
TOTAL :		146.00	—	126.00	11.00	15.00	
<i>(c) Minor Bridges and Culverts</i>							
<i>(a) Spillover Schemes</i>							
		10.50	0.50	10.00	5.00	5.00	
TOTAL :		10.50	0.50	10.00	5.00	5.00	

1	2	3	4	5	6	7
<i>(b) New Schemes</i>						
1. Conversion of Causeways		25.00	—	25.00	5.00	5.00
2. Short span Bridges		40.00	—	40.00	5.00	5.00
TOTAL :		65.00	—	65.00	10.00	10.00
III. Expansion						
<i>(a) Spillover Works</i>						
(i) Lachung Sarchu-3	ODR	6.00	2.50	3.50	2.50	1.00
(ii) Rongli-Rolep-13	ODR	26.00	11.50	14.50	5.00	5.00
(iii) Machung Rongli-13	ODR	26.00	13.00	13.00	3.00	4.00
(iv) Rimbi Rukson-21	ODR	42.00	22.00	20.00	5.00	5.00
(v) Reshi-Rinchenpong-26	ODR	52.00	34.00	18.00	3.00	4.00
(vi) Yuksom-Tashiding-22	ORD	50.00	29.00	21.00	3.00	3.00
(vii) Gayzing-Sakyong-7	ORD	14.00	—	14.00	5.00	3.00
(viii) Sokpay-Kimboobotey-15	ORD	40.00	26.50	13.50	5.00	4.00
(ix) Manpur-Sumbuk-15	ODR	30.00	13.00	17.00	3.00	3.00
<i>(x) Other Roads</i>						
(a) Singtam-Chuwater - 3)						
(b) Duga-Pendam - 8)						
(c) Geyzin-Lingchom - 6)						
(d) Hilley-Ribdi - 5)	ODR	60.00	35.00	25.00	5.00	5.00
(e) Chakund-Chumbung - 4)						
(f) Soreng-Dodak - 4)						
TOTAL :		346.00	186.50	159.50	39.50	37.00
<i>(b) New Schemes</i>						
(i) Rangpo Khola-Rolep-3	ODR	8.00	—	8.00	2.00	3.00
(ii) Darap Nambu-8	ODR	20.00	—	20.00	2.00	3.00
(iii) Ralang Karchi-Tashiding-60		150.00	—	50.00	3.00	3.00
(iv) Sikkim-Vok-Namchi-26	ODR	78.00	—	30.00	2.00	3.00
(v) Soug-Serwani-10	ODR	15.00	—	15.00	2.00	3.00
(vi) Sombaria-Puriter-10	ODR	25.00	—	25.00	2.00	3.00
(vii) Passingthang-Lingthem-10	ODR	25.00	—	25.00	2.00	8.00
(viii) Dikchu-Kum-12	ODR	30.00	—	30.00	2.00	3.00
(xi) Bechu-Lachung-2	ODR	5.00	—	5.00	2.00	2.00
(x) Runtek-Ray-Ranka Gangtok-20	ODR	60.00	—	60.00	5.00	5.00
(xi) Other New Roads	ODR	50.00	—	50.00	5.00	5.00
TOTAL :		466.00	—	318.00	29.00	36.00

1	2	3	4	5	6	7	
IV. Additional Facilities to Cater to Traffic Needs							
<i>(a) Spillover Schemes.</i>							
NIL							
(b) New Schemes							
1.	Approach to Industrial complex at Gangtok-10	MDR	20.00	—	15.00	—	2.00
2.	—do— at Jorethang	MDR	20.00	—	15.00	—	2.00
3.	—do— at Majitar	MDR	10.00	—	10.00	—	—
4.	Damthang-Tadong-10	MDK	30.00	—	5.00	—	—
5.	Rabongla-Bhaley-Dhunga-10	MDR	30.00	—	5.00	—	—
TOTAL :			110.00	—	50.00	—	4.00

Road Transport

Being a State which is not connected by air, water or rail the communication system is entirely dependent upon the availability of road transport. Transportation of goods and passengers in the State has been nationalised and is managed by the Sikkim Nationalised Transport (SNT) which functions as a department of the State Government. Despite the nationalisation, the SNT has not been able to meet the entire demand for transportation of goods and passengers and so during the coming years it will have to be provided with adequate number of trucks and buses.

Review

The SNT was started as a truck department of the Government of Sikkim as early as 1944 with just ten trucks. As on 31-3-1980 it has progressed to possessing 106 trucks/tankers and 64 buses. In addition, the SNT also holds the out agency of North East Frontier Railways at Gangtok, Rangpo and Jorethang. The Gangtok out agency has both goods and passenger bookings. Apart from these transport functions, the SNT has also been entrusted with the work of distribution of petroleum products to Govt. departments throughout the State.

The system of transportation of passengers both within and outside the State has certain peculiarities. The longest passenger route operated is Gangtok to Bagdogra which is 127 kms and the shortest route consists of the skeleton town operations in Gangtok. In view of the operations being confined mainly on hilly roads, prone to landslides and breaches, the vehicle utilisation is naturally poor. It is as low as 63 kms per day on an average. A large number of buses are required to be kept as spare and standbys to meet the erratic demand for transport which includes demand from the army and the Government. For example, on the Gangtok/Darjeeling route only mini buses can be operated and in order to ensure regular operations, 2 buses are kept spare all the time. A lower utilisation in turn leads to under utilisation of crew and other manpower. Another factor is the low seating capacity which does not normally exceed 30 in a bus. This naturally leads to proportionately lesser revenues although the capital investment does not change. Thus the economic advantages of large scale operations cannot be availed of.

As far as the truck fleet is concerned, here again, the geographical conditions characterised by high altitudes and bad roads result in the life of the vehicle being comparatively short. The heavy rainfall causes road damage and with narrow zigzag roads and weak bridges the loading capacity is also restricted. In fact the pay load capacity of the truck in Sikkim is only 5 tonnes compared to 10/12 tonnes elsewhere. This necessitates the acquisition of additional fleet for carrying goods. SNT has reciprocal arrangements with West Bengal for operation of trucks under which West Bengal is to provide half the number of trucks countersigned by them for SNT. In practice however the actual requirement is not met by these regular countersigned trucks and extra districts public carriers are inducted as may be required and available. Even in this regard there is a limited number available from the smaller capacity Teesta Valley fleet of Darjeeling district which so far has failed to fully supplement the extra requirement. Consequently, one of the major objectives of the SNT would be to increase the number of trucks. Another factor which requires consideration is that on account of the remoteness of certain areas in the State, trucks have to transport goods over

long distances to places as high as 11,500', which reduces the turn round and consequently the availability of trucks. On an average about twice the number of trucks are needed in such turn round trips.

With the increase of population in the State coupled with the rise in the purchasing power of the community and a trend towards urbanisation, it has become necessary to consider realistically the growth factor. This will depend upon a variety of parameters as mentioned above, but for working purposes a growth percent of 15 for buses and 11 for trucks has been considered. The following table gives an idea about trends in both passenger and goods traffic which show certain erratic characteristics but at the same time facilitates the calculation of a working figure.

TABLE

Growth rate

Particulars	1975-76	1976-77	1977-78	1978-79	1979-80.
i. Bus Kms (in lakh)	6.50	7.00	8.35	10.23	12.96
ii. % increase over previous year	—	8%	19%	20%	26%
iii. No. of passengers transported (in lakh)	1.59	2.16	2.26	2.57	3.60
iv. % increase over previous year	—	28%	5%	13%	40%
v. Goods kms. (in lakh)	11.65	11.96	15.00	20.46	19.67
vi. % increase over previous year	—	25%	25%	35%	(—)3%
vii. Tonnage transported (in lakh m. tons)	0.80	0.64	0.84	0.90	1.06
viii. % increase over previous year	—	(—)20%	32%	6%	18%

Being a department of the Government which has the heavy obligation of meeting all passenger and freight requirements, the SNT should be considered as a body called upon to deliver certain socio-economic obligations to the community and therefore its revenue earnings should not be considered strictly from a commercial point of view. The revenue is being augmented by controlling leakages, introducing station booking system and by conserving diesel in operation. Revision of rate structure is also expected shortly. During the sixth plan period these aspects are to be given special consideration for which there would be an appropriate strengthening of the organisation.

Objectives

Keeping the above background in mind, the main objective of the Transport Department of the State for the Sixth Plan would be to achieve full nationalisation of goods and passenger transport so as to meet the demand for transport of the community. This objective can be obtained only by a comprehensive and meaningful combination of schemes, brief details of which are given below :—

Schemes

1. Augmentation of fleet

The SNT has to acquire additional trucks and buses both for replacement and for expansion. As far as replacement is concerned, the SNT does not have a depreciation fund since it is a Government Department. Therefore, adequate resources will have to be provided for this purpose. All vehicles which have completed 7 years of life have to be replaced, since in a rugged terrain, the retention of vehicles beyond this period is uneconomical and drastically lower the average utilisation index of the entire fleet. Despite this norm, the lack of resources has prevented the SNT from replacing its fleet at appropriate times. As on 31-3-1980, 41 trucks and 10 buses have completed this period of service and therefore they are to be replaced as early as possible. Besides this, 22 trucks and 15 buses which were acquired from 1973 onwards would be completing their 9 year life during the plan period and would have to be

replaced. Thus a total number of 88 vehicles would have to be replaced by the end of the Sixth Plan and assuming the cost of a truck to be Rs. 2 lakhs and that of a bus to be Rs. 2.50 lakhs, an amount of Rs. 190 lakhs is required solely for replacement.

In addition to replacement, the expansion in service has to be considered from the point of view of the growth in bus kms. Taking a 15 percent growth rate, about 65 buses are required for expansion not only on existing routes but also on new ones. An outlay of Rs. 160 lakhs is projected for this purpose.

As in the case of passenger traffic, expansion in freight, has also to be calculated and taking 11% growth rate in goods it is found that 75 additional trucks are required during the plan period which would cost about Rs. 150 lakhs.

To summarise, it can be seen that a total number of 228 new vehicles are required as follows :—

Buses replacement	—	25
expansion	—	65
Trucks replacement	—	63
expansion	—	75

2. Workshop Facilities

The maintenance of a roadworthy fleet of buses and trucks is dependant upon the availability of good workshops at strategic points. The present workshop at Gangtok is overcrowded and the experience has been that major repairs and body building are practically impossible in such a congested area. It would therefore be necessary to construct a new central workshop in the periphery of Gangtok town which would have not only workshop facilities but space for stores and scrap yard. During the plan period steps would therefore be taken for gaining possession of a suitable piece of land, preparation of a blue print and basic designing necessary for the purpose. To meet these requirements an outlay of Rs. 10 lakhs is provided.

There are two other workshops, one at Rangpo and another at Jorethang. Both these workshops are functioning with great difficulty on account of lack of space and because of structures which have become old. The workshop at Rangpo, which is just at the entrance to the Sikkim State, is rather shabby in appearance and does not give a favourable impression to visitors who enter the State. It is therefore proposed to utilise this place as a parking area and to shift the workshop to more congenial surroundings. As far as Jorethang is concerned the present workshop requires rehauling including extensive repair facilities for Govt. vehicles numbering over 100. Besides these two workshops, it is proposed to construct a sub-workshop at Rhenock essential for carrying out minor repairs to vehicles. For these various purposes an outlay of Rs. 10 lakhs is provided.

While the above workshops are essential and are meant for repairing and maintenance of buses and trucks belonging to the SNT, the need for a separate workshop exclusively for the purpose of repairing and maintenance of the large number of Government jeeps has been felt for quite sometime and accordingly preliminary steps have already been taken for construction of a car-cum-jeep workshop at Chandmari in Gangtok. This work is already in progress and in order to complete it an amount of Rs. 10 lakhs is provided. Thus a total outlay of Rs. 30 lakhs is provided for workshop facilities in the plan.

3. Plants and Machinery

The organisation of workshops at different places will require additional plant and machineries.

A list of the needed equipments is tabulated and appended (Annexure—1). In addition to this, it is necessary to instal a weigh bridge at Jorethang as it is necessary to weigh loaded trucks bound for South and West districts. A total outlay of Rs. 20 lakhs is provided for these purposes.

4. *Passenger Amenities*

With the increasing number of persons travelling by State owned buses it is necessary to provide at important locations reasonable passenger amenities which would include basic and transit facilities. Among the schemes contemplated, the most important one is the construction of a modern bus complex at Siliguri for which a blue print has already been drawn up consisting of a parking bay for six buses, office complex, staff quarters, restaurant facilities, transit accommodation, locker facilities, retiring rooms for drivers and VIP enclosures. Since it is proposed to combine Tourism and Housing along with this, the cost also will be proportionately divided. The liability of the Transport Department for the five year period is fixed at Rs. 20 lakhs. The total estimate for the whole scheme is Rs. 44 lakhs.

Apart from Siliguri, the main centre which requires attention is Gangtok town where it is proposed to improve the existing bus stand so as to provide necessary amenities for passengers boarding and alighting from buses. The bus parking place will be covered and a bigger enquiry office and booking counter will be constructed. Rest rooms for drivers and conductors will be provided and basic toilet facilities for passengers would be made available. It is also proposed to have within Gangtok a subsidiary bus stand which will be housed where the present central workshop is located. For this purpose an outlay of Rs. 10 lakhs is provided.

Basic passenger amenities will be provided by constructing a booking office at Geyzing, simple bus stations at Jorethang and Rangpo and pickup sheds and other places, for which purpose an outlay of Rs. 7 lakhs is provided.

5. *Godown Facilities*

As has already been mentioned, one of the major factors contributing to less than maximum utilisation of the fleet is that the turn round time is high. This is particularly so in regard to trucks which transport material like cement. If a truck with cement is unable to unload its cargo and if it has to wait indefinitely it is but natural that the turn round time increases. This has caused considerable slippage in revenue and therefore it is proposed to construct certain godowns at the railway outagency points of Gangtok, Siliguri, Rangpo and Jorethang so that goods transported on behalf of other departments, particularly PWD can be immediately unloaded in these godowns instead of having to wait for the godown to be opened up by the owner departments. Although this may not really be the responsibility of the SNT, it is felt that investment for this purpose would be worth while because the turn round time would be less and consequently there would be improvement in revenue. An outlay of Rs. 20 lakhs is earmarked for godowns.

6. *Management*

With the proposed increase in bus services and freight transport, which will give rise to better traffic supervision, it has become necessary to provide a suitable outlay for staff salaries and other overheads. On a rough calculation, it is found that an amount of Rs. 100/- is required per additional vehicle per month for meeting salary commitments of drivers, conductors, Inspectors, cleaners and other overheads. An outlay of Rs. 78 lakhs is accordingly proposed for meeting these overhead costs.

With the expansion in management, it has also become necessary to have a proper adminis-

trative building at Gangtok which at present is an old structure with little facilities for expansion. A multistoreyed office building is accordingly proposed for which an outlay of Rs. 15 lakhs is provided.

Annexure

Machine, tools & equipments required for Central W/shop, Divisional W/shop & Car W/shop.

Service Equipment

1. Car washer machine	10 Nos.
2. Air compressor machine	10 ,,
3. Tyre inflation machine etc.	
4. Greasing equipment General M/shop equipment	8 ,,
5. Lathe machine	4 Nos.
6. Drilling machine heavy & light Auto M/shop	
7. Crank shaft Grinding machine	1 No.
8. Boring machine	2 Nos.
9. Valve seat refacing & moving attachment etc.	3 Sets
10. Line boring machine	
11. Hydraulic press	3 Nos.
12. Fuel pump test bench machine required for repair shop	1 No.
13. Arc welding machine	3 Sets.
14. Gas welding set	4 Sets.
15. Engine lifting crane & trolley Jack & other specialised tools.	

OUTLAY AND EXPENDITURE

Road Transport

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1 Acquisition of Fleet	61.24	50.90	50.90	500.00	500.00	80.00	80.00
2 Workshop Facilities	3.90	6.50	6.50	102.00	102.00	10.00	10.00
3 Plant, Machinery & Tools	2.72	1.00	1.00	20.00	20.00	1.00	1.00
4 Management	0.20	0.35	0.35	30.00	—	2.00	—
5 Operation	0.14	1.25	1.25	48.00	—	7.00	—
TOTAL :	68.20	60.00	60.00	700.00	622.00	100.00	91.00

SELECTED TARGETS & ACHIVEMENTS

Road Transport

Rupees in lakhs

Sl. No.	Items	Unit	Actuals 1979-80	1980-81		1980-85 Targets	1981-82 Targets
				Targets	Anticipated Achievements		
1	2	3	4	5	6	7	8
1	Buses	Nos.	64	74	74	129	85
2	Trucks	„	106	126	126	181	131
3	Bus KMS (lakhs)	„	12.96	16	17	117	19
4	Truck KMS (lakhs)	„	19.67	23	25	154	26
5	Passengers (lakhs)	„	3.60	4.32	4.50	32.13	5.18
6	Tonnage (lakhs)	M Tons	1.06	1.22	1.40	8.21	1.40

Tourism

Introduction

Sikkim, the youngest State of the Indian Union, nestling in most beautiful and idyllic valleys and surrounded by snow-peaked mountains, has been generously bestowed with abundant scenic beauty and grandeur. It lies tucked away surrounded by precipitous mountain walls and is almost god-like in its grandeur and isolation. The sweeping panoramic view of the picturesque mountains and emerald lakes is indeed almost mystic. Blessed with such a unique natural beauty, the scope for tourism in the State, as an economic activity, is tremendous.

Tourism industry, which has minimum of technical sophistication is relatively labour intensive and appears to be most appropriate for overcoming the chronic difficulties faced by the developing economy of Sikkim. It presents an unparalleled economic challenge, with vast potentialities for revenue generation through a multiplier mechanism. Apart from the economic aspects, tourism as social activity helps to foster better international understanding and also to mitigate social, cultural, linguistic and other barriers and thereby, strengthens feelings of National pride and integrity.

Review

It is only recently that Sikkim has opened its doors to large scale tourism. Being exquisitely endowed with vast potentialities, the department of tourism has intervened in a big way to exploit and capitalise on such opportunities. Over the years, moderate progress has been achieved with respect to the flow of tourists into the State. Accordingly, the department, has been strengthening the manpower structure at various levels of administration and has also deputed staff from different sections of the department, for undergoing necessary training in their respective fields. Substantial number of vehicles have also been added to the transport wing which is contributing appreciably to the revenue earning capacity of the department by operating as a commercial unit. Moreover, a series of construction programmes have been implemented over the recent years, for providing additional and improved accommodation besides furnishing the existing Tourist Lodges with modern facilities such as, Hydrobloc Hot Water Generator at the Gangtok Tourist Lodge. The Tourist Restaurant at Gangtok, which is presently under construction, is expected to be completed by the end of the year. A sum of Rs. 23.35 lakhs has so far been sanctioned as loans to 35 persons to either construct or renovate hotels throughout the State. There are, still, certain related infrastructural facilities which have not been accorded adequate attention in the past such as, specially organised fairs and entertainments as well as souvenir shops. A tremendous sense of awareness and popularity has been built up through wide information and publicity programmes. The department has also been participating in the several prestigious Tourist Fairs organised in various parts of the country and has also set up Information Offices at important Stations such as Darjeeling, Bagdogra, Siliguri and Delhi. In order to supplement and progress coherently with the efforts of the publicity wing, the development and beautification of certain Tourist Centers, particularly those of historical, cultural and religious importance, have been taken up so as to satisfy, in ample measure, the anticipations of the

visitors. For the convenience of trekkers, several items of trekking equipment have been purchased and a few trekking sheds have been constructed along selected trekking routes. Reflecting back on the experience in the past, it may be added that no realistic statistical records had been collected and maintained by the department to be utilised as an essential tool for reviewing, forecasting and monitoring the progress of the department. Despite great endeavour made to develop and expand the existing infrastructure, a lot of ground has yet to be covered keeping in view the steady growth in the tourist traffic.

Objectives in the plan

The endeavour during the period of the plan would be geared towards the attainment of the following objectives.

1. To provide additional accommodation and a comfortable and reliable transportation service consistent with the steady growth in tourist traffic.
2. The development and beautification of selected tourist centres.
3. To further augment the efforts for streamlining the publicity and Information wing of the Department.
4. To develop and preserve those places of historical, cultural and religious significance.
5. The creation of a survey and statistical unit.
6. To develop and improve upon a wide range of recreational activities for the entertainment and happy experience of tourists.

Schemes for Implementation

Keeping in view the objectives envisaged in the plan, the following selected schemes will be considered for implementation.

1. Strengthening the Administrative and Organisational Structure

Having adopted a strategy for all round development and expansion, the level of activity during the coming years is expected to have a tremendous impact upon the administrative machinery. As such, the reinforcement of the Administrative wing is but, inevitable. Apart from streamlining the entire departmental set up with the recruitment of adequate and competent manpower at the various levels, it is also proposed to provide the staff with ample opportunities for necessary training so as to increase their efficiency and knowledge in their respective fields. Under this scheme, a sum of Rs. 16.00 lakhs has been proposed.

2. Tourist Transport Service

Although a substantial number of vehicles have already been acquired for catering to the demands for such facilities, the present fleet strength is hardly adequate to cope with the intensity and complexity of the likely requirements in the near future. Taking these factors into consideration, it is proposed to adequately add to the fleet strength with functional vehicles, so as to ensure convenient, comfortable, reliable and regular transport system and thereby, enhance the revenue generating capacity of such an activity operating through a commercialised wing. A total outlay of Rs. 20.00 lakhs has been envisaged for this purpose.

3. Tourist Accommodation

The very existence of a full fledged Tourism Department makes it obligatory to provide for basic infrastructural services with comfortable hotels and restaurants besides other essential facilities.

The activities of the department will be geared towards the development of Tourist Complexes at various places including, cafeterias, motels, winter resorts, huts, etc. It is, however, hoped that, with the establishment of the Sikkim Tourism Development Corporation, as is contemplated in the near future, the Tourist Accommodation would constitute a major working unit of the Corporation. In accordance with the increased activity as envisaged under this scheme, a sum of Rs. 60.00 lakhs has been proposed.

