

# DEVELOPMENT OF HIMALAYAN FORESTS and TREE CULTURE

( By Chandi Prasad Bhatt )

The attention of fellow countrymen is being regularly attracted towards flood damage caused by destruction of Himalayan forests as that yearly increasing desert could be effectively checked. Stating the importance of protection of forests, the prime minister Mrs. Indira Gandhi gave it a shape of national programme and many a times laid emphasis on its importance. In this context in the session of Congress held at Gauhati (Jawahar Nagar) on 22nd November the prime minister said that destruction of forests is responsible for flood and drought problem to a great extent and if the forests are used for agriculture rather than merely cutting them then it may prove more beneficial.

Since last year many regulations have been enforced to check the destruction of the forests and plantation scheme has been prepared in each state for increase in forest wealth. The way in which an atmosphere is being created throughout the country for protection and plantation of trees and the way the movement is going on, if we get even a quarter of the success it will definitely be a great ~~achievement~~ ? to the coming generation. Till now in our country the problem of protection of forests had got negligible encouragement at personal and social level and neither any serious thought was given from the economic and environmental protection point of view. Three years ago "Chipko movement" which was started for the benefit of the forests and forest dwellers of Uttarakhand, drew the attention of the whole country towards the protection of forests but till the local inhabitants do not strive for the permanent benefits

of forests and plantation will remain a mere formality. The tree development and protection of forests will be only when this responsibility is given to the public in addition to the Government. The public will be trained for this and she will own it.

Inhabitants of Chamoli districts headquarter ~~ee~~ Gopeshwar have been thinking about the permanent protection of the forests. As a result of this thinking a leading scheme, tree culture (plantation of fodder, fruit trees and growing of grass) on barren slopes which are under the management of Forest panchayat, has been prepared. In this context at a meeting of executive vice chairmen and members of land management committee U.P. forest and district officials held with local villagers, the decision was taken that:-

1. The ownership over the land, being given to local villagers for the culture, will remain of forests panchayat as before. Persons, to whom the lease will be given for the culture will work under the rules of forest panchayat and the lease rent realised from them will be deposited in the account of forest panchayat.

2. Since there is likelihood of greater benefit from tree culture after a long period therefore, the period of lease should be 99 years so that the lease holder could feel that he only will get the benefit from the tree planted by him.

3. After the death of leaseholder, the lease deed should automatically be deemed to have been transferred to his legal heir.

4. Land should be distributed to all the families of the village. Special attention be given to weak and landless section.

5. Only tree culture will be practised on the leased land. Agriculture of any kind will not be permitted.

6. The ownership of trees and minor forest produce grown on the land will be that of the leaseholder.

7. It will be obligatory to obtain the permission of the forest office for felling of trees.

8. The lease holder will pay the annual lease rent to the forests panchayat at the rates enforced.

9. The arrangement of plants will be done by the forest department.

10. The arrangement for the sale of trees and the grant will be done by the leaseholder himself.

11. Arrangements for improvement in the breed of milk cattle will be done by animal husbandry and cooperative departments.

12. Those broad leaved trees should be planted which suit the climatic condition of the region. The trees who have the capacity of absorbing moisture from atmosphere in addition to soil binding power, are as follows.

Ban oak ( *Quercus incana* ) :- This is a very important tree which is used for fodder and agricultural implements. Its leaves are used as green manure and are mixed with dung. Leaves are used for rearing the tusser silk worm. Branches and stem are important for firewood and charcoal. This plant has got great capacity of absorbing water from atmosphere.

Quiral (*Banhimia* spp. :- The leaves are very good for animal fodder. Buds are used as vegetable and pickle.

Timber is used for agricultural implements and other construction works. The bark is used in tanning industry. Tree is ornamental due to its reddish white flowers.

Bhimali:- (*Grewia* spp.):- This is most important fodder tree. Its leaves and soft branches are useful as fodder. The debarked branches are burned for lighting. Bark of tiny branches is used for rope and paper making. The wood is used for making axe-handles, saw, and helm-shefts.

Shahuti:- (*Mulberry*) The leaves of this tree are extensively used for fodder. Fruit is edible. Leaves are better used for rearing silk-worms. Wood is hard and strong which is used in sports-good industry.

