

MINOR IRRIGATION  
North District.

<u>Sl. No.</u>	<u>Name of Schemes.</u>	<u>Panchayat Unit.</u>	<u>Amount Rs.</u>
1.	Syen Wane	Syen Tenek	6,449

MINOR IRRIGATION  
West District.

<u>Sl. No.</u>	<u>Name of Schemes.</u>	<u>Panchayat Unit</u>	<u>Amount Rs.</u>
1.	Minor Irrigation at Khaniserbung	Khaniserbung	59,300
2.	Minor Irrigation at Mangma	Mangma	31,630
3.	Minor Irrigation at Tikjer	Tikjer	36,150
4.	Minor Irrigation at Mangshari	Mangshari	26,000
5.	Minor Irrigation at Pecherek	Pecherek, Neepatal	25,000
6.	Minor Irrigation at Bermiok- Kartam	Bermiok-Kartam	25,000
7.	Minor Irrigation at Tikpur- -Siktam.	Tikpur Siktam	30,170
8.	Minor Irrigation at Karthek	Tadong, Rinchenpong	25,500
9.	Minor Irrigation at Neepatal	Pecherek, Neepatal.	12,390

APPENDIXA Short Note on Sikkim's Forest

Forestry : Before giving an account on the characteristics of the state in relation to its economic resources under forestry, a brief account of the vegetation of the state may be described as follows :

The entire Himalayan region is endowed with rich natural flora and fauna and Sikkim, being a state within the eastern Himalayan belt, is a natural paradise for nature lovers, conservationists, botanists, zoologists and environmentalists. In describing the aspects of vegetation the state may be divided into three zones roughly. These are (i) Tropical zone (stretching from the lowest level to below 1700 metres), (ii) Temperate zone (thence to below 4300 metres) and (iii) Alpine zone (above 4300 metres to the perpetual snow line of 5000 metres). Roughly upto 2000 metres, owing to increase of population, almost every suitable part has been cleared for cultivation, and trees remain only ~~xxx~~ in the rocky ravines and the steepest slopes where no crop can be grown.

In the tropical zone Sal forests are in abundance. Different species of oaks, dipping forest of cherry, laurels, chestnuts, and a prodigious variety of ferns are found in the upper tropical zone.

A subtropical vegetation e.g. rattans, treeferns, plantains, screwpines, and other tropical plants are available in the valley region.

The temperate zone coincides generally with the oak forest region, where the undergrowth becomes perceptibly less rank and dense. Sub Alpine zone is practically the region of the rhododendrons and pine forests.

In the temperate zone epiphytical orchids, rhododendrons and mass of shrubby vegetation are also found; bamboo and tall grasses form the underwood in this zone. Rhododendrons are in their glory in April and May. Sikkim has the largest varieties of orchids in the world as many as 600.

Alpine flora of Western Himalaya and Siberian flora are found in the Alpine zone. The limit of trees is in 13,000 to 14,000 ft., but in exposed situation it is much lower.

Sikkim plants amount to about 3000 species of which 150 are ferns. The orchid family is also extensively represented in Sikkim. The natural order scitamineae is largely represented by both wild and cultivated species. It includes gingers, turmeric, plantains, cardamoms, *Hedychium*

Sostus, Alpinia, etc. Among the numerous notable herbaceous plants are several species of Meconopsis, fritillaries, deadly aconites, gentians, violets, geraniums, potentillas, saxifrages, balsams, many species of pedicularis, crowfurdis, Didymocarpus, Chirita, Smilacina, jatamansi, and rhubarbs (Rheumobile), etc.

There are hundreds of varieties of flowers in Sikkim other than orchids. Among them are Primulas, Meconopsis (Blue Poppy) Iris, to mention only a few which adorn the mountain slopes during summer months.

The State is richly endowed with forest wealth and out of total area, 270,000 hectares are covered with forest which constitute about 37 per cent of the total area of the state. This includes private forest, Gerucharan forest and Khasmahal forest areas, constituting about 25% of the total forest area. That is to say about 75% of the total forest area is under reserved forests. It has some of the oldest trees in India.