4. Information and Publicity

The potentialities of Tourism in Sikkim are practically unheard of, so much so that, apart from the foreign visitors, even the domestic travellers are unaware of this erstwhile Shangrila of the 20th Century. Hence, it is proposed to streamline the publicity and Information wing so as to disseminate important travel news through varieties of informative literature, appealing publicity campaigns and attractive brochures and postcards for tapping both the domestic as well as the foreign tourist markets. In addition to these, information offices are also proposed to be set up at Bombay and Madras, wherefrom, package tours will be organised for the convenience and benefit of those interested. A total provision of Rs. 30.00 lakhs has been proposed under this scheme.

5. Tourist Centres

For the purpose of satisfying the eager expectations of the prospective tourists, a general effort will be made to beautify certain areas which are identified as being ideally suited for developing Tourist Complexes. Under this scheme, top priority will be attached to the preservation and renovation of few places of historical and religious significance. Other items which will be considered under this scheme are the construction of recreational parks, huts, sanitation facilities, provision of video-tapes, general environmental improvement and the like. For this purpose, outlay of Rs. 50.00 lakhs has been proposed.

6. Survey and Statistics

In order to make sufficient headway with respect to the collection of basic statistics such as, demographical characteristics peculiar to various types of visitors, as well as other related variables, a small unit for survey and statistics is envisaged to be established during the plan period. Apart from this, a small library for the exclusive use of the tourists is also proposed to be set up. Under this scheme, a provision of Rs. 3.00 lakhs has been envisaged.

7. Others

A popular activity of the Tourism department which is fast catching up is trekking. It is proposed to procure sufficient trekking equipments, and to construct log huts and water supply systems at suitable places as well as, to launch a phase wise construction of trekking routes with a target of completing 500 kms during the plan period. Taking into consideration the limited means of entertainment available at Gangtok, the construction of a Roller Skating Rink is also envisaged in the near future. In order to facilitate the tourists and the general public, a modern bus station with all necessary facilities will be constructed at Siliguri as a joint venture project between the Tourism Department and the Transport Department. A total outlay of Rs. 31.00 lakhs has therefore been proposed for the implementation of this scheme.

OUTLAY AND EXPENDITURE
Department of Tourism

Rupees in lakhs

Name of the Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Direction and Administration	2.00	1.80	2.00	16.00	—	3.00	—
2. Tourist Transport Service	2.24	2.00	2.00	20.00	—	3.00	—
3. Tourist Accommodation	12.02	9.00	8.00	60.00	50.00	11.00	9.50
4. Information & Publicity	3.43	4.50	4.50	30.00	—	5.00	—
5. Survey & Statistics	—	0.50	—	3.00	—	1.00	—
6. Tourist centres	2.14	4.00	2.00	50.00	40.00	8.00	3.00
7. Others	2.48	4.20	2.00	31.00	20.00	6.00	—
TOTAL :	24.31	26.00	20.50	210.00	110.00	37.00	12.50

Education

“Education is both a product and producer of society and there is a close co-relation between transformation of socio-economic environment and the structures and means of education for centuries educational development had generally followed economic growth. Now, probably for the first time in the history of humanity, development of education on a world-wide scale is tending to precede economic development”

—**Learning To Be** : Unesco Paris 1972

If educational expansion is any index of economic growth, it would appear that the State of Sikkim has undergone socio-economic development at an increasingly rapid pace during the last quarter century. The general quality and means of education in the schools of the State, however, have still not attained the desired measure of satisfaction. Three main reasons for this under-achievement are the phenomenal increase in enrolment and number of schools, particularly after the year 1974; absence of a uniform system of registration of births in the state resulting in enrolment of a very large percentage of over-age pupils at all stages of education; and the unfortunate gap between the need for an increasingly large number of adequately trained teachers and their availability.

If this problem is not tackled immediately through a clear identification of priorities, systematic planning, and the introduction of an element of accountability at academic as well as administrative levels, the damage in terms of sub-standard education, resulting in educational stagnation and wastage now, and in general socio-economic decay in the near future, may become irreparable. Even though the nature of the problem is significantly serious, its size is still small; thanks to the manageable demographic structure of the state. The main thrust of Plan proposals, in the remaining years of the Sixth Plan, is, therefore, aimed at consolidation and improvement of the existing educational resources of the state, and timely prediction and control of further expansion based on progressive monitoring of the enrolment data.

Review and Overview of Educational Development in Sikkim 1954—1980

The year 1954, when the Directorate of Education was set up, provides a convenient base to trace the planned educational development in the State. In 1954 there were only 70 lower primary schools, 14 upper primary schools, 2 middle schools and 2 high schools with a total enrolment of 2,500 pupils.

By the year 1960 the enrolment rose to 9,700 pupils (one sixth of whom were girls) in 117 lower primary schools, 47 upper primary schools, 13 middle and 5 high schools. Of 182 schools in 1960, 97 were government schools and 61 under private management.

In the year 1975 the number of Government schools had risen to 211 whereas the number of privately managed schools had come down to 56. In 228 primary schools, 30 junior high schools, 8 high/higher secondary schools and one college, the total enrolment had risen to 20,959 pupils, girls accounting for 34% of enrolment.

The total enrolment in the year 1980 has escalated to 52,606, 38% being girl pupils, in 320 primary schools, 44 junior high (middle) schools, 29 secondary (high) schools, and 7 higher secondary schools of 400 existing schools 274 are government institutions and 126 receive government aid under private management. The 100 pre-primary centres have an enrolment of about 3,000 children.

Educational Implication of Demographic Structure

The estimated population of Sikkim in March 1979 was reported to be 2,45,700. But latest indications are that the population may be about 3,00,000. Of the estimated child population of 93,750 in the school going age-group of 4-18 years, the actual enrolment in the formal school system is 52,606, leaving 41,144 children of school going age out of school. Approximately 5,000 of these children, who have either not attended school at all, or have dropped out of schools, are enrolled under the non-formal education programme which will have to be geared up to cover the remaining 36,144 children as well. Only then the national objective of providing free and compulsory education to all children upto the age of 14 years can be achieved in the State.

The absence of a uniform policy on the registration of birth in the state poses peculiar problems as far as school enrolment is concerned. Estimates based on the Fourth Educational survey conducted in the state in 1978-79 indicate the presence of 30% to 62% over-age pupils at various stages of education. It is these over-age pupils who account for an alarming rate of educational wastage and stagnation in the state.

The 1971 literacy figures for Sikkim—28.52% males, 10.31% females with a total literacy percentage of 20.22% compare poorly against the national figures : 45.95% males, 21.97% females with 34.45% total literacy percentage. It is believed that the literacy rate has risen sharply during the last 10 years, but the literacy drive in the State has still to make a recognizable impact.

1980-85 Targets

By the end of the Sixth Plan period the total enrolment is expected to be 84,750, with 64,000 pupils at the primary stage, 14,000 pupils at the middle stage, 4,150 pupils at the secondary stage and 2,600 pupils at the higher secondary stage. There will be 118 government aided primary schools under private management, 259 government primary schools, 51 junior high (middle) schools, 30 secondary (high) schools and 11 higher secondary schools. The Government Degree College and Sikkim Law College will have an expected enrolment of 400 and 250 respectively. The Teacher Training Institute will have completed the onerous task of in-service training of untrained primary teachers, besides training 50 pre-service primary teachers every year. The State Institute of Education, to be reorganized as the state Council for Educational Research & Training on the model of N.C.E.R.T., together with the Sikkim Board of School Education will be fully equipped to deal with curriculum renewal, textbook production and examination reform leading to improved instructional programmes.

The National Context

In the national context the educational problems of Sikkim are diminutive. The Government has the advantage of almost complete control of educational institutions in the State. The per capita cost of education is very high as compared to that in the rest of the country. The per capita expenditure on education is expected to rise from Rs 566.11 in 1980-81 to Rs 655.97 in 1981-82. This very high comparative expenditure on education has to be justified with speedy improvement in the quality and means of education in the state, the prerequisite for which is a clear identification of priorities.

Priorities

The consolidation and improvement of all existing 400 schools, particularly the 320 primary schools, must get the highest priority. Further, educational expansion must be rigidly controlled with a futurist foresight, on the basis of progressive monitoring of the enrolment data. In-service training of untrained teachers and recruitment of adequately trained teachers must also receive priority attention of the Government. Curriculum renewal and examination reform leading to improvement in all instructional programmes are obligatory to improve the quality and means of education in the state.

Registration of all births in the state and enforcement of entry to school at the correct age, through appropriate state legislation, would go a long way to rationalize the school enrolment and eliminate problems connected with over-age pupils at various stages of education.

With determined improvement of administrative and supervisory control there is no reason why Sikkim should not be able to transform its educational scenario, within a period of four years, into a model of which the country can be justly proud of.

SUMMARY OF PLAN PROPOSALS

SECTOR I—Elementary Education

The Sector of Elementary Education comprises the subsectors of primary, middle and non-formal education. The various Plan proposals have been formulated to realize the national objective of providing universal free and compulsory education to all children upto to the age of 14 years, on a priority basis.

Against an estimated child population of 54,050 in the age-group 6-14 years, 36,651 children are enrolled in formal school system and around 4,000 in the non-formal system. It is proposed to extend the non-formal facilities of education to the remaining 13,400 children in this age-group who are either drop-outs from school or non-scholars.

In the age-group 6-11 years, against an estimated child population of 33,930 the number of children enrolled at the primary stage is 23,554, and at the middle stage 109. Approximately 7,267 children do not attend school.

In the age-group 11-14, years the estimated child population is 20,120. The number of children in this age-group enrolled at the primary stage is 10,158, at the middle stage 2,814 and at the secondary stage 16. Around 1,000 children are enrolled in non-formal education centres, and the remaining 6,132 Children are still to be covered under the non-formal system.

Primary Education

The lack of uniform policy regarding registration of all births in the state makes it impossible to ascertain the correct age of children entering school. Of 42,509 children enrolled at the primary stage 12,889 children are over-age and 6,066 under-age. Even if registration of all births ensured during the next couple of years, it will have an impact on school enrolment only after the Sixth plan period. By 1984 the current enrolment of 42,509 at the primary stage is expected to increase to 64,000.

Under this sub-sector of education the Government proposes a phased take-over of 60 out of 123 existing government aided primary schools. In order to reduce enrolment pressure on the primary sections of 10 schools in urban areas, 12 new periphery primary schools are proposed

to be established. The existing 197 government primary schools will be improved by providing 150 general and 112 language teachers, 243 classrooms, classroom furniture for 12,850 students, adequate supply of teaching and learning materials, play equipments, 78 playfields and 155 staff quarters.

The 25 existing pre-primary centres, which have developed into primary schools due to non-availability of primary educational facility in the neighbourhood, are proposed to be converted into Government aided primary schools by providing necessary inputs. In this sub-sector of education it is proposed to encourage the private sector to start and run primary schools by giving grant-in-aid on liberal terms. Government aid in terms of 200 teachers and teaching materials to private primary schools, to be opened and managed by block panchayats, is also proposed.

To ensure 100% enrolment at the primary stage and reduce the drop-out rate it is proposed to continue the supply of textbooks on a 50% Government subsidy to all children. The free supply of textbooks, to girls, and children of schedule castes, schedule tribes and to children of ex-servicemen has also been proposed. To encourage the movement of pupils from primary to middle stage a new scheme of 'State Talent Search Scholarship' for students of classes IV and V is proposed. To further consolidate existing primary schools and discourage proliferation of non-viable primary classes and schools a new scheme of free boarding stipends has been introduced to divert children of these non-viable classes to viable schools. For the first time in the state an institution for special education of visually handicapped children is proposed to be established. The Government take-over of the 3 primary level Sanskrit Pathshalas in the public sector is also planned.

Middle Stage Education

Of 7,818 pupils enrolled at the middle stage, 4,895 are over-age and 109 under-age. There are 44 middle schools, and 34 middle sections in high and higher Secondary schools, in the state at present with an enrolment of 7,818 children, and 423 middle stage teachers. By the end of the Sixth Plan the current enrolment of 7,818 at the middle stage is expected to rise to 14,000. It is hoped that the present average size of classes at this stage would gradually rise from 23 to 40. During this Plan 10 primary schools are proposed to be upgraded to junior high school.

Consolidation and improvement of the existing inadequately equipped 44 middle schools is planned with the provision of additional 80 general teachers, 50 language teachers, 240 classrooms and library rooms, play equipment, 14 playfields, science equipment, work experience and SUPW tools and materials, 10 hostels and 60 staff quarters. on the basis of viable enrolment 10 primary schools in remote and backward rural areas, inhabited mainly by scheduled castes, scheduled tribes and other weaker sections of society, are proposed to be upgraded to junior high schools, in a phased manner. To encourage public participation in educational enterprise liberal assistance is proposed for non-government middle schools.

The Government decision to introduce 3—Language formula according to the Central Board of Secondary Education scheme of studies has already been implemented. The scheme provides for compulsory study of English and Hindi from classes I to VIII, and optional study of either Tibetan or Nepali or Lepcha or Limboo. Since the study of Lepcha and Limboo languages has been extended from the primary to the middle stage, provision has been made for recruitment of additional Lepcha and Limboo Teachers.

At present only 26% girls of the estimated population of 10,000 in the age-group 11 to 14 years, attend school. A new scheme of providing two residential middle schools exclusively for girls

is proposed to help improve enrolment of girls. A new scheme of supplying free textbooks and subsidized uniforms to girls has also been proposed.

Free supply of textbooks is also envisaged for students belonging to scheduled castes and scheduled tribes and children of ex-servicemen. To encourage talented pupils a new scheme of instituting Talent-Search Scholarship has been proposed. Determined efforts are proposed to be made to control proliferation of non-viable middle classes by liberal provision of free-boarding stipends to students of non-viable VI, VII and VIII classes.

Since Sanskrit language has greatly influenced Hindi and Nepali languages, promotion of its study has been provided for in this Plan.

Universal Elementary Education (Non-Formal)

With a view to accelerate the tempo of universalising elementary education on priority basis within the Sixth plan, it is proposed to establish a separate unit for effective implementation of the non-formal education programme, launched in the State in 1975. This new unit will be adequately equipped with teaching and skilled personnel, and administrative and supervisory infra-structure. To meet the special needs of these NFE learners curriculum content will be reorganised on functional designs.

During the year 1984-85, 100 additional NFE centres are proposed to be opened with an expected enrolment of 3,000. Before the end of the current Plan all 13,400 out of school children will have been enrolled in 400 proposed NFE centres.

The outlay proposed under the Elementary Education sector is Rs. 430.00 lakhs.

SECTOR II—Secondary Education

Of 2,279 pupils (1,622 boys and 657 girls) enrolled at the secondary stage 1,155 are over-age and 25 under-age. The current enrolment is expected to rise to 6,750 in the year 1984, resulting in a percentage increase of 293.37.

There are 29 secondary and 7 higher secondary schools in the state staffed with 94 graduate and 65 post graduate teachers. For this enrolment explosion at the secondary stage adequate provision for additional teachers and physical facilities has been made.

The consolidation and improvement of existing 28 government secondary schools has been planned with the provision of adequate number of academic and non-academic staff. It is also proposed to upgrade 5 junior high (middle) schools to secondary (high) schools, and 4 secondary schools to higher secondary school, in order to cope with the sharp increase in enrolment.

The supply of 50% subsidized textbooks will be extended to all students at this stage as a new scheme. Free textbooks are proposed to be supplied to girl students as an incentive. The textbooks banks are also proposed to be established in all secondary and higher secondary schools.

Negotiation with the Central Board of Secondary Education is in progress to include the study of Lepcha and Limboo Languages at Class IX-X level. A provisional allocation for recruitment of Lepcha and Limboo teachers at the secondary stage has been made in the plan.

To assist the private sector, liberal provision has been proposed as grant-in-aid to non-government high and higher secondary schools.

Further development and improvement of T. N. Academy, the only school in the state which is approved by the Government of India for residential education of Government of India merit scholars is also proposed. Provision has been made for additional classroom and residential accommodation, and for introduction of additional elective courses of study at the (+ 2) stage in this school.

The outlay proposed under the Secondary Education sector is Rs. 220.00 lakhs.

SECTOR III—HIGHER EDUCATION

Government Degree College

The foundation of higher education in the state was laid in 1972 with the opening of an Evening College at Gangtok. In the year 1977 a regular Government Degree College was opened in rented accommodation, an arrangement which continues till now. The College offers Humanities, Science and Commerce courses of study. During the Sixth Plan, study of mathematics and Honours course in all existing subjects will be introduced. For full expansion and development of the College, in a new complex with its own buildings, generous provision of plan funds is proposed. It is also proposed to negotiate with the University Grants Commission to grant the status of a deemed university to the College by the year 1984-85, so that the affiliation of future institutions of higher learning is facilitated.

Sikkim Law College

The Government has approved establishment of a Law College with effect from September 1980. About 80 students have already been enrolled. The College which has started functioning in West Point school as an evening institution is to expand and develop in a campus of its own. Provision has been made for recruitment of necessary academic and non-academic staff. A preliminary provision has also been made for the development of the Law College Campus.

The proposed outlay under this sector is Rs. 105.00 lakhs.

SECTOR IV—Teacher Education

Continuous teacher education is vital to improve the quality and means of education in the state. It is proposed to reorganize the present State Institute of Education as the State Council of Educational Research and Training on the N.C.E.R.T. model.

Various functions of the S.C.E.R.T. will be carried out through the Teacher Training Institute for Primary Teachers, Centre for Continuing Education with extension service at the elementary and secondary level, Curriculum and Text Books Development Unit, Commercial Unit for Procurement and Sale of Text Books, School for Language Teachers, Science Education Cell, Educational Technology Cell, UNICEF Projects Cell, Examination Reform Unit, and Vocational Training Cell.

Most of the above wings and cells of the S.C.E.R.T. at present function in rented accommodation which is an extremely expensive as well as an unsatisfactory arrangement. Two building projects are proposed during the Sixth Plan period: one to house the Teacher Training Institute and the other to accommodate all other wings of the S.C.E.R.T. The SCERT building complex will also provide for a Library-cum-Material Resource Centre, Children's Library-cum-Museum, Children's Theatre-cum-Conference Hall and a Children's play Centre.

The T.T.I. and S.C.E.R.T. will primarily function as workshops to monitor, evaluate and improve the structure and means of education in the state.

The proposed outlay under this Sector is Rs. 100.00 lakhs.

SECTOR V—Games, Sports & Youth Welfare

The Youth of Sikkim are by nature hardy and love all kinds of sports. The administrative structure to promote games, sports and youth welfare in the state was set up only in 1976, with the appointment of an Assistant Director of Sports in the Directorate of education.

The Sixth plan proposals are aimed at providing basic sports facilities at school, rural, and district headquarters level. The administrative structure at the Directorate and District level will be expanded, and qualified coaches in more sports disciplines recruited. The formation of sports associations under the auspices of the State Sports Council will be encouraged, and district and rural sports centres established. Archery, a native sport of Sikkim, will be given due encouragement. Youth welfare activities (similar to NSS), N.C.C., Scouting and Guiding will be expanded, and the national physical fitness drive introduced in the state.

A generous Plan Outlay with Central assistance has been earmarked for development of an all weather swimming pool, stadiums and gymnasiums in the state.

The proposed outlay under this Sector is Rs. 40.00 lakhs.

SECTOR VI—Adult Education

The literacy figures of 1971 in the state compare very poorly with the national figures. The present overall literacy percentage is estimated as 39%.

During 1978-79 about 15,000 adults were enrolled under the centrally financed Rural Functional Literacy Project. The targetted population to be covered under this project in the current plan is 80,000. At present there are 433 centres with an average enrolment of 25 adults. By the end of the Plan the number of centres will have risen to 652.

Besides continuation of literacy classes, the training and orientation of instructors will be intensified. Awareness campaigns among illiterate adults, development of relevant instructional materials, development of rural libraries, co-ordination with other Government Departments to expose adults to many-dimensional learning resulting in skill development and increased productivity, and evaluation surveys to gauge the impact of the National Adult Education Programme will be organized on priority basis, as a part of the Revised Minimum Needs Programme. Training and requirement of women instructors to look after the programmes of family planning, health and nutrition programmes and child and mother care have also been provided for.

Administrative and Supervisory infra-structure and necessary facilities for evening learning groups have also been provided for.

The proposed outlay for this Sector, besides the Central assistance, is Rs. 20.00 lakhs.

SECTOR VII—Scholarships & Stipends

The state has no institution for higher professional education. Provision for scholarships and stipends, therefore, is obligatory on the part of the Government, to enable students to prosecute courses of study outside the state.

Scholarships and stipends are also provided for general school and college education, on merit and means basis. So far 337 scholarships are offered for Degree and Diploma Courses, Special Study of Languages, Elementary and Secondary Education. Free Boardership, Stipends for deserving students of Scheduled Tribes and Scheduled Castes are also provided. The Scholarships for Post-Matric Hindi Studies and Talented Rural Children are centrally sponsored schemes.

The Sixth Plan proposes to increase the number of scholarships in general, and new schemes have been included particularly for girls and talented students, and students belonging to the Scheduled Tribes and Castes. A new scheme of free boarderships is proposed to check unnecessary upgradation of schools.

The outlay proposed under this Sector is Rs. 30.00 lakhs.

SECTOR—VIII Direction & Administration

The present organisational structure of the Directorate of Education has developed on an organogram designed in the Sixties. Since then the administrative functions of the Directorate have expanded manifold due to progressive increase in enrolment and number of educational institutions, and introduction of various new schemes.

A sectoral reorganization of the Directorate is proposed in the Sixth Plan. This will require introduction of 'new blood' at various levels of administrative hierarchy.

In order to ensure continuous supervision and inspection, the state has been divided into two zones. Two Deputy Directors have been designated as Zonal Deputy Directors. Apart from all other schools, 29 high schools and District Education Offices will also come under their purview. Plan provision has been made to establish Zonal Offices with adequate supporting staff, office equipment and furniture. Independent transport also has been provided for to ensure easy mobility of Zonal Deputy Directors.

The four District Education Offices are not only inadequately staffed, but also lack essential office accommodation, furniture, and equipment, residential accommodation and storage facilities. The vehicles provided to the D.E.Os in 1976 have become unserviceable which handicaps their mobility. Plan provision has been made to rectify these shortcomings.

It is proposed to implement the Sikkim Act No. 19 of 1978 "The Sikkim Board of School Education Act" in the beginning of the 1981 academic session. To begin with the Board will conduct the Sikkim Junior High School and Class V examinations, at present being conducted by the Directorate of Education. The Board will also prescribe courses of study and text books. The establishment of the Board envisages creation of necessary administrative infra-structure and provision of office accommodation and equipment, for which Plan provision has been made.

The Statistical Cell of the Directorate of Education was created in 1976. It is proposed to expand and reorganize the Cell as the nerve-centre of the planning process, to ensure quick and continuous monitoring of statistical data for speedy implementation of Plan schemes. Plan provision has been made for expansion of the Statistical Cell at the headquarters of the Directorate and at District level.

An outlay of Rs. 55.00 lakhs is proposed under this Sector.

OUTLAY AND EXPENDITURE

Education

(Rupees in Lakhs)

Name of Scheme/project	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Quantity	Anticipated Expenditure	Proposed Outlay	of which Capital	Proposed Outlay	of which Capital
1	2	3	4	5	6	7	8
Elementary Education	32.22	47.50	50.00	430.00	100.00	70.00	20.00
Secondary Education	46.96	42.50	50.00	220.00	80.00	30.00	10.00
Higher Education	4.42	5.00	10.00	105.00	45.00	25.00	20.00
Teacher Education	4.90	6.00	10.00	100.00	20.00	12.00	6.00
Games, Sports & Youth Welfare	4.50	6.00	7.00	40.00	15.00	6.00	4.00
Adult Education	2.00	3.00	3.00	20.00	—	5.00	—
** Scholarships & Stipends				30.00	—	5.00	—
* Direction & Administration				55.00	20.00	17.00	10.00
** Provided in the Non-Plan Sector.							
* Included in Secondary Education.							
TOTAL :	95.00	110.00	130.00	1,000.00	280.00	170.00	70.00

SELECTED TARGETS & ACHIEVEMENTS

Education

Items	Unit	1979-80 Achievement	1980-81		Proposed	Target
			Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
Education						
<i>A Elementary Education</i>						
1. Classes I-V(Age Group 6-10)						
(i) Enrolment :						
	No.					
a) Boys		23897	25598	25598	38539	28001
b) Girls		15787	16911	16911	25461	18499
c) Total		39684	42509	42509	64000	46500
(ii) Percentage to Age Group :						
a) Boys		154.68 %	158.96 %	158.96 %	250.25	175.00
b) Girls		103.51 %	106.38 %	196.38 %	179.30	117.83
c) Total		129.26 %	132.84 %	132.84 %	216.22	146.69
2. Classes VI-VII (Age Group 11-14)						
	No.					
(i) Enrolment						
a) Boys		4319	5269	5269	9435	6200
b) Girls		2090	2549	2549	4565	3000
c) Total		6409	7818	7818	14000	9200

SELECTED TARGETS AND ACHIEVEMENTS

Education

St. No.	Item	Unit	1979-80 Achievement	1980-81		Proposed target	
				Target	Anticipated Achievements	1980-85	1981-82
1		2	3	4	5	6	7
	(ii) Percentage to Age Group :						
	a) Boys		47.73	52.41 %	52.41 %	99.32 %	69.66 %
	b) Girls		23.35	25.62 %	25.62 %	50.72 %	32.61 %
	c) Total		35.61	39.09 %	39.09 %	75.68 %	50.83 %
	B. Secondary Education						
	1. Classes IX—X	No.					
	Enrolment						
	a) Boys		991	1116	1116	2926	1762
	b) Girls		415	467	467	1224	738
	c) Total		1406	1583	1583	4150	2500
	2. Classes XI—XII (General Classes)	No.					
	Enrolment						
	a) Boys		281	511	511	1909	697
	b) Girls		102	185	185	691	253
	c) Total		383	696	696	2600	950
	C. Enrolment in Vocational Courses	No.					
	1. Post—Elementary Stage						
	a) Total		1400	Nil	—	4200	1600
	b) Girls		400	—	—	1500	500
	2. Post—High School Stage						
	a) Total		—	140	140	2600	700
	b) Girls		—	40	40	780	210

SELECTED TARGETS & ACHIEVEMENTS

Education

Items	Unit	1979-80	1980-81		Proposed	Target
		Achievement	Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7
D. Enrolment in Non-Formal	No.					
(Part time/Continuation classes).						
1. Age—Group 6—10	a) Total				8,000	2,000
	b) Girls				2,000	500
2. Age Group 11—13	a) Total				2,000	1,000
	b) Girls				400	200
E. Adult Education						
1. Number of Participants						
Age Group 15—35		15,000	16,300	16,300	81,500	16,300
2. Number of Centres Opened Under :	No.					
a) Central Programme	No.	433	652	652	652	652
b) State's Programme		Nil	Nil	—	Nil	Nil
c) Voluntary Agencies		Nil	Nil	—	Nil	Nil
F. Teacher						
			Schoolwise			
1. Primary Classes I—V	No.	1,049	1,280	1280	2,993	2,594
2. Middle Classes VI—VIII		505	525	525	555	465
3. Secondary Classes IX—X		379	713	713	177	117
4. Hr. Sec. Classes XI—XII		316	236	236	95	80
	Total	2,249	2,754	2,754	3,820	3,256
			Stagewise			
1. Primary Classes I—V			2,162	2,162	2,993	2,594
2. Middle Classes VI—VIII			423	423	555	465
3. Secondary Classes IX—X			99	99	177	117
4. Hr. Sec. Classes XI—XII			70	70	95	80
	Total		2,754	2,754	3,820	3,256

Art and Culture

Sikkim's heritage in art, literature, dance drama and music has to be developed in response to the urges of a new generation. The archaeological monuments and ancient arts are to be reserved, conserved and interpreted for communicating Sikkim's underlying cultural unity. The important steps to be taken are to reorganise the Department of Art & Culture, establish an Academy of Dance, Drama and Music, State Archives-cum-Museum, a Modern Art Gallery, District library-cum-Community Centres in the District Head Quarters and compile and prepare up to date Gazetteer of Sikkim.

The assessment of monuments, copying of ancient paintings and survey of antiquities on which not much has been done has to be stepped up.

The training of personnel required for successful implementation of various schemes will be arranged and creative talents encouraged through scholarships for students and young workers in different cultural fields.

Review of Progress

The Department of Art and Culture in keeping with its responsibilities of not only working for the promotion of the State but also for the preservation of its cultural heritage was reorganised to some extent during the past few years.

During the period under review a beginning was made by undertaking the work of renovation and preservation of some of the sacred religious places which were in a dilapidated condition owing to lack of funds. Besides, to gear up the construction of Archives-cum-Museum Building, a site a little beyond the Institute of Tibetology, near Deorali has been tentatively selected and plans for its construction are under preparation. Similarly, the construction of a combined building for the Library-cum-Community Centre at Namchi has already been started and this is likely to be completed by the end of the year 1980. For proper implementation of the scheme 'Inter State Exchange of Cultural Troupes' cultural troupes were sent outside Sikkim and the State on turn received various cultural troupes from other States. This scheme has been taken up with a view to exchanging one another's cultural views. Small grants-in-aid were given to the local cultural organisation for promotion of dance, drama and music. The establishment of a Sikkim State Academy of Art and Literature is a very important step towards the promotion of Cultural Activities which is under the active consideration of the State Government. The resolution in this connection has already been drafted. An endeavour has also been made to establish a permanent cultural troupe who can give performances at short notices and also visit outside Sikkim, for which a Song and Drama Unit of the Department has been established with the appointment of 16 staff-members at the first instance. The execution of construction of a double-storied hostel at the premises of the Community Centre has also been conceived of. This hostel will not only facilitate the accommodation to the members of the Cultural Troupes coming from other States but also to the Government guest and the members from all over Sikkim who are invited to be associated with the cultural troupes going to other States under the scheme of Inter State Exchange of Cultural troupe. To protect and preserve the ancient monuments of historical as well as religious significance, the Antiquities and Art Treasure Act of

1972(52-of 1972) has been enforced in the State. In pursuance of the Resolutions of the Indian Historical Records Commission, and policy of the Government of India, State Archives in Sikkim has been started and is being organised on modern scientific lines. Renowned scholars and the agencies of the Government of India were requested to rewrite the various chapters of the Gazetteer of Sikkim and the preparation of the State Gazetteer of Sikkim is likely to be completed by the end of the year 1980.

The schemes proposed for implementation are briefly discussed below.

Direction and Administration

The need to strengthen the administration as well as technical hierarchy has been felt with the increase of workload in the various sections and the accounts side of the Department. The strength of the staff will suitably be enhanced specially in the sections like Direction, Administration, Archives, Museum, Archaeology and promotion of Art and Culture during the Sixth Five Year plan (1980-85).

An outlay of Rs. 5.00 lakhs is provided for the propose.

Promotion of Art and Culture

The promotion of art and culture will be further stepped up by implementing specific programmes. Bonafide cultural organisations will be given grant-in-aid so that they could promote Sikkimese dance, drama and music with particular reference to the cultural heritage of the State. The competition and exhibition of arts, painting, songs, dance, drama will be organised at the district level. Talented candidates will be sent for training/special tour. Departmental personnel will also be sent for Training in Stage-Management. For proper implementation of the scheme 'Inter State Exchange of Cultural Troupes' cultural troupes will be sent outside and cultural troupes from other States will be invited, so that there will be a close interaction between the cultures of the State in India. Besides the encouragement proposed to be given to cultural troupes, efforts will be made to provide suitable facilities for staging cultural shows within the State by the construction of Community Centre in the District Headquarters. The existing Community Hall at Gangtok will also be improved and renovated with proper seating arrangement, sound and electric equipments. Fencing around the Community Centre will also be provided. The Dancers/Musicians/Singers appointed in the Song and Drama Unit of the Department is less in number. The minimum number of the artistes of a troupe should be 30 members and hence, the strength of the staff-members of the Song and Drama Unit will be suitably enhanced to meet the present arrangement made under the scheme of Inter State Exchange of Cultural troupes. The members of the Unit will also visit the districts to put up Cultural Performances under the scheme of the Promotion of Art & Cultural. A total outlay of Rs. 25 lakhs is proposed for the purpose in the plan.

Preservation of Ancient Monuments

Apart from promoting art and culture, an important objective of the Department will be to preserve ancient monuments in proper shape on the lines of archaeological Survey of India. In Sikkim there are several old monasteries and other religious places and pilgrimage centres which are in a state of neglect mainly on account of lack of funds and finances. Although a separate Department of Ecclesiastical Affairs is helping some of the monasteries in renovation work the amount of money provided is invariably insufficient. The Department of Art and Culture will now assist the Ecclesiastical Deptt. and take up the work of renovating some of the important monasteries which are important not only from the point of view of religion but also from the point of view of historical monuments. For this purpose a separate budget allocation will be set aside during the Sixth Five Year Plan of the Department. A full-fledged Archaeo-

logic. Section has been established to gear up the above scheme. Survey work will be undertaken so as to identify and locate those monuments which have to be preserved. The pilgrimage centres will also be brought under the purview of the preservation of ancient monuments and such identified centres will be renovated, protected and preserved. The required instruments, equipments and machines will be purchased to speed up the archaeological works. A photographer will be appointed soon in the Section. Rs. 55 lakhs is proposed for the five year period for this purpose.

Archives & Museum

Another important aspect of work in the department has been to organise and to set up an archives section right from scratch. The objective is to set up the Sikkim State Archives on modern lines so that valuable public records are properly preserved. A beginning in this direction has already been made and short course training programmes for record assistants of the various Government Departments in maintenance and preservation of records has been arranged. A number of valuable publications on a reciprocal basis have also been acquired from the National Archives. In the coming years the programme of archival development will consist in instituting a regular record management programme, preparation of suitable reference media, setting up of adequate repair and reprography facilities and in salvaging and maintaining private records. This will necessitate the induction of more trained staff members which will be duly attended to.

The question of setting up a museum which will house a State Library and the State Archives is already under the consideration of the Government. A site has been tentatively selected near the institute of Tibetology and it is expected that the building will be completed during the coming three years. This building is expected to be a show piece which will be unique in the sense that it will house some of the more important museum pieces which are peculiar to this region adjoining Tibet. The post of Xerox Operator, Cataloguer, Mender, Binder, Record Clerk and Daftari will be created. The equipment, instruments and machines, like Fumigation Chamber, Microfilm Reader, Lamination Machine, Carbon boxes/Plywood Boards, Microfilming (Unit) Camera, Mending/Binding equipments and materials will be purchased.

The International Archives Week will be celebrated. The Archival Record Centres will be set up in the three districts immediately. Outlay proposed is Rs 20 lakhs.

Public Library

Along with the construction of Community Centre, public libraries will also be developed. This will enable those desiring to acquire knowledge to gain easy access to selected quality books. The District Libraries will be provided with more books, periodicals, magazines etc. The daily papers will be subscribed.

Trained librarians will be appointed in these Centres. The outlay proposed is Rs. 14 lakhs.

OUTLAY & EXPENDITURE

Art & Culture

Rupees in Lakhs

Name of Scheme/project	1979-80 Actual	1980-81		1981-82		1980-85	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	of which content Capital	Proposed Outlay	of which Capital content
1	2	3	4	5	6	7	8
1. Direction and administration	0.65	0.55	0.55	0.80	—	5.00	—
2. Promotion of art and Culture	1.50	3.95	3.95	5.00	4.00	25.00	16.00
3. Preservation of ancient monuments	1.53	10.50	10.50	14.00	—	55.00	—
4. Archives and Museum	0.25	2.75	2.75	3.00	2.00	20.00	16.00
5. Public Libraries	0.79	2.00	2.00	3.00	—	14.00	5.00
6. Gazetteer	0.17	0.25	0.25	0.20	—	1.00	—
Total Art and Culture :	4.89	20.00	20.00	26.00	6.00	120.00	37.00

Medical and Public Health

The Health services in Sikkim have been organised primarily for the purpose of providing medical facilities to the population which lies scattered in different parts of the State. There is a Central Referral hospital at Gangtok, 4 district hospitals, 15 Primary Health Centres and 41 Primary Health Sub-Centres at present. These institutions have been organised essentially for the purpose of curative medicine and the strategy has been to gradually equip them with the requisite personnel, medicine and equipment. Experience has indicated that the Health Centres, which form the backbone of the medical institutions available for most of the rural population, will have to be so reorganised that some extra facilities in the form of diet and ambulances are made available. As far as the district hospitals are concerned it has become necessary to increase the bed strength and also to introduce certain basis specialities. While the curative aspect is important in the sphere of medical services, it has to be realised that in a State like Sikkim greater dividends are likely to be forthcoming if more emphasis is laid on the preventive aspect of medicine. Various National surveys have highlighted the fact that certain diseases like tuberculosis, worm infestation, chronic vitamin deficiencies, thyroid and fluorosis are rampant in the State. It is therefore necessary to carry out a massive programme of prevention which would in turn relieve the congestion in the existing hospitals. Prevention can of course be done by time honoured methods like inoculations. However the various problems of malnutrition and other deficiencies can best be cured only by improvement in sanitary conditions and better water supply arrangements. Thus, there will have to be an active horizontal interaction with the concerned departments before progressing further. A more intensive family welfare programme has also got to be inbuilt into the Medical and Public Health plan

Approach

The approach in the Sixth Plan would be to have a modern fullfledged Central Referral Hospital in Gangtok which will be provided with many specialist services and would be the main centre for curative purposes. This will be supported by the 4 district hospitals in each of which additional beds would be added and specialists in gynaecology, medicine, surgery, paediatrics and tuberculosis would be appointed. The Primary Health Centres would be better equipped by the construction of quarters for medical and para medical staff and would be provided with ambulances and diet facilities. As far as Primary Health Sub-Centres are concerned the numbers would be increased and buildings for residential and non-residential purposes would be gradually built up. This would be supplemented by continuing the multipurpose workers scheme and the community health volunteer scheme, which has had a fairly good impact in the State because these workers and volunteers have been playing a useful role in referring cases to the Primary Health Centres. As far as preventive medicine is concerned an all out effort would be undertaken to detect and eradicate tuberculosis and in order to improve the nutritional stands package of services would be considered. All these programmes would be integrated with a more intensive health education programme, emphasis being laid on school health and family welfare programmes so that the poorer sections of the community reap the benefits.

The main schemes are briefly summarised below. —

Schemes

1. Hospitals

The main hospital would be the Central Referral Hospital at Gangtok. The existing hospital at Gangtok has only a limited capacity and therefore a new six-storeyed building is proposed to be constructed by demolishing the existing hospital in phases. This building will have a bed strength of 300 and would have within it a post-partum unit, a paediatric ward, an intensive care unit and a modern operation theatre. A blood bank would also be part of the institution. Basic laboratory facilities and an extended X-ray unit will also be housed within it. The complex will also have doctors' quarters, post mortem facilities and certain basic facilities for research. The estimated cost of this complex is in the region of Rs. 2 crores but in view of the fact that it will have to be taken up in gradual stages, an outlay of only Rs. 1 crore is projected for the purpose in the plan. Apart from the construction programme the Sixth plan proposal envisages the strengthening of the manpower in the hospital which would consist of more doctors and para medical staff like pathologist, forensic medicine experts, ward sisters, staff nurses, radiologist and other supporting staff. More ambulances and jeeps have also got to be provided to make the hospital into a complete institution. Including the cost of construction an outlay of Rs. 1.50 crores is accordingly proposed for the Central Referral Hospital.

As far as the district hospitals are concerned there are 4 such hospitals one each at Gyalzing, Namchi, Singtam and Mangan. The bed strength of these hospitals would be progressively increased to 75, for which additional constructions are required. Specialist services in the form of Paediatrics, gynaecology, medicine, surgery and tuberculosis would be provided and there would be a strengthening of paramedical staff particularly on the nursing side and the pharmacy side. At present the medicines are all stocked at Gangtok and so the Chief Medical Officer from the district has to make his own arrangements to collect these medicines. This has resulted in the occasional non-availability of medicines in the district hospitals. In order to overcome this difficulty district medical stores would be opened, the idea being that buffer stocks would be maintained at these centres. Taking note of all the additional requirements of buildings, staff, materials and vehicles an outlay of Rs. 70 lakhs is projected for district hospitals for five year period.

2. Minimum Needs Programme

Primary Health Centres and the Primary Health sub-centres come under the Minimum Needs programme. According to the norm of 1 Primary Health Centre for every 20,000 population, Sikkim has already attained the target since 15 Primary Health Centres are already in position. However, not all of these Primary Health Centres have been provided with requisite building both for residential and non-residential purposes. Moreover, in some of the Primary Health Centres the full complement of staff has also not been appointed. Thus, during the plan period an attempt would be made to complete the construction of all the Primary Health Service complexes and also to provide the complement of staff required for the Primary Health Centres. In every Primary Health Centre an ambulance would be provided and since a large number of inpatients are being treated in these centres diet facilities would be introduced in them. In order to cater to these requirements an outlay of Rs. 100 lakhs is proposed for the purpose during the plan period.

As far as Primary Health Sub-Centres are concerned the norm is that for every 5,000 population there would be one Primary Health sub-Centre. Taking the population of Sikkim to be roughly 3 lakhs there should be atleast 60 Primary Health Sub-Centres. Out of this 41 have already been sanctioned, but only 8 of them are functioning in buildings constructed for the purpose. 5 more are

under construction and therefore the main strategy during the plan period would be to try and complete the construction of the sanctioned Primary Health Sub-Centres and also to locate hired buildings to start the Primary Health Sub Centres in the remaining areas so that by the end of the plan period all the 60 Primary Health Sub-Centres would function. Since every Primary Health Sub-Centre has to be equipped with a compouder, ANM and a ward attendant, it will be necessary to intensify the intake of staff. A total outlay of Rs. 70 lakhs is proposed for the purpose to meet these requirements.

3. *Training*

Since the efficacy of medical institutions right from the Primary Health Sub-Centre to the Central Referral Hospital lies in the availability of trained medical and para medical staff, it is proposed to intensify the training programme in such a manner that more numbers of pharmacists and ANMs are trained. In addition, training for general nursing and MBBS will have to be arranged by locating adequate number of seats in institutions outside the State. This will be done by forecasting the manpower requirements and taking advance action. For meeting cost of allowances normally granted for training purposes an outlay of Rs. 7 lakhs is proposed.

4. *Prevention and Control of Communicable diseases*

The preventive side of medicine will be given great emphasis since the proper implementation of this aspect of health care is the best answer for the State. The scheme that come under this category are the NMEP, Leprosy control, cholera control, VD control, TB control, Prevention and control of blindness, Goitre control and Helminthic control. Some of these are Centrally Sponsored schemes while others are the responsibilities of the State. The most important of these is the TB control programme. Under this it is proposed that sputum examination will be conducted by peripatetic teams which would go to the houses and collect the specimens. Treatment will also be on a domiciliary basis by making available drugs on an easy basis. Hospitalisation will be done only in the case of acute patients. In Gangtok, a chest clinic will be properly organised and medicine would be adequately stocked in all centres of the State. In the case of leprosy more survey educational and treatment centres would be organised and as far as NMEP is concerned the programmes would be confined to the spraying of DDT in vulnerable areas. Under the programme of controlling blindness vitamin A tablets would be distributed to the vulnerable group and this would be followed by upgrading the ophthalmic wing of the district hospitals. Mobile vans and jeeps will be used to go around for checking groups of people.

For Goitre control the strategy would be to see that only iodised salt is imported to the State and for Helminthic control the distribution of deworming tablets would be supplemented by well chalked out health education Programme. Total outlay for the five year period is proposed to be Rs. 45 lakhs.

5. *Health Education*

The need to educate people on the importance of health care and nutrition needs no emphasis. A Health Education Cell was set up in the year 1977 and it soon became quite popular particularly in the schools where special programmes were initiated. During the plan period the idea is to strengthen the health education cell by appointing more health educators and district health education officers who would be personally responsible for conveying the message of health care through mass media. Equipments in the form of charts, pamphlets and screening materials will be provided. Mobility will also be ensured. More emphasis will be placed on the school health

programme under which regular checkup of children in the schools would be attempted and supplemented by provision of first aid boxes, diagnostic sets, eye test charts etc in the schools. Various teaching aid models with accent on health would also be provided.