The forests do not appear to contribute much to the revenue of the state. This is mainly due to the fact that total expenditure for conservation and development of forest is much more than the total revenue received out of forest resources. As in many other parts of country in Sikkim also, the ecological

balance has been disturbed through indiscriminate felling and poaching of wild life. 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. To achieve this the plan objectives have been drafted as (a) Maintenance of the ecological balance by protection and environmental conservation on the flora and fauna (b) Enhanced forestry production programme (c) Scientific exploitation to meet the rural and urban needs which will include development of communication facilities.

The Kanchenjunga National Park, the highest in the world, embraces an area of 850 sq.kms. It is the home of some of the world's rarest and magnificent species of wild life. Musk deer, Blue Sheeps, Red Panda, the Shaepi goat, Black bear, Snow leopard and others. There are a vast variety of flamboyant pheasants and birds in the area of the park. It has the largest and richest variety of woods.

Preserving forests is by no means an easy task. The interests of those for whom the forest products are the main means of livelihood would have to be protected by way of employment and alternative earning opportunities. Otherwise, these very poor people living on the margin of

the society on a starvation diet would perish, or, what is more likely, corruption would be rampant and the policy of protecting the forests would be defeated by way of illegal felling of trees. Similarly, the interests of those relying on forest products as fuel would have to be taken care of by supplying them with alternative reasonably priced fuels; otherwise, the pressure of demand for fuel would make the regulations ineffective. It is equally imperative to have a tight and honest forest administration which is free from corruption and is prepared to stand up to the crime syndicates operating in the forests. No less important is the need for a sound statistical base on forests, so that the policy makers are aware of what is going on, and are able to implement a system of forest management which augments the total 'stock' of forests, while at the same time producing enough of the annual 'flow' to take care of the needs of the country's economy for forest products. Selection of trees is an equally important matter, and in this again, their impact on other species, animal husbandry, and agriculture would have to be examined, in addition to the revenue-generating capacity of these trees. While a commercial approach cannot be avoided, this alone should not be the criterion, regardless of its impact on both the physical and the social environment.

The economics of forestry hinges not only how good the forests are, but how effectively and how intelligently

they are utilized. On this point the State's record so far has been decidedly poor. Lack of roads, both within forests and from forests to processing and consuming centres, has been a major handicap. Other factors responsible include lack of research and market exploration, of incentives to develop logging, lumbering and forest-based industries apart from paper, of personnel trained in commercial management of forests and modern equipment. Even surveys of the available forests wealth are lacking.

Another noticeable problem of the forests in the territory is related with the availability of forests of mixed species. Therefore, it becomes difficult to start an industry based on one particular type of raw material near the source of its availability and feed the industry regularly with a proper supply of forest resources for a longer period. It highlights the need of connecting the place of forest-based industry with some other alternative feeder zone to ensure the regular supply of raw material.

The forests are natural and dense in character which cause difficulty in exploitation of forests in an economic manner. It is also responsible for huge losses of fallen unused trunks of less valuable and sometimes valuable species too. Use of machines in cutting the logs becomes often a difficult task in such types of forests. It points towards

an immediate task of growing new forests in a planned way with high yield and quick-growing species.

Further it was observed that to cut a valuable tree, say for example, a hollock tree, people did not care for other plants and even newly grown hollock plants. There is every possibility of new germination of some hollock tree in nearby areas of the matured ones. A vast area of the jungle is cleared mercilessly without thinking about the use of fallen trunks of other trees to exploit one hollock tree. The jungle is cleared to make a passage to pull the logs with the help of animal power particularly elephants. For the other fallen trees no care is taken and they are often allowed to decay and be converted into a waste.

It is important to note here that more than 50 per cent of the valuable forest resources is wasted in the process of converting timber into finally used items. It is because of cutting of stumps much above the butt-ress, difficulty in transportation of logs in the interior dense forests, high cost of transportation and low prices in the market.