A part of the Health Education objective would be achieved through the services of Community Health volunteers, out of which 117 are continuing through the multipurpose workers in the field. These personnel have been fairly successful not only in attending to ordinary cases but also generally in conveying the message of health care, family welfare etc. It is therefore proposed to increase the stipend paid to the volunteers. A total outlay of Rs. 23.50 lakhs is proposed for health education including school health and community health volunteers.'

6. Others

It is likely that the Prevention of Food Adulteration Act would be extended to the State shortly. In order to ensure that proper tests are conducted and that the provisions of the Act are implemented properly, Food Inspectors and Public Analysts have to be provided. An outlay of Rs. 2 lakhs is provided for the purpose. Since the specialist in Sikkim are yet to be developed properly, patients who require specialised treatment will have to be sent outside the State and the practice of the department meeting a part of the expenditure involved has been in operation for a long time now. This has become very popular and it has to be continued for which an outlay of Rs. 3 lakhs is provided.

7. Direction and Administration

An outlay of Rs. 29 lakhs is proposed for strengthening the organisation of health services which include extra staff in the Directorate of Health, Central Health Stores Organisation and the District Health Administration. It is necessary to provide extra vehicles also and more attention has to be paid on the statistical side by the appointment of adequate staff.

OUTLAYS AND EXPENDITURE

Medical & Public Health

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Direction and administration	7.04	4.00	4.00	29.00	—	4.36	—
2. Hospitals							
(a) Central Referral Hospital	—	10.00	10.00	150.00	100.00	14.54	7.00
(b) District Hospital	19.06	9.30	9.30	70.00	30.00	12.30	6.70
3. Minimum Needs Programme							
(a) Primary Health Centres	—	15.80	15.80	100.00	60.00	18.30	13.50
(b) Primary Health Sub-Centres	—	11.33	11.33	70.00	40.00	12.33	7.50
4. Training	1.34	1.50	1.50	7.00	—	1.50	—
5. Prevention & Control of diseases	0.26	7.54	7.54	45.00	—	10.99	—
6. Health Education	0.71	3.03	3.03	23.50	—	4.18	—
7. Treatment outside Sikkim	—	0.50	0.50	3.00	—	0.50	—
8. Prevention of Food Adulteration	—	0.50	0.50	2.00	—	1.00	—
9. Indigenous system of Medicine	—	0.50	0.50	0.50	—	—	—
TOTAL :	28.41	64.00	64.00	500.00	230.00	80.00	34.70

SELECTED TARGETS & ACHIVEMENTS

STATEMENT—GN-3

Medical & Primary Health

Rupees in lakhs

Sl. No.	Items	Unit	1979-80	1980-81		1980-85	1981-82
			Base Year Level	Targets	Anticipated Achievements	Proposed Targets	Proposed Targets
1	2	3	4	5	6	7	8
HEALTH AND FAMILY WELFARE							
1.	Hospitals and Dispensaries						
	(a) Urban	Nos. Commulative	1	—	—	1	—
	(b) Rural	„	4	—	—	—	—
2.	Beds						
	(a) Urban Hospitals	„	250	—	—	50	—
	(b) Rural Hospitals dispensaries	„	378	—	—	72	—
	(c) Bed population ratio	Nos. (per 1000)	2.09	—	—	2.31	—
3.	Primary Health Centres						
	(a) Main Centres	Nos. (Commulative)	15	—	—	—	—
	(b) Sub-Centres	„	41	5	—	19	—
4.	Training of Auxilliary Nurse-Mid-Wives						
	Institute	Nos. (Commulative)	1	—	—	—	—
	Annual Intake	„	20	30	20	30	30
	Annual Outturn	„	20	30	20	30	30
5.	Control of Diseases						
	(a) T. B. Clinics	„	1	1	1	1	—
	(b) Leprosy control units	„	1	1	1	1	—
	(c) V. O. Clinics	„	—	—	—	—	—
	(d) Fileria Units	„	—	—	—	—	—
	(e) SET Centres	„	10	—	—	10	—
	(f) District T. B. Centres	„	1	—	—	4	4
	(g) T. B. Isolation Beds	„	80	—	—	80	10

SELECTED TARGETS & ACHIEVEMENTS

STATEMENT—GN-3
(Contd.)

Medical & Primary Health

Rupees in lakhs

Sl. No.	Items	Unit	1979-80	1980-85		1981-82	1980-81
			Base Year Level	Targets	Anticipated Achievement	Proposed Targets	Proposed Targets
1	2	3	4	5	6	7	8
	(h) Cholera Combat Teams	„	—	—	—	—	—
	(i) STD Clinics	„	—	—	—	—	—
	(j) Filaria Control Units	„	—	—	—	—	—
	(k) National Schemes for prevention of blindness	„	—	—	—	—	—
	(i) Mobile Units Set up	„	—	—	—	1	1
	(ii) PHCs assisted	„	—	—	—	—	—
	(iii) Ophthalmic Dept. assisted	„	—	—	—	—	—
6.	Maternity & Child Welfare Centres	„	1	—	—	4	1
7.	Doctor Population Ratio	No (per 1000 population)	0.21	—	—	0.32	—
8.	Training & Employment of Multipurpose Workers						
	(a) Districts covered	Nos. (commulative)	—	—	—	4	1
	(b) Trainees Trained	„	21	—	—	100	—
	(c) Workers Trained	„	19	—	—	100	—
9.	Community Health Volunteers Scheme						
	(a) Community Health Volunteers Selected	„	150	—	—	—	—
	(b) CHV Trained	„	150	—	—	—	—
	(c) Working in the Field	„	117	—	—	—	—
10.	No. of Voluntary Sterilisation done						
	(a) Tubectomy	„	154	250	250	1250	250
	(b) Vasectomy	„	149				

SELECTED TARGETS & ACHIEVEMENTS

(Contd.)

Medical & Primary Health

Rupees in lakhs

Sl. No.	Item	Unit	1979-80	1980-85		1980-81	
			Base Year Level	Targets	Anticipated Achievement	Proposed Targets	Proposed Targets
1	2	3	4	5	6	7	8
	(c) No. of IUD	„	719	800	800	4000	800
	(d) C.C. & OP	„	1377	1400	1400	6000	1500
	11. M. C. H. Beneficiaries						
	(a) Immunization of infants and Pre-school children	(100 nos.)	0.11	0.12	0.10	0.60	0.12
	(b) Immunization school of children	„	0.07	0.03	0.09	0.50	0.10
	(c) Prophylaxis against Nutritional Anaemia						
	(i) Mother	„	0.18	0.15	0.15	0.75	0.15
	(ii) Children	„	0.24	0.15	0.15	0.75	0.05
	(d) Prophylaxis against Vitamin A deficiency	„	0.26	0.60	0.26	1.45	0.30

Water Supply and Sewerage

The whole State of Sikkim falls within a high rainfall area. As result of the rainfall pattern and the hilly terrain there are a multitude of springs and streams from which fairly abundant quantities of water are capable of being utilised both for drinking and irrigation purposes. Apart from surface water the terrain lends itself to the possession of sub-soil water and since the springs are actually intersections of the ground surface with a saturated sub-surface, theoretically there is abundant scops of ground water also. Thus, from the point of view of water sources the State is richly endowed.

Despite the abundance of water supply sources, provision of drinking water to the population has not been an easy task. One of the reasons for this has been the type of villages where there is no cluster type of habitation. The houses lie scattered and so people have to cover long distances to bring water to their households for domestic purposes. As a matter of fact, all the 403 villages of the State have been considered as problem villages because of this aspect. While distance is one of the factors contributing to the difficulties of water supply for drinking purposes, another important matter concerns the quality of water available. Laboratory tests have revealed that the water though generally free from bacterial infestation, has a high quantity of mica and certain other types of impurities which have adverse effects on general health. As a matter of fact the contamination of surface water with impurities like mica, iron, fluoride and iodine is the major contributory factor to diseases like dysentery, diarrhoea and cholera which are quite common. Thus, filtration of water and treatment through small chlorine plants is a must in the State. A beginning in this direction has already been made and all rural water supply scheme estimates are today framed by including a chlorination plant. Another difficulty that has been faced by the implementing agency for water supply is the delay in procuring basic materials like cement, steel and pipe which has retarded the programme to a large extent. The non-availability of these inputs combined with transportation and communication difficulties has not only pushed up the costs but has also retarded the implementation time table. Finally, the water supply schemes in the State have had to face the difficulty of poor maintenance as a result of which many renovation works have had to be undertaken.

Despite these difficulties the need to give priority attention to this important sector of development has been recognised. The 31st United Nations General Assembly has endorsed a recommendation by earmarking 1980-1990 as the water supply and sanitation decade. The resolution has sought to achieve 100 percent water supply coverage for urban and rural sectors, 80 percent sewerage cover for urban towns and 25 percent for rural towns. India is a signatory to the resolution and so the commitment to acheive this target has to be fulfilled.

Objectives and Strategy

Keeping this objective in view, the approach on this subject during the Sixth Plan period would be to complete coverage of many more villages with water supply. This will involve piped water supply to selected villages, augmentation in others and remodelling and improvement in some others. So far 107 out of 403 villages have been covered with water supply except in

some isolated pockets of these villages. During the Sixth Plan 125 more villages expected to benefit a population of 98,000 is targeted for coverage. In addition to the coverage of 125 villages, 20 existing schemes are proposed to be augmented and extensions are proposed for 100 of them. Remodelling and improvement is also envisaged for 10 such schemes. In all these schemes GI pipes would be used since past experience has shown that polyethelene pipes are not durable and are subjected to damages from time to time.

In addition to the implementation of water supply schemes by drawing water from surface water sources, ground water will also be tapped wherever feasible. A few experiments on dug wells have already been concluded and out of 35 dug wells 22 have been found to be successful where the average discharge has been found to be up to 4.8 cu. metres per hour. Preliminary hydro geological investigation has shown that there is considerable promise in prospecting for ground water resources and therefore during the plan period more emphasis will be given on identifying the potential sources. For this purpose a hydrogeological map will be prepared and the section of the department handling ground water will be adequately equipped with both man power and material. The officers of the concerned wing will be sent out for specialised training so that the work could be undertaken in a scientific manner.

While rural water supply schemes, which include ground water take the pride of place in the water supply plan, some attention has also got to be bestowed on the supply of drinking water to the urban areas. Among the urban areas, Gangtok town is the most important one and since the population is increasing at a rapid pace in the town it has become necessary to augment the supply for a projected population of at least 75,000 from about 50,000 at present. A comprehensive plan for this purpose involving the laying of bigger and more intake pipes, a larger distribution network and more balancing reservoirs has already been prepared and cleared by the Central Public Health Environmental Engineering Organisation. This scheme is expected to cost approximately Rs. 3 crores for which some preliminary expenditure in the purchase of pipes and other materials has already been incurred. It is proposed to complete the work during the plan period.

Another ongoing scheme in Gangtok town is the sewerage scheme. This has already been technically cleared by the CPHEEO and the first phase of laying the sewerage pipes is now complete. The installation of a treatment plant and some other ancillary work remains. However, the first phase covers only a portion of the town and therefore during the plan period a beginning will have to be made to cover the rest of the town so that there would be a comprehensive underground network for sewerage. An amount of Rs. 190 lakhs is earmarked for this scheme for the plan period.

Among other urban areas, the more important towns are Singtam, Rangpo, Jorethang, Namchi and Gyalzing. The most problematic of these towns is Namchi which lies in an area where there is lesser rainfall and is consequently drier. Several exploratory attempts have been made to chalk out a comprehensive scheme for supply of water to Namchi town, but since there are no proper sources available in the vicinity non have fructified. Some thinking has gone into the matter of constructing a basin type reservoir to be filled up both artificially and naturally so that the growing requirements of the town could be met. The schemes thought have been costly and so only a token provision is proposed in the plan pending the finalisation of the nature of the scheme. In other towns what is necessary is only augmentation and these are proposed to be catered to. In addition to these towns 55 Rural Marketing Centres have been identified in the State. All these centres

will be covered with water supply schemes in a phased manner including the provision of treatment facilities. In some of these centres where there is already a supply system, stress will be on augmentation.

Consistent with the decade plan it is also necessary to provide urban areas with basic sewerage and sanitation facilities. An outlay of Rs. 100 lakhs is proposed for implementing such schemes in urban towns and rural marketing centres. This is a lumpsum provision and will be utilised only after a shelf of schemes is prepared touching more important towns and centres.

In view of the great importance that is attached to water supply and sewerage in the plan, it is obviously necessary to strengthen the organisational set up. In Sikkim the Water Supply Schemes in the towns and urban areas are implemented by the PWD through its building wing while the rural water supply schemes including ground water are implemented by the Rural Development Department. As far as the former is concerned the staff will be strengthened by the reorganisation of the existing set up. Further, since there are no facilities for testing of water, a laboratory is proposed to be set up for conducting water analysis. An outlay of Rs. 50 lakhs is proposed for these purposes. On the side of the Rural Development Department a full fledged circle exclusively for water supply is proposed to be created. This circle will have to be equipped with equipments and materials including vehicles. For meeting the establishment requirements an outlay of Rs. 60 lakhs is proposed. A sum of Rs. 20 lakhs is also proposed for construction of buildings to house the staff in out of the way places where most of the water supply schemes are located. Provision of such facilities is a basic requirement since the maintenance of water supply schemes depends to a considerable extent upon the availability of the staff in the vicinity of the schemes.

The financial requirements of the schemes are detailed in GN-2. These outlays will be supplemented through the Centrally Sponsored Scheme of accelerated rural water supply and also through institutional sources. Larger schemes, like the one contemplated at Namchi will perhaps have to depend upon massive institutional support from LIC. Whenever feasible help from UNICEF will also be taken.

OUTLAY & EXPENDITURE

Water Supply and Sewerage

Rupees in Lakhs

Sl. No.	SCHEME	1979-80 Actuals	1980 - 81		1980 - 85		1981 - 82	
			Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8	9
1.	Rural Water Supply Schemes including Ground Water	77.70	68.00	68.00	920.00	—	110.00	—
2.	Gangtok Water Supply Scheme	27.41	30.00	30.00	310.00	310.00	85.00	85.00
3.	Gangtok Sewerage & Sanitation	12.33	30.00	30.00	190.00	190.00	35.00	35.00
4.	Augmentation & improved distribution in other sectors	15.97	20.00	20.00	250.00	—	30.00	—
5.	Sewerage & Sanitation in other areas	—	—	—	100.00	—	10.00	—
6.	Strengthening of the organisation including Laboratory & training	3.02	4.00	4.00	110.00	10.00	20.00	2.00
7.	Construction of Buildings	1.30	6.00	6.00	20.00	20.00	10.00	10.00
Total :		137.73	158.00	158.00	1900.00	530.00	300.00	132.00

SELECTED TARGETS & ACHIEVEMENTS

Water Supply & Sewerage

Sl. No.	Items	Unit	1979-80 Base year level	1980-81		1980-85	1981-82
				Target	Anticipated Achievement	Target	Target
	1	2	3	4	5	6	7
1.	Gangtok Water Supply		(Cumulative)	(Cumulative)	(Cumulative)	(Cumulative)	(Cumulative)
	(a) augmentation	Mld	4.545	7.67	7.67	10.08	8.109
	(b) population coverage	Lakhs	0.40	0.42	0.42	0.55	0.45
2.	Gangtok Sewerage Scheme						
	population covered	lakhs	0.40	0.42	0.42	0.55	0.45
3.	Other Urban Water						
	Supply Schemes						
	(a) augmentation	Mld	2.36	5.81	—	8.00	6.14
	(b) population coverage	lakhs	0.30	0.32	0.32	0.37	0.34
4.	Sewerage in other areas						
	7 No. of other towns :						
	(a) population coverage	lakhs	—	—	—	0.37	—
	(b) capacity	Mld	—	—	—	3.60	—
5.	Rural Water Supply-piped						
	water Supply						
	(a) Villages covered	Nos.	107	127	127	232	147
	(b) population covered	lakhs	0.84	0.99	0.99	1.82	1.15

Housing

During the past few years, there has been a tremendous demand for housing mainly from increased number of the Government servants who have been inducted into the Civil Services as a result of the expansion in the administrative set up. Out of nearly 13,000 employees with the Government approximately 90% are in need of Government accommodation and hence considerable emphasis has been placed during the past few years for providing accommodation to Government servants of different classes. By the end of the year 1979-80, 1,100 Government quarters have been constructed and if the total demand is taken into account for Government quarters a gap of nearly 10,000 exists. This gap between supply and demand is a huge one. The resources being limited it will not be possible to give 100 percent satisfaction even by the end of the Sixth plan. However an effort will be made to step up construction and consequently narrow the gap. For this purpose, the possibility of attracting institutional finance through the Housing Board for the construction of Government quarters will be considered in depth. Quarters for Government servants also include residential facilities for the Police personnel. As far as the subordinate Police staff are concerned the Finance Commission has allocated a sum of Rs. 51 lakhs which cover both barrack and family accommodation intended to provide housing satisfaction to 58.5 percent of the subordinate Police staff. However, the superior police personnel will also have to be provided with houses and therefore quarters befitting their class will have to be constructed not only in the headquarter town of Gangtok but also in other important places.

While provision of quarters for Government servants through sheer necessity occupies the main part of the housing plan, the Government is placing considerable importance towards introducing Social Housing schemes which have hardly made a beginning in the State. A Housing and Development Board was set up in the year 1979-80 mainly for the purpose of chalking out and implementing social housing schemes by utilising institutional finance. A sum of Rs. 50 lakhs has already been borrowed from the General Insurance Company which has been transferred to the Housing Board. The Board has formulated a scheme for providing houses to low income groups and middle income groups at Jorethang which would be taken up for implementation shortly. Apart from this, the Board has also submitted proposals of developing house sites and constructing houses for the economically weaker sections in the districts with the help of the District Planning Committees.

Objectives

The objectives in the Sixth Five Year Plan would be—

- (a) to increase the number of Government quarters so that larger percentage of the staff could be provided with living accommodation.

and

 - (b) to promote social housing schemes particularly to benefit the economically weaker sections including industrial labourer and the down trodden sections of the community.
- Brief details of the schemes are given below.

Schemes

1. Government Housing

As already mentioned some progress has been achieved in constructing quarters particularly in Gangtok. However, much ground has yet to be covered and so a programme of constructing staff quarters at Gangtok and District Headquarters and in places other than district headquarters will be taken up. It is estimated that during the five year period as many as 906 new quarters would be constructed of which 47 would be class 1, 113 class 2, 421 class 3 and 325 class 4 quarters. Of these 792 would be for the general category and 114 for the police. The distribution pattern of those houses will be based on the demand and naturally the bulk of the quarters would be in Gangtok. The estimation is that 440 would be in Gangtok, 188 in district towns and the remaining 164 in other places. As far as Police is concerned out of the proposed number of 114, 58 will be in Gangtok and the remaining in other places. Taking into consideration the spill over requirements as well as funds required for construction of these houses which will include acquisition of land in some places, an outlay of Rs. 230 lakhs is provided for the purpose. This amount will not be sufficient to reach the physical targets and is therefore projected only as a base from which institutional funds would be tapped. Broadly the division would be Rs. 80 lakhs for Police and Rs. 150 lakhs for the general category.

2. Loans to Government Servants

One way of encouraging Government servants to have their own accommation is to grant loans. So far, it has been possible to accomodate only about 15 percent of the total number of applicants for House Building Advances for which the pattern is to grant loans ranging from a minimum of Rs. 7,000 to a maximum of Rs. 30,000. By the end of the plan period, atleast 50 percent of the applicants are proposed to be covered and for this purpose an outlay of Rs. 60 lakhs is projected. Government servants will also be encouraged to solve their own housing problems by forming Housing Co-operatives. The idea is that atleast in the case of Government servants who are likely to be in Gangtok a number of small Housing Cooperatives could be formed and in that case liberal funds would be available from the LIC for construction purposes. An outlay of Rs. 10 lakhs is proposed as Government support for such Housing Cooperatives.

3. Social Housing

Under this scheme it will be necessary to grant house sites to the poorest sections of the population. So far not much headway could be achieved under this programme because without proper identification of who would be the eligible candidates it has become difficult to implement the scheme. Now that the Land Reform Act has taken shape a number of persons who are poor tenants and labourers could be given small plots of land after they are developed by the Government. The scheme envisages the development of plots and the grant of building material at subsidised rates and also the provision of basic amenities in the areas. Industrial Housing Scheme for the labourers in undertakings like the Mining Corporation, Fruit Factory and Tea Board will also be undertaken under this category. So far no specific schemes for the economically weaker sections have been instituted in the plans. Rules will be formulated for the purpose and specific amounts will be placed at the disposal of the District Collectors so that with the help of the District Planning Committees schemes could be formulated and implemented which will cover under privileged people like sweepers and scavengers. An outlay of Rs. 60 lakhs is proposed for the purpose in the social housing schemes.

The Housing and Development Board will have to play an active role in the implementation of these schemes and since an expanded housing programme will necessitate drawal of more institutional

finance, the share capital base of the Board is proposed to be increased by a further Rs. 30 lakhs during the plan period.

4. Organisation

With the constitution of a separate Housing Section in the Department of Local Self Government, the need to gradually strengthen the administrative apparatus, which will not only have to channelise funds for the purpose but also institute a system of monitoring, will be considered. Taking into account the need for extra staff and material an outlay of Rs. 10 lakhs is accordingly provided.

OUTLAY AND EXPENDITURE

Housing

(Rupees in Lakhs)

Name of Scheme/project	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Quantity	Anticipated Expenditure	Proposed Outlay	of which Capital	Proposed Outlay	of which Capital
1	2	3	4	5	6	7	8
1. Govt. Housing :							
(a) Staff quarter	14.92	29.00	29.00	150.00	150.00	30.00	30.00
(b) Police Housing	—	6.00	6.00	80.00	80.00	8.00	8.00
2. Loans to Govt. servants	10.00	10.00	10.00	60.00	60.00	10.00	10.00
3. Social Housing	—	—	—	60.00	—	3.00	—
4. Assissance to Housing Board	4.00	4.00	4.00	30.00	30.00	2.00	2.00
5. Cooperative Housing	—	—	—	10.00	10.00	1.00	1.00
6. Direction & Administration	—	—	—	10.00	—	1.00	—
TOTAL	28.92	49.00	49.00	400.00	330.00	55.00	51.00

SELECTED TARGETS AND ACHIEVEMENTS

Housing

Sl. No.	Item	Unit	1979-80 Base year level	1980-81		1980-85	1981-82
				Target	Anticipated Achievements	Target	Target
1	2	3	4	5	6	7	8
1.	Govt. Housing		1100	96	40	906	120
	a) Staff Quarters	Nos.	(cumulative)				
	b) Police Housing	Nos.	16	21	12	114	36
			(cumulative)				
2.	Loans to Govt. Sewarts	No. of applications	342	75	75	600	120
			(cumulative)				
3.	Soual Housing	Nos.					
	a) Rural House Sites	Nos.	—	—	—	400	40
	b) E.W.S.	Nos.	—	—	—	60	5,
	c) LIGH	Nos.	—	—	—	200	70
	d) MIGH	Nos.	—	—	—	45	4
	e) Subsidised Industrial Housing Scheme	Nos.	—	—	—	27	5

Urban Development

There are no large towns as found in the plains, in Sikkim, the largest being the capital town of Gangtok which has an estimated population in the region of 50,000. Among the local bodies it is only the Municipal Corporation at Gangtok that has been set up more or less on the pattern of such institutions elsewhere. This was also a nominated body and at present stands superseded. During the past years efforts have been made to equip the Corporation with certain duties pertaining to civic amenities and the general beautification and improvement of the town. This has been accomplished with the help of financial assistances by the State, and the Corporation has been successful in providing amenities like public latrines, rain shelters and hat sheds and has besides trained a number of jhoras which were causing wide spread damages. Outside Gangtok there are a few smaller bazars in the State which have been growing very fast and which have consequently certain urban problems which require to be tackled. A Town Planning Cell has now been set up in the headquarters, which will be made responsible for attending to various issues arising out of the development of such smaller bazars. Previously the towns were administered in a loose sense by Bazar Committees. They have now become defunct and as matters stand the powers and functions of the Government relating to the bazars have become centralised. During the plan period, a proposal for decentralising the matter particularly to deal with day to day problems of sanitation, licensing and encroachment is envisaged, for which district branch offices are proposed. It is hoped that there will be an improvement in the civic amenities as a result of such decentralisation. As far as Gangtok is concerned, the strategy would be to improve the status of the Municipal Corporation by making it more self-reliant and in introducing a package of schemes which would serve the dual purpose of making the Corporation stand on its own leg gradually and at the same time play a vital role in improving the environment of the town. Towards this end in view the administrative division of the staff on functional lines like engineering, public health and revenue is already underway.

Objectives

Keeping these objectives and strategy in mind it is proposed to allocate a sum of Rs. 112 lakhs as Government assistance to the Municipal Corporation with which it would take up various programmes environmental improvement and the provision of civic amenities. Taking the latter first the most important schemes envisaged is that of construction of a super market complex, the design of which has already been finalised. This complex would have a multi-tiered shopping arcade with a parking place and basic amenities so that shoppers in Gangtok would not have to confront the crowded atmosphere prevalent today. Besides the main super market complex, small shopping centres and alternative parking places are also proposed in different places of the town so that general congestion could be avoided and a more regulated traffic system could be introduced. Among other important civic amenities, mention should also be made about garbage disposal for which some land has to be acquired outside the city limits for collecting and dumping rubbish. The possibility of obtaining an incinerator for scientifically burning the rubbish will be explored. This will generally

improve the atmosphere and the environment. A few other schemes like public latrines and rain shelters which have been popular will also be continued during the plan period.

Since all towns will have to improve their upkeep special attention will be paid towards giving Gangtok a face lift for which programmes of general cleanliness and improvement including beautification of some parts of the city, laying out parks and gardens and constructing a few view points particularly intended for visitors will be taken up. A system of disposing of unclaimed dead bodies which has caused quite a problem will also be devised so that there would be no problem for the Hospital.

In general some strengthening of the administration in the Gangtok Municipal Corporation is also called for. The above outlay of Rs. 112 lakhs takes into account these requirements.

In the other bazar areas, the main change in the plan would be the organisation of district branch offices which will supervise and control sanitation, issue trade licences, prevent unauthorised construction and encroachment, supervise work executed and be in charge of the general welfare of sweepers and any other matter which is entrusted to them. In each of the districts a cell would be created for the purpose which would be staffed by technical and general service personnel so that the day to day work of bazar administration can be carried out. In each of districts small stores will also be built so that equipment needed for carrying out civil work can be efficiently stored, and supervised by the district branch office.

As in the case of the Municipality in other bazars also provision of civic amenities is the responsibility of the State. Thus a programme of constructing hat sheds, public latrines, urinals and meat stalls will be continued. Environmental improvement will also be given emphasis since many of the bazars have become unhealthy because of overcrowding and insanitary conditions. Improvement of the environment is closely connected with garbage disposal. There is no regular system of garbage disposal in any of the bazars and what happens is that sweepers merely sweep off the rubbish and dump them in open drains or other convenient areas which cause great health hazards. A beginning is therefore proposed to be made to collect rubbish and dump them in places far away from the town and burn them so that there would be no pollution or hazards. To begin with two such places would be selected near Singtam and Jorethang.

Many of the bazars are located in congested areas and therefore land has to be acquired to extend them conveniently. While doing so, the area of the bazars would be demarcated by fixing boundary pillars so that the actual extent of the bazars would be properly marked out in documents. With the inception of the Planning Cell, an integrated programme of Urban Development would be instituted and for the purpose the Town Planning Cell will be equipped with adequate men and materials. This includes basic engineering staff and material with supporting staff, motor vehicles and minimum office space.

Both in Gangtok as well as in other bazar quarters will also be constructed for sweepers which would be under the scheme of providing housing facilities to the economically weaker sections. Since this will be undertaken by the Housing Board no separate financial provision other than the spill over requirements is provided in the Plan. The overall financial requirements for these purposes for other reasons is estimated to be Rs. 88 lakhs for the Five year period, and so for Urban development an outlay of Rs. 200 lakhs is proposed for the five year period.

OUTLAY AND EXPENDITURE

STATEMENT—GN-2

Urban Development

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Assistance to G.M.C							
(a) Direction & Administration	0.30	0.30	0.30	2.50	—	0.50	—
(b) Environmental improvement	1.50	1.20	1.20	10.00	—	1.50	—
(c) Parks and Gardens	—	—	—	5.00	—	1.00	—
(d) Public Fair grounds	—	—	—	3.00	—	—	—
(e) Upkeep of Town	0.50	—	—	2.50	—	1.00	—
(f) Public latrines	1.00	1.00	1.00	6.00	—	1.00	—
(g) Rain Shelters	0.50	0.50	0.50	2.75	—	0.50	—
(h) View points	—	—	—	1.25	—	0.50	—
(i) Super Market Complex	—	1.00	1.00	40.00	40.00	10.00	10.00
(j) Shopping Centers	1.00	1.00	1.00	10.00	—	1.00	—
(k) Parking complex	—	—	—	16.00	16.00	5.00	5.00
(l) Garbage disposal	2.30	2.00	2.00	10.00	—	1.00	—
(m) Staff quarters	1.00	1.50	1.00	3.00	—	1.00	—
TOTAL :	8.10	8.50	8.00	112.00	56.00	24.00	15.00

OUTLAY & EXPENDITURE

Urban Development

Rupees in Lakhs

Name of scheme	1979-80 Actuals	1980 - 81		1980 - 85		1981 - 82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
2. Other Bazars							—
(a) Environmental improvement	—	1.00	1.00	5.00	—	1.00	—
(b) Land acquisition	0.95	2.00	2.00	7.00	—	1.00	—
(c) Garbage disposal	—	—	—	10.00	—	3.00	—
(d) Engineering equipments	—	—	—	1.00	—	0.20	—
(e) Boundary pillars	—	—	—	1.00	—	0.20	—
(f) Hat sheds	1.40	1.50	1.50	10.00	—	1.50	—
(g) Public latrines	3.51	2.00	2.00	14.00	—	2.00	—
(h) Meat stalls	—	1.50	1.50	5.00	—	1.00	—
(i) Direction & Administration	—	—	—	14.00	—	1.00	—
(j) Town Planning Cell	—	1.00	1.00	8.00	—	1.00	—
(k) Sweeper's quarters	—	2.50	2.50	3.00	—	0.50	—
(l) IUDS for small towns	—	—	—	10.00	—	0.60	—
TOTAL :	5.86	11.50	11.50	88.00	—	13.00	—
TOTAL :	13.96	20.00	19.50	200.00	56.00	37.00	15.00

SELECTED TARGETS & ACHIEVEMENTS

STATEMENT—GN-3

Urban Development

Sl No.	Item	Unit	1979-80	1980-81		Proposed	Target
			Base Year Level	Target	Anticipated Achievements	1980-85	1981-82
1	2	3	4	5	6	7	8
1.	Financial Assistance to GMC						
	(a) Remunerative enterprises						
	(i) Shops and market centres	Nos	2	2	1	10	2
	(ii) Others—Super Market	Nos	—	—	—	1	—
	(b) Non remunerative schemes						
	(i) Construction of roads	Kms	95	3	3	12	2
	(ii) Construction of parks	Nos	3	—	—	7	1
2.	Town & Regional Planning						
	(i) Master Plans prepared	Nos	—	—	—	4	1

Information and Public Relations

While the seeds of development have been sown, the Information and Public Relations Department will have to utilise the communication infrastructure which go to educate the masses on their crucial role in building up a developing, democratic Sikkim. It should help enlighten the people as to how their awareness of and active participation in the socio-political and economical scenario can augment the place of progress and development in the State. It is only through their purposeful efforts that the problems and the progress of development in the state can be visualised critically. It is obvious that today the people have come to understand and realise that the task and responsibility of the Information Department goes much beyond the traditional role of merely conveying Information on behalf of the Government. It is expected to function as an interconnecting vehicle and act as an indispensable agent for developing easy rapport between the Govt. and the curious public. It is hence the duty of the Information Department to give due respect and justice to the opinions expressed by the public which will help in regulating the Government policies and programmes. This, in essence, is the public accountability factor constituting the foundation on which the department will have to survice.

Review

Past activities and performance of the information and Publicity Department indicate that the work load has increased tremendously, so much so that the strengthening of the present organisational set-up is badly required. With a dominant role to play as an active mouth piece of the Government, the Department has a lot to contribute in conveying to the widely dispersed population, the essence of the goals, policies and the level of development achieved by the Government at any specific point of time. Apart from the publication and distribution of several ad-hoc publications reflecting on the level of development in agriculture, Industries and the like, the Department has recently released reading materials depicting the efforts and achievements made by the Government, periodically. The Department has also been continuing with theregular publication of the "Sikkim Herald". However, speedy distribution of such publications in more remote areas has become next to impossible due to poor network of communication and transport. Much headway has however been accomplished with the establishment of the District Information offices. These District Centres have been relatively successful in relaying numerous pieces of information to the head quarters as well as in readily providing realistic feedback on the public attitudes and critical comments with regard to the policies and various developmental programmes undertaken by the Government. By encouraging such a participatory process, the Government is in a better position to appeal to the governed for understanding and gaining support. With manifold developments in the State in recent years, the Information Department has at a lot of ground to cover. It will have to concentrate its future efforts towards further improving upon and developing the existing infrastructure so that ultimately it can serve as a pace setter for all round development in the state. The department will have to continue its efforts with regard to the training of its young officers and staff so as to be well equipped with a selected team of talented and skilled personnel to manage the Departmental activities.

Objectives

The future plan of action will be directed towards the attainment of the following objectives :—

1. To pave the way for swifter, more effective and constant coverage of the Government news through bulletins as well as through other ad-hoc publications.
2. To streamline the audio-visual channels of conveying information.
3. To strengthen and improve the functioning of the District Information Centres.
4. To maintain close liaison with the various developmental departments.
5. To continue as an effective mouth piece of the Government by publicising interesting and relevant news material covering a wide range of subjects.

Schemes

In its efforts towards the attainment of these objectives, it will be necessary for the information and Public Relations Department to concentrate its efforts on the following schemes :—

1. Strengthening of Administration

With the rapid pace of development and increased volume of developmental activities of the Government, the administrative section is facing serious difficulties in keeping up with intensity of the work load. Being thus over-burdened by the increased administrative work, it is time that the administrative section is strengthened with more personnel within the various level of management. In the process of reorganising the administrative structure, incentives will be offered to the existing staff by providing them with promotional opportunities. A total provision of Rs. 3.50 lakhs has been made for necessary expenditure likely to be involved in strengthening the administrative section of the Department.

2. Advertising and Visual Publicity

The Information and Public Relations Department has a significant contribution to make in projecting various important themes of the developmental activities for the purpose of providing display advertisements to the national as well as the local papers. It will be necessary to have additional personnel with the required aptitude for the purpose of injecting greater efficiency to this section.

For the benefit of the illiterate masses, the use of the audio-visual publicity method will be more comprehensive and informative than an elaborative piece of write up on a particular subject. It is therefore proposed to organise a state exhibition unit whose function and responsibility will be to conduct series of exhibitions where blow-ups of photographs will be displayed in the remote villages. For this venture, it will be necessary to have adequately trained staff as well as mobility for effective functioning of the unit. Taking into account all these requirements, a total amount of Rs. 11.00 lakhs has been proposed during the plan period.

3. Strengthening of District Information Centres

The District Information Officers can contribute materially by maintaining an active dialogue with the people which will help in bringing them into the mainstream of National life. Being in close touch with the target audience, the Information Officer can maintain direct rapport with the people and hence, he is in a better position to provide realistic feedback of public opinion with regard to the various policies and programmes of the Government. Such a flow of information will help the Government to improve their efficiency and popularity by taking public grievances into consideration while formulating its programmes and policies. As such, the role of the District Information Officer need not be over emphasised. In order to improve the efficiency and functioning of the District Information Centres, it is necessary to give them adequate support. A total amount of Rs. 6 lakhs is envisaged to meet the overall outlay of District Information Centres.

4. Publication

In addition to the publication of the Government news bulletin viz. "Sikkim Herald", in four different languages (English, Bhutia, Nepali and Lepcha), the Department has also been releasing several ad-hoc publications periodically which highlight the various developmental activities of the Government. With a view to encouraging the growth of small and medium firms, it is proposed to procure newsprint for distribution to local publishers. During the plan period, it is also proposed that the size as well as frequency of the "Sikkim Herald" be increased progressively. With the objective of making available to the readers a standard news paper covering a wide range of subjects and information regarding the developmental programmes and policies of the Government, the Department has already taken a step in this direction with the introduction of two new columns viz. "Readers Forum" and "Doctors Forum." In order to meet the necessary requirements for publication, a sum of Rs. 15 lakhs has been proposed during the plan period.

5. Film Unit

With the objective to intensify the use of audio-visual aids of communication, it will be necessary to strengthen the Film Unit. Such channels of conveying information is appropriate to Sikkim conditions and it is hence proposed to introduce a video type filming in this section. It is therefore proposed to create some new posts as also to acquire a video T.V. set in the near future. The total outlay proposed under this scheme is Rs. 4.50 lakhs.

6. Photo Services

The services of the photo Unit will contribute to the success of the Exhibition Unit. The Photo Unit will have to ensure a regular supply of important and catchy photographs for the purpose of display at the exhibitions. To start with, it is proposed to set up two photo units in the District Information Centres at Namchi and Gyalshing followed by one more unit in the North District in a phased manner. This will necessitate the appointment of additional personnel to manage these photo units. For necessary strengthening of this Photo Unit an outlay of Rs. 10 lakhs has been envisaged during the plan period.

OUTLAYS AND EXPENDITURE

Information & Public Relations

Rupees in lakhs

Name of Scheme/project	1979-80 Actual	1980-81		1980-81 1980-85		1980-85 1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	of which Capital content	Proposed Outlay	of which Capital content
1	2	3	4	5	6	7	8
1. Direction and Administration	0.08	0.25 (0.10)*	0.25 0.10	3.50	—	0.40	—
2. Advertising and Visual Publicity	2.46	2.15	2.15	11.00	—	2.20	—
3. Information Centre	1.11	1.45	1.45	6.00	—	2.00	—
4. Publications	3.47	2.30	2.30	15.00	—	3.00	—
5. Films	0.65	0.65	0.65	4.50	—	0.50	—
6. Photo Service	1.62	1.10	1.10	10.00	—	1.90	—
TOTAL :	9.39	8.00	8.00	50.00	—	10.00	—

* Rs. 10 lakhs is against the "Research & Training Scheme." This scheme will, henceforth come under the "Direction & Administration".

Labour Welfare

Craftsmen Training

An Industrial Training Institute was set up at Rangpo in August, 1976. Training is imparted in seven trades, -viz, motor mechanic, draughtsmen (civil), fitter, wireman, welder, plumber and cutting and tailoring (for women only). The Institute has a capacity to train 108 persons at a time. Action was initiated earlier for the construction of worksheds, administrative building and hostel, purchase of several items of machinery and equipment for the purpose of training. To complete the construction work of I.T.I. complex, the ongoing schemes and to instal the machinery and equipment, a provision of Rs. 40 lakhs is made. So far 192 persons have passed out of this I.T.I. out of which 58 have been employed which work out to roughly 30%.

OVTLAY AND EXPENDITURE

Labour Welfare

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980 85		1981-82	
		Approved outlay	Anticipated expenditure	Proposed outlay	Capital content	Proposed outlay	Capital content
1	2	3	4	5	6	7	8
1. Craftsmen Training							
Industrial Training Institute	14.89	10.00	11.40	40.00	25.00	10.00	8.00

SECECTED TARGETS AND ACHIEVEMENTS

STATEMENT—GN-3

Labour Welfare

Sl. No.	Items	Unit	1979-80	1980-81		Proposed	Target
			Actuals	Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7	8
Labour & Labour Welfare							
	(a) Craftsmen Training	Comulative					
1.	No. of Industrial Training Institutes	Nos	1	1	1	1	1
2.	Intake Capacity	Nos	108	108	108	600	124
3.	No. of persons undergoing training	Nos	73	108	108	600	124
4.	Out turn (*only year course)	Nos	24	72	72	600	50

Welfare of Scheduled Caste and Scheduled Tribe

Considerable importance is proposed to be given to the welfare of Scheduled Castes and Scheduled Tribes, who constitute the under privileged sections of the community in the country, in this plan. At the National level, schemes to ameliorate their conditions have been chalked out not only by earmarking special funds for the purpose but also by preparing component plans which form a process through which it is ensured that for every sector of economic activity atleast some funds are specially set apart for the welfare of this section of the population.

As far as Sikkim is concerned a start towards this sort of planning has taken place only very recently, one of the reasons being that the tribal population was notified only in June, 1978. The number of scheduled caste families is also limited and as a matter of fact the percentage of scheduled castes to the total population works out to only about 5%. Nonetheless, schemes through which special benefits are extended to scheduled castes for repairing houses, stipends for education and so on have already been initiated. 496 families have been given grants for houses and stipends for pre-matric scholarships have been extended to 440 children. However, this is only a beginning and in consonance with the National policy of uplifting the standards of living of this section of the population a concerted effort will be made during the Sixth plan period to go all out for helping them.

Maximum emphasis is proposed to be given to uplifting the academic standards of children belonging to scheduled castes and scheduled tribes. This is the surest way to ensure that the future holds a better path for them. In order to achieve this, liberal financial assistances at the pre-matric level is proposed to be given which will consist of a maintenance allowance for every child alongwith a uniform and stationery allowances for all children who belong to lower income groups of the communities. The maintenance allowance will be Rs. 70 per month and the uniform and book allowance Rs. 100 and Rs. 50 respectively per annum. A total number of 6,780 children are proposed to be given this kind of financial assistance which it is hoped would provide an incentive to them regularly to attend the schools. Out of this 2,500 children will be scheduled caste & tribes. A total outlay of Rs. 58.78 lakhs is earmarked for this purpose.

A policy of going all out to educate the children of scheduled castes and scheduled tribes properly will certainly yield dividends for the future but it is to be matched by improving the living condition of the adult members also. It will be the endeavour of the Government to give grants and assistances for economic upliftment for various purposes but more so for improving the occupational standards of the people. There are a large number of skilled artisans among the scheduled caste community divided primarily according to occupation like tailoring, blacksmithy and tannery. In order to help the adult population to earn larger incomes through their own occupational line it is proposed to construct buildings for tailors, blacksmith etc. in important centers wherein the artisans can go and work freely and make use of the tools provided by the Government. Besides such common facility centres liberal loans and subsidies are proposed for constructing houses, for fencing and terracing fields, for purchasing bullocks, milch cows and other equipment like sewing machines and knitting machines. 1,232 families belonging to scheduled tribes and 810 families belonging to the Scheduled castes are proposed to be covered through the schemes of grants and assistances

for which an outlay of Rs. 55.75 lakhs is proposed which includes a sum of Rs. 6 lakhs for constructing common facility building centers for blacksmithy, tailoring and tannery.

During the plan period it is also proposed to identify a few voluntary organisations of scheduled tribes to be entrusted with the task of pushing through some of the welfare schemes. A nominal amount of Rs. 5 lakhs is proposed to be given to such organisations. Another scheme contemplated is that of helping people interested in starting industrial units. Finance for such units would be tapped from the banks but the department would subsidise interest rates. An outlay of Rs. 1 lakh is contemplated for this.

For an expanded welfare programme to help the scheduled Castes and Scheduled tribes necessary strengthening of the organisational structure is a necessary precondition. Since there has been no separate department for the purpose until very recently it is necessary to equip it with all facilities not only at headquarters but also at district level. Adequate number of welfare officers and inspectors will be appointed and in order to ensure reasonable mobility of the officers, adequate number of vehicles will also be provided. The estimated financial requirement for meeting overhead expenditure is projected Rs. 37 lakhs both for scheduled castes and scheduled tribes.

OUTLAY AND EXPENDITURE

Scheduled Caste & Schedule Tribe Welfare

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82		Remarks
		Approved outlay	Anticipated expenditure	Proposed outlay	Capital content	Proposed outlay	Capital content	
1	2	3	4	5	6	7	8	9
1. Education Stipends	0.65	3.00	3.00	60.00	—	5.00	—	Rs. 24 lakhs is for S.C. & Rs.36 lakhs for S.T.
2. Grants and assistance for economic betterment	2.50	13.00	13.00	50.00	—	13.00	—	Rs. 15 lakhs for S.C. & Rs.35 lakhs for S.T.
3. And, to Voluntary organisations	—	—	—	5.00	—	0.50	—	only for S.T. welfare
4. Subsidy on interest on loans availed of by middle class members of S Ts.	—	—	—	1.00	—	—	—	
5. Construction of common facility centres for tailors, Blacksmiths	—	—	—	6.00	—	1.00	—	only for S.C. wel- fare
6. Direction & administration	1.00	2.00	2.00	38.00	—	3.50	—	Covers both S.C. & S.T. welfare
TOTAL	4.15	18.00	18.00	160.00	—	23.00	—	

PHYSICAL TARGETS AND ACHIEVEMENTS

Scheduled Tribes

Sl. No.	Item	Unit	1979-80 Base year level	1980-81		Proposed	Target
				Target	Anticipated Achievement	1980-85	1981-82
1	2	3	4	5	6	7	8
1.	Education and Stipend upto Pre-Matric level	No. of Students	240	464	464	4279	750
2.	Grants and Assistance :—						
	(i) Construction of houses	No. of Families	—	40	40	388	60
	(ii) Repair of houses	-do-	—	30	30	290	50
	(iii) Grants for purchase of bullocks & Milching Cows	-do-	—	48	48	338	60
	(iv) Grants for field fencing & terracing	-do-	—	24	24	162	33
	(v) Grants to artisans						
	(vi) Grants for professional machinery & equipment	-do-	—	10	10	142	22
		-do-	—	—	—	60	10
	(vii) Medical Aid	No. of Persons	—	—	—	16	3
3.	Aid To Voluntary Organisations	No. of organisation	—	—	—	5	1
4.	Loans to the needy Middle Class	No. of beneficiaries	—	—	—	60	20

PHYSICAL TARGETS AND ACHIEVEMENTS

Scheduled Cast

Sl. No.	Items	Unit	1979-80 Achievement	1980-81		1980-85	1981-82
				Proposed Target	Anticipated Achievements	Proposed Target	Proposep Target
1	2	3	4	5	6	7	8
1.	Education/Stipend						
(i)	Prematric Scholarship	No. of Students	160	300	300	2340	400
(ii)	Special coaching classes	-do-	—	25	25	285	60
(iii)	Stipend for training	-do-	—	150	150	1050	200
2.	Grants and Assistance						
(i)	Grants for professional tools & machineries	No. of families	—	30	30	120	30
(ii)	Knitting machine	-do-	—	—	—	53	15
(iii)	Grants for bullocks and Milching cows	-do-	—	—	—	132	33
(iv)	Construction and repairing of houses,	-do-	250	95	95	365	75

Social Welfare

With the establishment of the Social Welfare Department in 1976, a wide range of welfare programmes has been successfully implemented with the introduction of activities such as child welfare, women's welfare, welfare of the physically handicapped, welfare of the aged, infirm and destitutes, etc. Various social problems inherent in every other State, like destitution, physically, orthopaedically and mentally handicapped, old age, poverty, criminality and delinquency, etc. have also been a subject of great concern for the Department. The constitution provides that "the State shall, within the limits of its economic capacity and development, make effective provisions for securing the right to work, to education and public assistance in case of unemployment, old age, sickness, disablement and other cases of undeserved wants and that the State shall also promote with special care, educational and economic interest of the weaker sections of the people and shall protect them from social injustice and all forms of exploitation". As a social responsibility and in accordance with the provision of the Constitution, the State Government has now considered the extensive scope and urgent necessity for developing the numerous social activities in a more organised manner. A modest beginning has been made with the establishment of the Social Welfare Advisory Board, rendering a wide selection of social welfare services to the needy and deserving sections of the society in a bigger way.

Review

In spite of the constitutional guarantees and the series of welfare oriented policies of the Govt., the social outlook towards women, children and the weaker sections of the society is still plagued with the evils of social prejudice.

Provisions under Article 39 of the Constitution dictates that the State shall in particular direct its policy towards securing that childhood and youth are protected against moral and material abandonment." Hence, as a matter of obligation, it is the State's duty to provide welfare services to the children which constitutes a substantial proportion of the population. Being a welfare State, it becomes much more than a matter of duty for the Govt. to ensure that every child born is entitled to minimum care.

Development of Child Welfare services however, had not been readily forthcoming. This is evident from the fact that facilities such as recreational centres, children, libraries and parks, which are meant to serve the minimum recreational needs of children, are lacking in the State.

The Construction of a Destitute Home at Kaluk with a capacity for 25 children marks a promising beginning of the welfare activities for the benefit of the destitute children in the State. This Home has provided to selected beneficiaries, the facilities of free lodging, fooding clothing, and scholastic education. The Home which was intended to be managed by a voluntary organisation is presently being run by the Department, since no adequately equipped voluntary organisation has been located.

The Social Welfare Advisory Board has been effectively taking care of the welfare of infant children of the working women. For this purpose, a total number of 19 creches have been estab-

lished which are widely dispersed throughout the State. Apart from such welfare activities being directly initiated by the Department, there are other more indirect forms of assistance like grants-in-aid to voluntary organisations. Since the establishment of the Atish Dipankar Home for 100 destitute children at Chakung during the early part of 1977, the Department has already provided the home with financial assistance to the tune of Rs. 3.78 lakhs as grants.

In view of the acute shortage of accommodation at Gangtok the inherent difficulties experienced by working women have been eradicated to an appreciable extent with the establishment of a working women's hostel. A review of the functioning of this hostel has however called for necessary improvement and modification in the arrangement of the existing facilities and regulations of the hostel to suit the needs of the residents.

Liberal financial assistance in the form of stipends have been provided to a large number of the physically handicapped children who come under the category of the blind, deaf and dumb etc., for undergoing useful education in special Institutions outside the State.

The need to ameliorate the pathetic conditions of the destitutes and the aged women has also been a matter of deep concern for the State. As a start a Destitute Home has been established at Tadong, near Gangtok with an intake capacity for 25. Any decision to further extend and expand such a scheme will be taken only after studying the impact of the scheme.

Despite the progress made so far, the Department will have to make a further endeavour to explore the possibilities of providing essential services for the welfare of the needy sections of the society.

Objectives

During the period of the Sixth Five Year Plan, the approach will mainly centre around the following objectives :—

1. Progressive expansion and strengthening of the administrative set up.
2. To provide recreational facilities for the general welfare of the children.
3. For further extension of welfare measures for the upliftment and benefit of the poor and destitute children and to progressively rehabilitate them into society.
4. To provide integrated and extensive welfare services for the poor, neglected, destitute and aged women as well as for the welfare of working women.
5. To extend necessary assistance to the physically handicapped section of the society.
6. To adopt correctional measures and establish remand homes for keeping a check on the problems of juvenile delinquency.
7. To offer incentives and appropriate assistance to voluntary organisations so as to encourage more number of such organisations in the State.

Schemes

Keeping in view the objectives in the plan, the following schemes will be considered for implementation during the plan period.

1. Direction and Administration

With the anticipated increase in the level of activities of the Department, it is proposed to create several categories of new posts at various levels of the administration, the ultimate objective being to convert the department into a full fledged Directorate during period of the plan.

The total financial commitment proposed under this scheme is Rs. 3 lakhs for the plan out of which Rs. 0.50 lakh is envisaged for 1981-82.

2. Child Welfare

Under this scheme, the emphasis will naturally be to provide integrated welfare services to children in as many areas as possible. As a start, recreational centres with facilities for indoor games, gymnastics and library will be established under the supervision of a responsible worker. A total outlay of Rs. 4 lakhs has been earmarked for the construction of such centres in the State. With the satisfactory performance of the Kaluk Destitute Home, the department proposes to establish one more such home with a capacity for about 50 numbers of poor and destitute children. Apart from this, the department has proposed to extend building grants to the existing voluntary organisations for the establishment of more homes and for which a sum of Rs. 2 lakhs is proposed during the plan period. Further-more, the Department will endeavour to establish one vocational Training Centre cum Home for the poor and destitute children so as to rehabilitate them into society by imparting scholastic education. This scheme for vocational training will also take care of the problem of the school dropouts. An outlay of Rs. 3 lakhs has been proposed for the programme for vocational training. These schemes under Child Welfare are Centrally Sponsored and for which the States' total commitment is Rs. 9.00 lakhs during the plan period.

3. Women's Welfare

With the expansion of educational facilities and the rapid pace of development in the State coupled with the persisting prejudicial attitude towards women, a more concerted effort will have to be made to provide extensive welfare oriented measures to women, particularly to those belonging to the weaker sections of society. An integrated programme, for the benefit of women in rural areas including those who are school dropouts is proposed to be undertaken with the establishment of a vocational training centre in the four districts where employment oriented training will be organised such as tailoring, knitting, embroidery, etc. These Centres will operate through a mobile unit catering to the needs and demands of a particular area in the respective districts. A total amount of Rs. 3 lakhs is proposed for such Centres. In order to eradicate the extent of misery and Pathos experienced by the aged and destitute womenfolk, it is proposed to utilise in full measure, the existing Destitute Home at Gangtok for which a sum of Rs. 2 lakhs is proposed. This Destitute Home is the first of its kind in the State and hence, the further prospects of opening such homes in other Districts will depend on the functioning of this newly established home.

Keeping in view the increasing number of educated young women who fall under the category of the unemployed, it is proposed to start a commercial Institute in which facilities for training in appropriate disciplines like short hand and typing will be offered. A provision of Rs. 1 lakh is proposed under this scheme during the period of the plan.

As all these numerous schemes under the women's welfare programme are Centrally Sponsored, the state's share of the total proposed outlay under this scheme will be Rs. 6 lakhs.

4. Welfare of the Physical Handicapped

The need for overcoming the difficulties of the physically handicapped is a long felt one. In spite of the physical restrictions imposed upon this section of the society, it is possible to provide suitable training and education for their development. During the period of the plan, it is proposed to establish a blind school for the benefit of the blind and the deaf. The rate of stipends payable to these students will be increased. The proposal for granting subsistence assistance to the blind and deaf will also be

considered. Moreover, it is also proposed to provide the physically handicapped with suitable prosthetic equipment. The State's share in the financing of this Centrally Sponsored Scheme for the welfare of the physically handicapped will be Rs. 5 lakhs during the plan period.

5. *Working Women's Hostel*

Keeping in view the acute shortage of accommodation at Gangtok, a working women's Hostel has been established at Gangtok for the benefit and safety of the working women. This also forms part of the Centrally Sponsored Scheme. During the plan period, it is proposed to improve the facilities in the home and undertake necessary renovation and additional work so as to provide comfortable, safe and convenient living for working women. A total outlay of Rs. 3 lakhs as the state's share is proposed during the plan period.

6. *Grants in-aid*

This is again a Centrally Sponsored Scheme. During the plan period it is proposed to extend suitable incentives and progressively encourage the growth and participation of voluntary organisations for the implementation of numerous social welfare programmes in the State. The Department also proposes to extend financial support to the Board for the establishment and functioning of creches and day care centres throughout the State. The state's liability under this scheme is proposed to be Rs. 2 lakhs.

7. *Social Defence*

Social Defence is a new scheme but yet of urgent necessity in the State. Correction work as it is sometimes called, social defence envisages creation of machinery and services to implement various social legislations intended to correct the undesirable behaviour patterns among individuals and groups so that they could be disciplined to socially accepted norms and patterns of behaviour and to strengthen social cohesion. School drop outs, juvenile delinquency, vagrancy, adolescent criminality and their treatment forms part of social defence. In support of this scheme, it is proposed to legislate the Childrens' Act as early as possible. The establishment of a remand home and the setting up of a special court will be considered for implementation. Under this scheme, a total of Rs. 4.00 lakhs is proposed.

8. *Research and Training*

For efficiency in the planning and implementation of various welfare services, suitable professional training in social services as well as training in practical field such as Brail system, knitting, tailoring, etc. will be valuable resources for the administrative machinery. The welfare needs of the weaker sections of the society are indeed enormous, but the resources to meet them are limited. It is hence proposed to undertake scientific surveys for identification and assessment of genuine needs and arrange a priority for welfare programmes. Therefore, the Department has proposed to establish a Research Cell with qualified personnel to undertake social research works. A proposal of Rs. 1 lakh is proposed for this purpose.

9. *Other Schemes*

For the benefit of the old and the aged, the department proposes to give such persons pensions at the rate of Rs. 100/- per month for which a sum of Rs. 3 lakhs is envisaged during the plan.

As a sequel to the International Year of the Child, various programmes for the benefit of children have continued. The department proposes to constitute a Childrens' Board for implementing

certain programmes which will ensure continual benefit to the children. A sum of Rs. 4 lakhs has been proposed for implementing various schemes under International Year of the Child programme. Besides this amount specific sums of money from other sectors including the Social Welfare sector would be earmarked for the International Year of the Child, amounting to a total of Rs. 20 lakhs for the Five Year period.

OUTLAY AND EXPENDITURE

Social Welfare

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Direction and Administration	—	0.25	0.25	3.00	—	0.50	—
2. Child Welfare	0.26	2.00	2.00	9.00	—	1.75	—
3. Women's Welfare	0.20	0.50	0.50	6.00	—	1.00	—
4. Welfare of P/H	0.09	0.25	0.25	5.00	—	0.50	—
5. Working Women's Hostel	0.55	1.00	1.00	3.00	—	1.00	—
6. Grant-in-Aid	0.66	0.50	0.50	2.00	—	0.50	—
7. Social Defence	—	—	—	4.00	—	0.75	—
8. Training & Res.	—	—	—	1.00	—	0.25	—
9. Others :					—		—
(a) Old age pension	—	—	—	3.00	—	0.75	—
(b) IYC etc.	0.50	0.50	0.50	4.00	—	1.00	—
Total	2.16	5.00	5.00	40.00	—	8.00	—

Nutrition

The status of nutrition in the State leaves much to be desired. While the multi-dimensional problems associated with mal-nutrition have remained within the precincts of traditional beliefs, the significance of this controversial issue failed to be acknowledged by the policy makers and planners until recently when its importance was recognised and widely expounded both at the National and State level. With the belief that the state of malnutrition and under nutrition is mainly due to the manifestation of socio-economic disparities, it has been the endeavour of the Government to propagate the concept and benefits of low-cost-balanced diet so as to progressively mitigate the extremities of these inherent problems.

The main thrust of the agricultural policies is directed towards the attainment of adequate food production so as to ensure sufficient supply for meeting the nutritional requirements of the population both qualitatively as well as quantitatively. However, feeding programmes need to be dovetailed with supplementary measures such as ICDC programmes, public health and sanitation to name only a few.

With the exception of cereals, which constitutes the major source of caloric intake, the consumption of other items of food appears to be inadequate among the lower income groups. On an average, the caloric intake is reported to be much below the recommended allowance. Deficiencies in essential nutrients like calories, Thiamine, Riboflavin, Niacine, Vitamins A and B Complex are prevalent in the state with the incidence of calcium deficiency more conspicuous among the lower socio-economic strata of society. The pattern of food consumption expenditure is also reported to be declining as compared to the overall expenditure. Given this background on the level of nutrition in the State, an integrated and effective approach to the problems is called for.

Review

Considering the growing importance behind the subject of Nutrition, the Government has recognised the significance of combating the far reaching adversaries of malnutrition and thereby considered remedial measures for implementation to be incorporated as part of the developmental programmes. Keeping this in view, two programmes, namely, the Mid-day Meal Programme and the Special Nutrition programme were initiated in 1976-77. The scope of these programmes was further intensified and expanded to effectively cater to the needs of pregnant and nursing mothers and children. However, due to the fact that the population is widely dispersed in places which are almost inaccessible, difficulties have been experienced in maintaining the continuity and timely supply of food. Under the M.D.M. and S.N.P. the coverage achieved in the year 1979-80 were 38,149 and 31,751 numbers of beneficiaries respectively. During the year 1978-79, a new programme, namely, the ANP, was introduced which aimed at making the population conscious of the importance of balanced diet and educating them on the positive effects from changing the food and dietary habits through special programmes like kitchen gardening, community gardening, school poultry unit, Nutrition demonstration and Education, etc. Within a year since its inception, the ANP has been implemented in selected schools and localities in two Districts only. Apart from these programmes, the possibility of establishing a Food Processing Unit at Singtam being processed which

is expected to be assisted by the UNICEF. The establishment of such a unit will promote the integrated development of the essential ingredients of the nutritional programmes namely, the production, processing, supply, consumption and effective utilisation of food. Although a modest beginning and progress has been accomplished, the nutrition programmes need to be further intensified in order to make a greater impact on the efforts for countering undernourishment.

Objectives

Keeping in view, the review on the progress of these programmes, the emphasis of the Sixth Five Year Plan will be centred around the following objectives :—

1. To further augment and intensify the scope under the feeding programmes so as to achieve a greater coverage of target groups.
2. To ensure the regular consumption of low-cost balanced diet.
3. To propagate useful nutritional values and organise demonstrations for regulating the consumption habits of the people and thereby help in making the community conscious of the essence of balanced diet.
4. To further strengthen and streamline the Administrative machinery.

Schemes

During the period of the Sixth Five Year Plan, the necessary schemes which will be considered for implementation for the attainment of the underlying objectives will be as follows :—

1. Mid-day Meal Programme

As part of the Minimum Needs Programmes, the Mid-day Meals Programme was launched during the year 1976-77 to counteract the bad effects of malnutrition among the school going children. This feeding programme has no doubt produced an impact to an appreciable extent in spite of certain barriers in the distribution of food. During the Five Year Plan period, it is envisaged to achieve a coverage with a growth rate of 20%-30% per annum by improving the transportational facilities for easing the distribution of food. An outlay of Rs. 80 lakhs is proposed for this scheme.

2. Special Nutrition Programme

This is another feeding programme for the benefit of infant children in the age group of 0—6 years, and for the welfare of pregnant and nursing mothers. It is part of the ICDS scheme. As a component of the Minimum Needs Programme, it is envisaged to reach a target of 40,000 beneficiaries by 1984-85. Necessary measures will be considered for streamlining the distribution of nutritious food in more remote areas. For this purpose, an outlay of Rs. 101 lakhs is proposed for the period of the Plan.

3. Applied Nutrition Programme

This scheme was taken up during the year 1978-79. The Applied Nutrition Programme is basically an educational programme designed to improve the nutritional and health status of vulnerable groups, viz. infant children and pregnant and lactating women, through nutrition education, increased production and consumption of protective foods. The scope of the programme components under operation will be further augmented and intensified to cover all the four districts in the state. The outlay proposed under this scheme is Rs. 11 lakhs.

Food Processing Unit

This is a new scheme which is being processed, and is expected to be taken up shortly after UNICEF clear the issue. With the establishment of the Food Processing Unit, it is hoped that, in due

course, the production of low cost nutritious food and the fortification of food stuffs will be intensified so as to progressively minimise specific nutritional deficiencies existing among the vulnerable sections of the population. A total sum of Rs. 5 lakhs is proposed under this scheme.

5. Strengthening of the Administration

In order to ensure successful implementation and coordination of the various schemes in the plan, it is proposed to reinforce the Department with competent personnel at the various levels of administration. Keeping in view the fact that the target groups are widely scattered into far flung areas, it is proposed to purchase two vehicles so as to facilitate the distribution of food stuffs and thereby increase the coverage. During the period of the plan, a sum of Rs. 3 lakhs is proposed for this purpose.

OUTLAY AND EXPENDITURE

Nutrition

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Mid-Day Meal	4.46	8.00	18.00	80.00	—	15.00	—
2. Special Nutrition Programme	21.46	11.00	21.00	101.00	—	20.00	—
3. Applied Nutrition Programme	1.00	0.70	0.70	11.00	—	1.50	—
4. Food Processing Plant *	0.76	2.50	2.50	5.00	—	2.50	—
5. Direction & Administration	0.30	0.30	0.30	3.00	—	1.00	—
TOTAL	27.22	20.00	42.50	200.000	—	40.00	—

*Actual expenditure and outlay under this scheme for 1979-80 and 1980-81 respectively has been included under Food & Civil Supplies.

SELECTED TARGETS AND ACHIEVEMENTS

Nutrition

Sl. No.	Item	Unit	1979-80 Achievement	1980-81		Proposed Target	
				Target	Anticipated Achievements	1980-85	1981-82
1	2	3	4	5	6	7	8
1.	Mid Day Meal	No. of Beneficiaries per day	38,149	40,000	40,000	50,000	42,000
2.	Special Nutrition Prog.	"	31,751	32,000	32,000	40,000	34,000
3.	Applied Nutrition Prog.	No. of Districts	2	2	2	4	3
	(a) School Kitchen Garden	No.	15	13	13	35	20
	(b) School Poultry Unit	No.	6	6	6	25	10
	(c) Community Garden	No.	4	4	4	15	8
	(d) Community Fishery	No.	—	—	—	20	2
	(e) School Piggery	No.	—	—	—	20	5
	(f) Nutrition Demonstration	No.	5	20	20	620	50
	(g) Nutrition Education in Adult Education Schools	No.	10	10	10	150	20

General Economic Services

Planning Machinery

Being a small State with a limited population and infrastructure the State has so far not organised any apex level planning body. The task of formulating plans, following them up and reviewing them is currently undertaken by a centralised department of Planning. Over the past few years certain measures of decentralisation have been considered and as a first step the District Planning Committees were constituted in the four districts of the State which contained both an official and non official element. These committees were expected to lay down priorities in their areas and to generally function as watchdogs of plan implementation. They achieved some measure of success, but on account of a large number of demands emanating from the district levels they could not lay down priorities in the proper manner. The question of clearly demarcating the areas to be handled by the District Planning Committees including the availability of funds is therefore under consideration and it is hoped that during the coming years a definite degree of decentralisation in plan formulation, monitoring and implementation will be possible at the district level. At the same time there is urgent need to strengthen the planning machinery at the headquarter level particularly for monitoring important schemes. Steps have already been taken to induct qualified personnel who would undertake evaluation studies—both pre-project and concurrent—so as to determine how effective plan investments have been. Attempts are also proposed to be made for post-evaluation so as to pin-point the areas which require special strengthening. During the plan period, special studies would therefore be undertaken to monitor schemes more carefully and to build up coordination among the various departments both horizontally and vertically to a more desired level. In order to provide adequate manoeuvrability for these purposes a provision of Rs. 8 lakhs is proposed for the five year period to cover the requirements of staff salaries, basic equipments, printing charges and other miscellaneous items like District Planning Committees, holding special seminars and so on.

In this context, importance would be given to manpower planning since one of the constraints in the developmental programmes of the State has been the lack of trained and qualified man power in some crucial areas. The man power planning aspect will be considered along with scholarships so that a long term perspective of man power can be dovetailed with the availability of seats in educational institutions. The Man Power Planning Cell of the Department will also look after inservice training particularly in the matter of developmental administration and subsequent placement of the trained officers.

Bureau of Economics and Statistics

Since plan formulation requires basic data a progressive improvement of the Bureau of Economics and Statistics will also be undertaken during the plan period.

Lack of basic data on various socio-economic aspect has indeed been a great handicap for plan implementation and evaluation. To overcome these shortcomings in the implementational aspect of planning the question of setting up of a Statistical Bureau was considered only in 1976. A beginning was made in late 1977-78 for starting a Bureau of Economics and Statistics on the basis

of the recommendations made by a team of officers of the CSO which looked into the statistical needs of Sikkim. Initially the Bureau was to undertake the following items of work.—

1. Co-ordinate and guide the collection of Statistics by different departments and to enforce uniform standards, concepts and procedures for such purposes,
2. Undertake sample surveys and evaluation studies,
3. Undertake collection of special statistics not collected by other departments and
4. disseminate statistical information by bringing out various publications.

Due to the lack of adequate technical personnel and administrative delays, it took some time to make a start in this direction. During 1978-79 the Bureau consisted of only one Dy. Director, one Statistical Officer, and a Technical Assistant with some supporting ministerial staff. Even then some basic information was collected and published in the form of (1) Sikkim at a Glance and (2) Sikkim an Economic and development profile. In 1979, the Bureau was strengthened with the recruitment of some Investigators, one more Technical Assistant and a few other ministerial staff. After the recruitment of minimum required personnel, a beginning has been made in collecting some of the basic data.

Since its inception, the Bureau has undertaken the following items of work :—

1. Data on the retail prices of various items of common consumption and services are being collected regularly from 11 randomly selected markets of the State.
2. The Bureau successfully participated in conducting a commodity flow survey carried out by the Rail India Technical Services Ltd. on behalf of the Planning Commission.
3. During July/August, 1979, a comprehensive economic census of non-agricultural enterprises was undertaken in collaboration with the Central Statistical Organisation.
4. The first census of Sikkim Government employees as on 31.3.1978 was carried out.
5. Land utilisation survey was carried out during August-November, 1979.
6. The Bureau functions as the Secretariat of Chief Registrar of Births and Deaths. Even though the Registration of Births and Deaths Act, 1969 was extended to Sikkim in September, 1976, no follow up action could be taken till early 1979. It was only in 1979 that the Rules under the Act were framed and notified. The various functionaries under the Act were also appointed and notified. The various forms/registers etc. required under the Act were also got printed and supplied at various levels.

During the 6th plan, i.e. 1980-85, the Bureau proposes to undertake the following items of work.

1. Collection of agricultural statistics

There is currently no system of year to year collection of agricultural statistics. This has been a great handicap in proper planning of food supplies. The entire state is cadastrally surveyed and basic records such as khasra registers and revenue block maps are available. The cadastral survey has also been updated in the recent past. Unfortunately, however, there is no agency akin to Patwari agency as in other states with the result that no proper information from year to year is collected and no data on area under various crops or their yields are collected. The Land Revenue Department has now decided to create such an agency through-out the State. This agency will be utilised for crop enumeration and conduct of crop cutting experiments for estimating the yield of important crops. A scheme for timely reporting of crop statistics for this purpose was formulated

and submitted to the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India. The scheme has been agreed to and 50% assistance for the implementation of the scheme would also be available. The scheme is likely to cost about Rs. 10 lakhs during the five year period, of which the State Government will have to provide Rs. 5 lakhs.

2. *Collaboration in National Sample Survey Programme*

The National Sample Survey Organisation under the Department of Statistics in the Government of India under-takes large scale sample surveys from year to year on various socio-economic aspects of the life of the people. The State Statistical Bureau collaborate with the National Sample Survey Organisation and carry out similar surveys so as to increase the sample and thus have more reliable information on the subject under study.

So far Sikkim has not been participating in these surveys. The question of Sikkim's participation in these surveys has already been taken up with the National Sample Survey Organisation. It is hoped that the approval of the National Sample Survey Organisation will be received during this plan period.

The scheme is likely to cost about Rs. 10 lakhs, during the plan period. The National Sample Survey Organisation will bear 50% of the expenditure. The State's share, therefore, will be Rs. 5 lakhs only.

3. *Construction of Consumer Price Index-number Series for Sikkim*

The need for a Consumer Price Index number series for the State can hardly be over-emphasised. It is understood that the Labour Bureau in the Government of India are revising the Consumer Price Index number of industrial workers with base 1981-100. For this purpose, the Labour Bureau has selected 70 centres through-out the country. The selection of these centres is based on the industrial importance of these centres. Sikkim obviously does not find a place among them. The question of including Sikkim in the series was however taken up with the Director, Labour Bureau and it was agreed to include Sikkim for this purpose, provided the work is undertaken by the Staff at its own cost. Other small states, such as Himachal Pradesh and Goa have also undertaken this work on their cost. It is, therefore, proposed to undertake this work in Sikkim also. For this purpose, the Bureau will have to carry out a family budget survey for industrial workers and in addition retail prices of various items of common consumption will have to be collected week by week. The tabulation of data etc. is likely to take about one year. The total expenditure on the scheme would be of the order of Rs. 2 lakhs.

4. *Setting up of a State Income Unit*

There has been a great demand for data on the State domestic product and State income. Due to lack of adequate data base it has not been possible so far to make any headway in this direction. It is, however, hoped that with the collection of various types of data as envisaged earlier, it would be possible to make a start in this sphere. It is, therefore, proposed to set up a State Income unit preferably during 1981-82. The expenditure on this unit is likely to be of the order of Rs. 2.00 lakhs.

5. *Annual Survey of Industries*

Sikkim Government has been laying great stress on rapid industrialisation of the State. Quite a good number of units, big and small have come up during the last 3-4 years. It would be worthwhile to study the change in the structure of industry, the value added by manufacture etc. on a periodical basis. The Government of India, in the Department of Statistics carry out an Annual

Survey of Industries (ASI) under the collection of statistics Act, 1953. Concurrence of the Government of India for the extension of this Act to Sikkim has already been obtained. It is proposed to carry out this Survey as soon as the extension of this Act is notified. This is also a Centrally Sponsored Scheme and 50% of the expenditure will be borne by the Department of Statistics, Government of India. The expenditure on this scheme is likely to be marginal and the State share would be only about Rs 0.50 lakhs.

6. Implementation of Births & Deaths Act, 1969

As already stated, the Bureau function as the Secretariat of the Chief Registrar of Births and Deaths, appointed under the said Act. The Act, has now been implemented in the field w.e.f. 1st January, 1980. This is a Centrally Sponsored Scheme and 75% of the expenditure is borne by the Central Government. The total expenditure on the scheme during the five year period is likely to be Rs. 10 lakhs of which the State Government share would be Rs. 2.5 lakhs.

7. Re-organisation of the Bureau's set up

As already mentioned, the Bureau was set up in 1978-79. It would be completing three years of its existence by March, 1981. During this period, the basic foundation for efficient data collection, its analysis and further utilization has been laid. With the increasing responsibility of the Bureau, it is but appropriate to think of converting the Bureau into a full fledged Directorate. It is, therefore proposed to strengthen the Bureau by the creation of the post of a Director in the near future. In view of the various schemes suggested above, there would be considerable expansion in the activities of the Bureau and a sizable portion of the work will consist of data collection in the field necessitating constant touring by the staff. It would, therefore, be worthwhile to open district offices to decentralise the work as also to minimize wastage of time and money on constant movement from the state Headquarters. Each District office will be headed by a District Statistical Officer, supported by necessary field and office staff. Office accommodation and other equipment such as typewriter, calculator, furniture etc. will also have to be provided.

The decentralisation of the data collection will result in the need for proper co-ordination and control at the state level. It would, therefore, be necessary to have at least two officers of the level of Deputy Director to take charge of co-ordination and overall supervision of data collection and tabulation and report writing etc. The work in the Headquarters will also be streamlined by having separate sections to look after various schemes. In addition to the posts of Statistical Officers already available 2-3 more posts at the level of Assistant Director will have to be created. Necessary supporting staff for tabulation and other house-keeping jobs will also have to be appointed. The expansion of the Bureau will also entail additional expenditure on accommodation, furniture, typewriter, calculators and other office equipment. In a state with hilly terrain and lack of communications the need for additional vehicles for the Bureau to carry out its work efficiently need hardly be emphasized. Some expenditure on this account is therefore unavoidable. The total expenditure during the five year period on this scheme would be of the order of Rs. 25 lakhs.

Weights and Measures

The implementation of the weights and Measures Act in the State is long over due. Certain preliminary steps have already been undertaken by recruiting and training staff and in providing them with basic equipment needed to detect and analyse the deficiencies of the methods used by shopkeepers in the matter of weighing and measuring items of common use. During the plan period the section on weights and measures will be strengthened and efforts would be made to educate the people at large on the various aspects of the weights and measures law. An outlay of Rs. 10 lakhs is contemplated for the purpose for the five year period.

OUTLAY AND EXPENDITURE

General Economic Service

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved outlay	Anticipated expenditure	Proposed outlay	Capital content	Proposed outlay	Capital content
1	2	3	4	5	6	7	8
1. Planning Machinery	0.73	0.50	0.50	8.00	—	0.80	—
2. Collection of Agricultural Statistics including TRS (CSS)	—	0.80	0.60	5.00	—	1.00	—
3. Collaboration in National Sample Programme (CSS)	—	0.80	0.60	5.00	—	1.00	—
4. Construction of Consumer Price Index Nos. for Sikkim	—	—	—	2.00	—	1.00	—
5. Setting up of State Income Unit	—	—	—	2.00	—	0.50	—
6. Annual Survey of Industries	—	—	—	0.50	—	0.10	—
7. Registration of Births & Deaths Act. (CSS)	0.52	0.30	0.30	2.50	—	0.50	—
8. Reorganisation of Bureau Set-up	2.01	3.80	3.80	25.00	—	5.00	—
9. Weights & Measures	0.96	0.80	0.80	10.00	—	1.10	—
TOTAL :	4.22	7.00	6.60	60.00	—	11.00	—

Stationery and Printing

Over the recent years, the day to day functioning of the Sikkim Government Press has registered a phenomenal growth of more than 200% consequential to the increased developmental activities in the State. While satisfactorily coping with the ever increasing demands placed on it by the various Government Departments, the Press has also been entertaining the requirements of the few public sector undertakings like the Sikkim Mining Corporation, the State Trading Corporation, the State Bank of Sikkim and the like. Apart from generally being engaged in the printing of the Government news bulletin viz. the Sikkim Herald, in four different languages namely, English, Bhutia, Nepali and Lepcha, the Press has further envisaged to undertake printing of Text Book for the Education Department in the near future as an additional income generating activity.

Review of Past Performance

A brief review of the functioning of the Press has brought to light certain facts. Being the one and only one of its kind in the State, the Press has an important role to play in the day to day administration of the State Government. However, the task ahead appears to be obscured by a series of obstacles. Among these, irregularity in power supply as well as lack of adequate space has been the major drawbacks. Furthermore, lack of certain operational inputs like machineries, matrices and other related items have also been a stumbling block in the effective functioning of the Press. The past practice of borrowing certain machines from other outside sources has been fraught with difficulties and so it has become necessary to strengthen the operational structure. Also, the existing Tibetan types are badly in need of replacement as they have become obsolete and worn out. Under the apprenticeship scheme the outcome has proved to be fruitful in providing employment opportunities to the unemployed. The dimension of the task lying ahead of the Press being substantial, well designed strategies for upgrading the efficiency and performance of the Press in the years to come are envisaged.

Objectives

During the Sixth plan period, the Sikkim Government Press will endeavour towards the achievement of the following objectives ::

1. Strengthening of manpower.
2. Additional machinery and equipments.
3. Extension of existing Press building and providing accommodation for employes.
4. To widen the scope of the apprenticeship scheme.

In order to attain these objectives, the plan of action will consist of the following schemes :—

Schemes

1. *Strengthening of Administrative Set-up*

Keeping in view the expansion strategy that has to be adopted during the sixth plan period, it is proposed to augment the present staff force. Since several categories of machineries are proposed

to be installed in the near future, it will be necessary to create new posts like machine operators as and when such needs are felt. A sum of Rs. 2.00 lakhs is proposed to meet the expenses for the creation of such posts.

2. Machinery and Equipment

It is felt necessary to accelerate the operational efficiency and production capacity of the printing unit for which the process section will have to be adequately equipped with additional machineries. During the Sixth plan period, it is proposed to procure two Cylinder Printing machines, two stitching machines, one lathe machine and one grinding machine. The Press will also maintain an adequate stock of matrices and other expendable material. The prospect of installing a medium size process unit will also be attempted in the near future. A total outlay of Rs. 12.00 lakhs is earmarked to meet the above requirements.

3. Extension of Existing Press Building and Accommodation for Employees

In order to keep in tune with the expansion of work consequent on purchasing more machines, it is necessary to expand the existing operational area. The press building has very limited space at present even to accommodate existing machineries. It is hence, proposed to make necessary extension of the existing Press building so as to improve the efficiency within the operational unit. It is also envisaged to provide proper facilities to the personnel. In this regard, a six unit class III residential accommodation will be constructed for the staff within the premise of the press complex. Such arrangements will enable the Department to utilise the services of its employees round the clock particularly when an emergency arises. A Total sum of Rs. 4.50 lakhs has been earmarked for such building works.

4. The Apprenticeship Scheme

The performance under the apprenticeship scheme has proved to be promising. Practically all the apprentices under the scheme have been suitably employed either in the Press itself or in other private printing firms after successful completion of their training. With such favourable results, it is proposed to continue the scheme. The number of apprentices will be doubled and the present stipends of Rs. 150/ payable to them will be raised to Rs 200/ per month in due course. The outlay proposed for this scheme is Rs. 1.00 lakh.

OUTLAY AND EXPENDITURE

Stationery and Printing

(Rupees in lakhs)

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated Expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Strengthening of administrative set up	—	0.32	0.32	2.00	—	0.32	—
2. Machinery and equipment	—	2.50	2.50	12.00	—	2.00	—
3. Extention of existing building and accommodation	—	—	—	5.00	5.00	1.50	1.50
4. Stipends	—	0.18	0.18	1.00	—	0.18	—
TOTAL :	3.00	3.00	3.00	20.00	5.00	4.00	1.50

Public Works

Soon after Sikkim attained full Statehood in 1975 there was a tremendous expansion in the administrative services in almost all the departments and it soon became apparent that unless a large scale building programme was initiated by the Government it would be well nigh impossible to carry on even the day to day administrative work. It was in recognition of this fact that a modern Secretariat building has been constructed at Gangtok. This building is currently accommodating a large number of departments but even today a number of departments like Agriculture, Animal Husbandry, Forest, Tourism and Power do not have buildings of their own and they are functioning either in hired premises or they lie scattered in smaller Government buildings. During the plan period an attempt would be made to construct atleast one more administrative building in Gangtok which could house some of these departments.

Building requirements have risen also in the District Headquarter towns but it is only in Namchi that an administrative complex has been completed. A similar building at Gyalzing is nearing completion and so during the plan period provision has to be made for a district administrative building in the remaining District Headquarter town of Mangan.

The Police has also suffered on account of lack of building space. The Government have already sanctioned the construction of a new Police Headquarter building at Gangtok at an estimated cost of nearly Rs. 24 lakhs. This will be completed during the plan period. Besides a Headquarter building at Gangtok the police requires various buildings for armoury, guard barrack and administration at Pangthang where the Armed Police Battalions are housed. This will also therefore be a priority item in the plan. The Police also require Police Stations in various places of the State because so far the system of Police thanas as is known elsewhere has not been set up in a proper manner.

Other than the buildings required specifically for the Government departments there are a few important buildings which have to come up in the future. One of these is the MLA hostel which is nearing completion. A modern legislative assembly is needed in Gangtok since the existing one hardly serves the purpose of legislators transacting business as in the rest of the country. A design for the purpose has already been tentatively drawn up. A new High Court building, a rest house for officers and a conference hall in Gangtok are some of the other requirements which will have to be considered during the plan period.

The PWD, which is the construction agency for all departments has also expanded and recently Government have instituted a separate building division with a Chief Engineer as its head. It has been found that the PWD lacks office space not only in Gangtok but also in the various sub-division centres and so steps would be taken to make up these deficiency by the construction of sub-division offices both in the civil and mechanical side. Additional godowns will also be constructed.

Apart from buildings within the State, need has been felt to have guest house facilities along with basic office facilities in places like Delhi, Calcutta and Siliguri. In Delhi, Ministry of Works and Housing has already allotted a piece of land to the State and so an ordinary functional guest house is proposed to be constructed there. In Calcutta, a similar building would be constructed partly with the help of the State Trading Corporation of Sikkim which will house its office also in the building. In

Siliguri a multipurpose building which will be mainly a transport bus stand but which will also have other facilities is proposed.

Taking in account the expansion in building activities which is unavoidable in the context of the development of the State, strengthening of the organisation is also contemplated. Apart from top technical posts in suprintending engineer, architects and interior decorators, supporting staff on the ministerial side is also required. In particular an electrical division is proposed. A total outlay of Rs. 500 lakhs is proposed for the five year period to meet the building requirements of which broadly Rs. 400 lakhs is for the general buildings, Rs. 80 lakhs for the Police and Rs. 20 lakhs for the strengthening of the administration. A list of the proposed buildings is given in the annexure.

ANNEXURE

List of New Buildings Proposed

1. Legislative Assembly Building.
2. High Court at Gangtok.
3. District Administration Centre, Mangan
4. Conference Hall at Gangtok.
5. Rest House for officers—Gangtok.
6. Multipurpose offices building for Agriculture, Animal Husbandry etc. at Gangtok.
7. Guest House at Delhi and Calcutta.
8. SNT complex at Siliguri.
9. Multipurposc office buildings at Jorethang, Rangpo, Pakyong, Singtam etc.
10. PWD offices, godowns, stores and sub-divisional offices in various parts.
11. Police Headquarters at Gangtok.
12. Administrative Block, armoury shed and quarter guard at Pangthang.
13. Police Stations at various places.

OUTLAY AND EXPENDITURE

Public Works

Rupees in lakhs

Name of Scheme	1979-80 Actuals	1980-81		1980-85		1981-82	
		Approved Outlay	Anticipated expenditure	Proposed Outlay	Capital Content	Proposed Outlay	Capital Content
1	2	3	4	5	6	7	8
1. Construction of Secretariat at Gangtok	2.46	6.00	6.00	—	—	—	—
2. Construction of District Secretariat	13.61	6.00	6.00	30.00	30.00	10.00	10.00
3. Construction of other Buildings	1.71	17.00	17.00	470.00	470.00	36.00	36.00
4. Construction of MLA hostel	8.03	6.00	6.00	—	—	—	—
TOTAL :	25.81	35.00	35.00	500.00	500.00	46.00	46.00

Tribal Sub-Plan

One of the main objectives of the Sixth Five Year Plan being the eradication of poverty, the need for development of the weaker sections of the society, i.e. the Scheduled Castes and Tribes is of paramount importance. In Sikkim the Scheduled Tribes constitute about 30% of the total population. The main area of their concentration is the North District where nearly 90% of the population belongs to Scheduled Tribes. For the purpose of Tribal sub-plan, therefore, the North District has been considered as the target area. Further only such sections of development as can be identified as having divisible components have been considered for this purpose. These are agriculture, Animal Husbandary, Fisheries Forests, Co-operation, Industries. Education, Medical and Public Health, Housing and Nutrition. Statement TSP-1 shows the divisible investments under various schemes and the flow of funds there from to the Tribal sub-plan. Statement TSP II shows the physical targets. It may be seen that during the five year period out of Rs 2,151 lakhs considered as divisible outlay for the sectors mentioned above, Rs. 322 lakhs flow to the Tribal Sub-plan constituting 15% of the divisible outlay.

Tribal Sub-Plan-Outlay

Rupees in lakhs

Sector	1980-81		1980-85		1981-82	
	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal -sub plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7
1. Agriculture	71.18	7.27	561.68	69.70	93.65	12.44
2. Animal Husbandary	35.40	9.49	229.35	60.25	41.25	12.39
3. Fisheries	—	—	9.00	2.25	1.50	0.37
4. Forests	7.50	5.40	39.00	28.50	8.00	5.80
5. Co-operation	—	—	76.05	8.69	12.10	1.76
6. Industries	16.82	5.06	93.00	30.28	20.50	5.98
7. Education	—	—	520.00	48.00	85.00	9.20
8. Medical & Public Health	40.32	6.38	312.00	33.00	51.19	13.38
9. Housing	—	—	130.00	18.02	24.00	3.14
10. Nutrition	19.00	1.86	181.00	23.15	37.00	3.38
TOTAL	190.22	35.46	2,151.08	321.84	374.19	67.84

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-1

Tribal Sub-Plan—Outlay

Rupees in lakhs

Sector	Item	1980-81		1980-85		1981-82	
		Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7	8
1. Agriculture	1. Multiplication & Distribution of seeds-seed production scheme	3.00	0.15	30.00	3.00	5.00	0.50
	2. Agriculture Farms-Field Crops Demonstrations	2.25	0.45	16.45	3.30	3.20	0.64
	3. Plant Protection-Improvisation of Rural storage (Subsidy)	—	—	10.00	2.00	2.20	0.44
	4. Commercial crops-Demonstrations and production of vegetables and vegetable seeds	1.90	0.20	17.70	3.00	2.75	0.60
	5. Extension of Farmers Training-Training of Farmers & Farm women	0.60	0.15	6.00	1.50	0.80	0.20

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-1

Tribal Sub-Plan—Outlay

Rupees in lakhs

Sector	Item	1980-81		1980-85		1981-82	
		Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7	8
	6. Manures and Fertilizers—Fertilizers promotion Demonstrations and Rural composting subsidy	3.40	0.34	37.90	9.84	7.40	1.40
	7. Horticulture-Demonstrations & Distribution of Planting materials	12.70	1.52	75.50	9.06	14.65	1.76
	8. Agriculture Marketing and quality control-Marketing subsidy	1.33	0.26	20.33	2.00	2.35	0.40
	9. High Yielding varieties programme-seeds Distribution & Demonstration	8.00	1.20	87.80	8.00	12.80	1.50
	10. Soil and Water conservation	38.00	3.00	240.00	20.00	40.00	3.50
	11. Plantation Crops (Cardamoms)	—	—	20.00	8.00	2.50	1.50
	TOTAL	71.18	7.27	561.68	69.70	93.65	12.44

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-1

Tribal Sub-Plan—Outlay

Rupees in lakhs

Sector	Item	1980-81		1980-85		1981-82	
		Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7	8
2. Animal Husbandary	1. Intensive Cattle Development	7.80	1.00	41.60	7.00	9.00	1.30
	2. Veterinary Service and Animal Health	8.80	0.80	70.80	13.00	6.65	2.85
	3. Farmers Training and extension programme	1.00	0.15	5.10	0.75	1.15	0.18
	4. Poultry Development	4.70	1.40	39.30	5.65	8.10	1.10
	5. Sheep & Goats Development	2.20	1.20	18.00	11.85	2.05	1.72
	6. Piggery Development	5.70	1.44	30.10	6.00	8.05	1.24
	7. Dairy Development	5.20	3.50	24.45	16.00	6.25	4.00
	TOTAL	35.40	9.49	229.35	60.25	41.25	12.39
3. Fisheries	1. Loans for Fishculture	—	—	9.00	2.25	1.50	0.37
4. Forests	1. Social Forestry	5.00	3.50	28.00	20.00	4.50	3.00
	2. Pasture Development	0.50	0.40	4.00	3.00	1.00	0.80
	3. Medical Plantation	0.50	0.50	4.00	3.00	1.00	1.00
	4. Cardamom Plantation in forest areas	1.50	1.00	3.00	2.50	1.50	1.00
	TOTAL	7.50	5.40	39.00	28.50	8.00	5.80

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-1

Rupees in Lakhs

Sector	Item	1980-81		1980-85		1981-82	
		Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7	8
5. Co-operation							
	1. Credit Co-Ops	—	—	17.65	0.20	2.30	0.05
	2. Processing Co-Ops.	—	—	2.00	0.05	0.30	0.01
	3. War housing storage Co-operative	—	—	20.00	1.60	2.50	0.40
	4. Consumer Co-operative	—	—	18.00	2.00	4.00	0.40
	5. Housing Co-operative	—	—	3.40	0.34	—	—
	6. Dairy Co-operative	—	—	15.00	4.50	3.00	0.90
	TOTAL	—	—	76.05	8.69	12.10	1.76
6. Industries	Village & Small Scale Industries						
	1. District Office, Mangan	1.00	1.00	5.00	5.00	1.00	1.00
	2. Training of Rural Artisans	3.00	0.15	7.00	0.75	1.00	0.15
	3. Loans to SSI units	2.00	0.10	16.00	0.50	3.00	0.20
	4. Branch Institute of G.I.C.I. Lachung	2.82	2.82	10.00	10.00	2.50	2.50
	5. Production & Marketing of Cottage Industries products	3.12	0.28	25.00	2.28	7.00	0.32
	6. Field level organisation of cottage Industries	4.88	0.71	24.00	5.75	5.00	0.81
	7. Branch Institute of G.I.C.I. Lachen	—	—	6.00	6.00	1.00	1.00
	TOTAL	16.82	5.06	93.00	30.28	20.50	5.98

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-1

Sector	Item	1980-81		1980-85		1981-82	
		Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan	Divisible Outlay	Flow to tribal sub-plan
1	2	3	4	5	6	7	8
7. Education							
	1. Elementary Education	—	—	360.00	33.00	63.00	5.70
	2. Secondary Education	—	—	160.03	15.00	22.00	3.50
	TOTAL	—	—	520.00	48.00	85.00	9.20
8. Medical & Public Health							
	1. Setting up of PHCS and PHSCS	31.00	4.00	260.00	20.00	38.70	10.00
	2. Prevention and control of disease	7.82	2.00	45.00	11.25	10.99	3.00
	3. Training of para medical staff	1.50	0.38	7.00	1.75	1.50	0.38
	TOTAL	40.32	6.38	312.00	33.00	51.19	13.38
9. Housing							
	Loans to Govt. Servants, Social and Co-op. Housing	—	—	130.00	18.02	24.00	3.14
10. Nutrition							
	1. Mid-day meals Programme	8.00	0.66	80.00	11.80	15.00	1.12
	2. Special Nutrition programme	11.00	1.20	101.00	11.35	22.00	2.26
	TOTAL	19.00	1.86	181.00	23.15	37.00	3.38

Tribal Sub-Plan
TARGETS AND ACHIVEMENTS

Sector	Item	Unit	1980-81		1980-85	1981-82
			Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7
I. Agriculture						
1.	Multiplication & Distribution of seeds-seed production scheme.	Hactares	30	30	600	100
2.	Agriculture Farms-Field Crops Demonstrations (each of size 0,50 acre)	No.	450	450	3,300	640
3.	Plant protection-Improvisation of Rural Storage (Subsidy)	No. of families	—	—	1,000	220
4.	Commercial crops Demonstrations and production of vegetable and vegetable seeds	Hactares	40	45	600	120
5.	Extension of Farmers Training- Training of Farmers and Farm women	Nos.	120	150	1,500	200
6.	Manures & fertilizers-promotion Demonstrations and Rural composting subsidy	Nos.	100	100	8,000	1,080
7.	Horticulture-Demonstrations & Distribution of planting materials	Hactares	120	125	725	140
8.	Agriculture-Marketing and quality control-marketing subsidy	Tonnes	130	140	1,000	200
9.	High Yielding varieties programme seeds Distribution & Demonstrations-	Hactares	600	650	4,000	750
10.	Soil and Water Conservation	Hactares	147	147	1,133	170
11.	Plantation crops (Cardamom)	Hactares	—	—	640	120

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-II

Tibal Sub-Plan
Targets and Achievements

Sector	Item	Unit	1980-81		1980-85	1980-82
			Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7
II. Animal Husbandry						
1.	Opening of new Vety. dispensaries	No.	2	2	7	2
2.	Upgradation of dispensaries into hospitals	„	—	—	—	—
3.	Temporary Check posts against spread of diseases	„	2	2	2	2
4.	Vaccination	„	5,000	5,000	25,000	5,000
5.	Cattle and Calf rallies	„	3	3	15	3
6.	Stockman Training	„	5	5	25	5
7.	Training of Farmers	„	12	12	60	12
8.	Allotment of breeding bulls	„	5	5	20	5
9.	Model Dairy sheds	„	8	8	40	8
10.	Heifer Feeding Programme	„	75	75	375	75
11.	Purchase of Crossbred bull calves from breeders	„	5	5	25	5
12.	Establishment of poultry Private Units	„	6	6	19	3
13.	Establishment of poultry range units	„	30	30	120	30
14.	Distribution of Cockrels	„	50	50	150	50
15.	Distribution of Boars	„	20	20	100	20
16.	Establishment of small Piggery Units	„	40	40	200	40
17.	Establishment of Piggery Farm	„	—	—	1	1

DRAFT SIXTH FIVE YEAR PLAN—1980—85

Tribal Sub-Plan
TARGETS AND ACHIVEMENTS

Sector	Item	Unit	1980-81		1980-85	1981-82
			Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7
	18. Establishment of Cheese Factory	No	—	—	1	1
	19. Establishment of Milk Booths	„	1	1	5	1
	20. Distribution of Mutton Rams	„	100	100	500	100
	21. Distribution of Wool Rams	„	20	20	100	40
	22. Distribution of Pashmina Bucks	„	20	20	100	40
III. Fisheries						
	1. Loans for fishculture	No. of ponds	—	—	75	12
IV. Forests						
	1. Social Forestry					
	i) Maintenance and new	ha.	11	14	14	14
	ii) (a) Plantation Fodder etc. (new)	„	80	80	900	200
	ii) (b) Plantation (maintenance)	„	80	80	2,000	300
	iii) Fencing	„	2	2	78	4
	2. Pasture Development	„	1	1	20	15
	3. Cardamom Plantation in Forest area (maintenances)	„	320	320	1,600	320
V Co-operation						
	1. Credit Co-ops.	No. of members	—	—	1,200	120
	2. Processing Co ops.	Units	—	—	1	—
	3. Ware housing & Storage	Tonnes	—	—	200	50
	4. Consumer Co-ops.	No.	—	—	3	1
	5. Housing Co-ops.	No.	—	—	1	—
	6. Dairy Co-ops.	No.	—	—	15	2

DRAFT SIXTH FIVE YEAR PLAN—1980-85

STATEMENT—TSP-II

Tribal Sub-Plan
Targets and Achievements

Ruppes in lakhs

Sector	Item	Unit	1980-81		1980-85	1981-82
			Target	Anticipated Achievement	Targets	Targets
1	2	3	4	5	6	7
VI. Industries						
	1. Training of Rural Artisans	No. of trainees	40	30	200	50
	2. Loans to S.S.I. Units	No. of units Associated	2	2	5	1
	3. Training in Carpet Weaving Cloth weaveing etc,	No. of trainees	50	7	155	120
	4. Field level organisation of Cottage Industries	No. of weavers to be helped	35	35	285	40
VII. Education	1. Elementary Education	No. of students	—	—	4,500	3,500
	2. Secondary Education	-do-	—	—	300	150
VIII. Medical and Public Health	1. Setting up of PHCS & PHSCS	No.	2	—	10	2
	2. Prevention and Control of disease					
	3. Training of para medical staff	No.	9	9	43	9
IX. Housing	1. Loans to Govt. Servants	No.	—	—	15	3
	2. Social Housing	No.	—	—	135	24
	3. Co-operative Housing	No.	—	—	3	—
X. Nutrition	1. Mid-day meal	No. of beneficiary	994	994	19,630	1,865
	2. Supp. Nutrition programme	„	1,398	1,398	12,607	2,515

Special Component Plan for the Development of Scheduled Castes

Scheduled Castes constitute about 5% of the total population of Sikkim. Except for the North District where their number is negligible, they are more or less evenly distributed in the other three districts. As such the area approach as in the case of the scheduled tribes is not feasible for this section of the society. The scheduled castes component plan has therefore been formulated with an eye on providing adequate share to them of the beneficiary oriented scheme under sectors where such identification could be made. It may be seen from statement SCP-1 that the scheduled castes component constitutes 1.86% of the total outlay and 8.11% of the divisible outlay.

DRAFT SIXTH FIVE YEAR PLAN—1980-85

Special Component Plan for Development of Scheduled Castes

Sectoral-Outlay

Rupees in lakhs

Sector	1980-81				1980-85			1981-82		
	S.C.P. Out lay	Percentage of Outlay		S C.P. Anticipated expenditure	S.C.P. Outlay	Percentage of Outlay		S.C.P. Outlay	Percentage of outlay	
		Total	Divisible			Total	Divisible		Total	Divisible
1	2	3	4	5	6	7	8	9	10	11
1. Agriculture	3.54	2.38	6.71	3.54	36.89	2.52	9.55	6.54	2.66	10.16
2. Animal Husbandry	1.28	2.18	7.71	1.28	7.50	2.78	7.92	1.60	3.55	6.70
3. Fisheries	—	—	—	—	0.45	0.43	5.00	0.10	0.33	5.00
4. Forests	1.30	2.00	65.00	1.30	6.50	1.00	81.00	1.30	1.50	65.00
5. Co-operation	—	—	—	—	0.14	0.67	6.14	0.03	1.20	2.40
6. Industries	1.00	4.01	25.00	1.00	4.25	3.22	25.00	0.62	2.75	25.00
7. Education	—	—	—	—	7.44	0.96	13.15	1.86	1.40	18.80
8. Medical & Health	—	—	—	—	0.28	0.06	4.00	0.06	0.07	4.00
9. Housing	—	—	—	—	14.50	3.60	11.20	2.50	3.60	10.40
10. Nutrition	0.96	2.40	2.50	0.96	9.04	2.26	2.50	1.76	2.20	2.40
TOTAL :	8.08	2.39	7.10	8.08	86.99	1.86	8.11	16.37	2.04	8.00

Special Component Plan for Development of Scheduled Castes-Outlay

Rupees in lakhs

Sector	Item	1980-81				1980-85				1981-82		
		SCP outlay	Percentage of outlay		S.C.P. anticip- ated expendi- ture	S.C.P. outlay	Percentage of outlay		S.C.P. outlay	Percentage of outlay		
			Total	Divisible			Total	Divisible		Total	Divisible	
1	2	3	4	5	6	7	8	9	10	11	12	
1 Agri- culture	1 Multiplication & distri- bution of seeds—Seeds production Schemes	0.10	0.90	3.30	0.10	1.50	1.50	5.00	0.25	2.36	5.00	
	2 Agriculture Farms Field Crops demonstration	0.23	0.72	10.20	0.20	1.64	1.00	9.96	0.32	0.96	10.00	
	3 Plant protection impro- visation of Rural Storage (Subsidy)	—	—	—	—	1.00	1.00	10.00	0.22	1.03	10.00	
	4 Commercial Crops Demo- nstrations & Production of Vegetable Seeds	0.15	2.27	7.89	0.18	2.00	2.50	11.30	0.40	2.75	14.55	
	5 Extention Farmers Training—Training of Far- mers & Farm women	0.07	1.00	11.70	—	0.75	1.50	12.50	0.10	0.90	12.50	
	6 Manures & Fertilizers— Fertilizers Promotion Demonstration & Rural Composting Subsidy	0.17	0.61	5.00	0.17	8.00	5.00	21.00	12.20	3.93	16.22	
	7 Horticulture—Demonstra- tions & Distribution of Planting Materials	0.42	1.83	3.31	0.42	5.00	3.23	6.62	0.60	2.31	4.10	
	8 Agriculture Marketing & Quality Control— Marketing Subsidy	—	—	—	—	1.00	1.54	4.92	0.20	1.62	8.51	

DRAFT SIXTH FIVE YEAR PLAN—1980-85

Special Component Plan for Development of Scheduled Castes-Outlay

Rupees in lakhs

Sector	Item	1980-81				1980-85			1981-82		
		SCP outlay	Percentage of outlay		SCP anticipated expenditure	SCP outlay	Percentage of outlay		SCP outlay	Percentage of outlay	
			Total	Divisible			Total	Divisible		Total	Divisible
1	2	3	4	5	6	7	8	9	10	11	12
	9. High Yielding Varieties Programmes Seeds Distrition & Demons-tration	0.60	7.50	7.50	0.60	4.00	4.17	4.56	0.75	5.61	5.86
	10. Soil & Water Conservation	1.80	4.23	4.74	1.80	10.00	3.70	4.17	2.00	4.35	5.00
	11. Plantation Crops (Cardamom)	—	—	—	—	2.00	2.60	10.00	0.50	3.53	20.00
	Total	3.54	2.38	6.71	3.54	36.89	2.52	9.55	6.54	2.66	10.16
2. Animal Husbandary	1. Intensive Cattle Development	0.40	2.25	5.13	0.40	2.40	2.00	5.77	0.45	2.50	5.00
	2. Farmers Training & Extention Programmes	0.08	3.20	8.00	0.08	0.40	2.70	7.90	0.08	2.67	7.00
	3. Poultry Development	0.15	2.15	5.00	0.15	1.20	2.66	4.80	0.27	3.00	3.33
	4. Pggery Development	0.65	7.47	13.54	0.65	3.50	3.88	15.22	0.80	5.33	14.28
	Total	1.28	2.18	7.71	1.28	7.50	2.78	7.92	1.60	3.55	6.70
3. Fisheries	1. Loan for fish culture	—	—	—	—	0.45	0.43	5.00	0.10	0.33	5.00
4. Forests	1. Sericulture	1.30	2.00	65.00	1.30	6.50	1.00	81.0	1.30	1.50	65.0
5. Co-op-eration	1. Education, Training Publicity & Information	—	—	—	—	0.03	0.60	1.96	0.01	2.00	4.00
	2. Credit Co-operative	—	—	—	—	0.11	0.70	14.66	0.02	1.00	2.00
	Total	—	—	—	—	0.14	0.67	6.14	0.03	1.20	2.40

1	2	3	4	5	6	7	8	9	10	11	12
6. Industries	1. Training to Rural Artisans	0.75	6.35	25.00	0.75	1.75	2.65	25.00	0.25	2.22	25.00
	2. Loans to SSI Unit	0.25	2.11	25.00	0.25	2.50	3.79	25.00	0.37	3.29	25.00
Total		1.00	4.01	25.00	1.00	4.25	3.22	25.00	0.62	2.75	25.00
7. Education	1. Elementary Education	—	—	—	—	5.12	1.19	22.00	1.28	1.80	35.00
	2. Secondary Education	—	—	—	—	1.00	0.45	9.00	0.25	1.00	15.60
	3. Higher Education	—	—	—	—	0.12	0.11	2.00	0.03	0.10	2.30
	4. Adult Education	—	—	—	—	1.20	6.00	7.40	0.30	2.50	9.20
Total		—	—	—	—	7.44	0.96	13.15	1.86	1.40	18.80
8. Medical & Public Health	1. Training	—	—	—	—	0.28	0.06	4.00	0.06	0.07	4.00
9. Housing	1. Loans to Govt. servants, social & Co-operative Housing	—	—	—	—	14.50	3.60	11.20	2.50	3.60	10.40
10. Nutrition	1. Mid—day Meal Programme	0.47	2.30	2.50	0.47	4.60	2.30	2.50	0.87	2.20	2.40
	2. Supplementary Nutrition Programme	0.49	2.50	2.60	0.49	4.44	2.20	2.50	0.89	2.20	2.40
Total		0.96	2.40	2.50	0.96	9.04	2.26	2.50	1.76	2.20	2.40

DRAFT SIXTH FIVE YEAR PLAN—1980—85

STATEMENT—SCP-II

Special component plan for development of Scheduled Castes
Targets and Achievements

Sector	Item	Unit	1980-81		1980-85	1981-82
			Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7
1. Agriculture	1. Multiplication & Distribution of seeds & seed production scheme	Hactares	20	20	300	50
	2. Agriculture Farms, Field crops Demonstrations	Nos	230	200	1,640	320
	3. Plant Protection, Improvisation of Rural storage (subsidy)	No. of families	—	—	500	110
	4. Commercial Crops Demonstrations & production of vegetables & vegetable seeds	Hactares	30	36	400	80
	5. Extension & Farmers training-training of Farmers & Farm women	Nos.	70	70	750	100
	6. Manures & Fertilizers-Fertilizers promotion Demonstration & Rural Composting	Nos.	50	50	7,220	1,040
	7. Horticulture Demonstrations & distribution of planting materials.	Nos. of families	84	84	1,000	120
	8. Agriculture marketing & Quality control marketing subsidy	Tonnes	—	—	500	100
	9. High yielding varieties programme—seeds distribution & demonstrations	Hactares	300	300	2,000	375
	10. Soil & water conservation	„	113	115	600	140
	11. Plantation Crops	„	—	—	160	40
2. Animal Husbandry	1. Stockmen Trg.	No.	2	2	10	2
	2. Trg. of farmer	„	5	5	25	5
	3. Allotment of breeding bulls	„	2	2	10	2
	4. Model Dairy Sheds	„	2	2	10	2
	5. Heifer Feeding Programme	„	40	40	200	40

1	2	3	4	5	6	7
	6. Purchase of cross-bred	No.	2	2	10	2
	7. Establishment of small Piggery units	,,	10	10	50	12
	8. Distribution of loans	,,	20	20	100	20
	9. Establishment of private poultry units	,,	2	2	10	2
	10. Distribution of Cockerels	,,	20	20	100	20
	11. Establishment of Poultry Range units	,,	20	20	100	20
3. Fisheries	1. Loan for fish culture	No. of fish ponds	—	—	15	3
4. Forest	1. Sericulture Nursery	ha	2	2	10	2
	2. Distribution of saplings	Nos.	1 lakh	1 lakh	1 lakhs	1 lakh
5. Co-operation	1. Education, Training Publicity & Information	No. of trainees	—	—	3	1
	2. Credit Co-operatives	No. of members	—	—	100	200
6. Industries	1. Training to Rural Artisans	No. of trainees	10	10	50	10
	2. Loans to SSI units	No. of units assisted.	2	2	10	3
7. Education	1. Elementary Education	No. of students	—	—	18680	3505
	2. Secondary Education	do	—	—	910	200
	3. Higher Education	do	—	—	110	10
	4. Adult Education	do	—	—	2000	1500
8. Medical & Public Health	1. Training		1	1	7	1



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DRAFT SIXTH FIVE YEAR PLAN—1980-85
Special Component Plan for Development of Scheduled Castes
Targets and Achievements

Sector	Item	Unit	1980-81		1980-85	1981-82
			Target	Anticipated Achievement	Target	Target
1	2	3	4	5	6	7
9. Housing	1. Loans to Govt. servants	No.	—	—	12	2
	2. Social Housing	No.	—	—	120	20
	3. Co-operative Housing	No.	—	—	2	—
10. Nutrition	1. Mid-day Meal Programme	No. of beneficiaries	776	776	7,670	7,454
	2. Supplementary Nutrition Programme.	-do-	547	547	4,937	984

Sub. National Systems Unit,
 National Institute of Development Planning,
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