Burans (*Rhododendron*):- The gregarious flowering of this species on hill slopes makes the entire surrounding extremely attractive. The light reddish pink colour of the flowers attracts multicoloured butterfly flies and bees. The flower is used for making jelly and palcoras. As a medicine it is used in intestinal disorders. The wood is locally used for pot making and agricultural implements.

Aoula (*Emblica officinalis*):- Fruit, root and bark and wood are used. Fruit is edible and is extensively used in curing various diseases. eg. jaundice, abdominal disorders, cough and cold anemia, eye diseases, asthma etc. It is used for making pickles and chavan prash.

Besides these, seeds and root stock of rich grass should also be made available.

Thus the individual ownership over such barren forest lands in hills will, in due course of time reduce the extensive soil erosion and land slides which will further reduce the losses due to floods taking place in the plains

every year. Prime Minister Smt. Indira Ghandi in one of the recent speeches delivered at Jawarhamagar had emphasized the use of forests for agricultural purposes rather than for exploitation. Thinking on this new theory has great similarity with what the forest dwellers have in their minds. This, therefore is a very good indication for the betterment of the forests that the mind of the forest dwellers has been rightly caught by the highest leadership. Such a thinking besides, affording suitable protection to the forests, will provide employment in the forest.

The total forest area in the country is only 22.7% and the national forest policy aim at increasing it to 33.3% ; (60% in the Himalayan region and 20% in the plains) The protection of forests in the Himalayan region affects not only the interest of the people of the region but also the nature of numerous rivers viz. Yamuna, Ganga, Runganga, Sindhu, Brahmaputa etc. which originate from Himalays. The annual floods in the rivers originating from the Himalays directly affect the areas they pass through and also the areas far off in the plains lower down.

The cutting of forests started initially for agriculture and horticulture. With the increase in population, urbanisation, industrilisation and requirement of land for rehabilitation of colonies etc. vast areas were cleared of forests. Thus on one hand the forest area went on shrinking and on the other hand the new commercial exploitation policy attributed to the distruction of the forests. With the increase in the population and uneven adistribution of land, the people dwelling near forests had thier greedy eyes on the forests, land. Agriculture and cattle being interdependent, the farmer in the

Himalayan region keep cattle too. During summers and winters the cattle are fed mainly on the straw of wheat, paddy etc. For getting measure for agricultural crops the farmer has keep more cattle whether there are milk yielding or not.

In a village in the hills a family of eleven members own land upto two hectares and keep an an average two bullocks, ~~are~~ one buffalo and eight cows out of which about 2-3 cows are milking and the average milk yield per cows is about half a kilo. Similarly forty five families owning upto one hectare, have cattle numbering upto eight and sixty families with an acre of land or landless have cattle not exceeding five which generally include two bullocks and a cow giving milk every alternate year. Thus in the hills cattle are kept more for manure rather than for milk. The benefit of schemes for improving the quality (pedigree) of milking cattle has gone mainly to the agriculturists as they alone have the arrangements for their proper upkeep. Similarly the benefits of extension of agriculture and horticulture in some parts of the Himalayan region have also gone to the above class of people.

The benefits of forests and pastures near the villages went to the above category although sheep and goats are reared by a few landless in the high snow areas and milking buffaloes by a few hundred gujar families who lead a nomadic life between the tarsi and the hill tops. The non availability of permanent sources of livelihood to the landless, has also become a hurdle in the protection of forests in the hills.

The forests standing over the hills since time immemorial have been ~~wholly~~ helplessly distructed by the contractor

for the construction of roads and fruit -belts etc. The reproduction of the forests is almost absent because of uncontrolled lopping and grazing by the moving graziers and the people connected which include the forest dwellers, have also gone against the protection of forests.

During the last fifteen years I have seen the activities in the forests and the destruction caused by them. During our visit to the areas of the tributaries of Alaknanda and the famous Gaumatal immediately after the devastating floods of 1970, we were told that thousand of trees were annually felled from the area and the forests on both sides of the road were ruthlessly felled. The land which had become devoid of any forest cover, was not capable of absorbing the water of the heavy rains at Kunwari pass on 20.7.70 and the tributaries carrying debris, tree stumps, soil etc became so devastating that the Gaumatal extending over an area of three miles got silted up within an hour. Not only this the terrific current of the Dhauliganga has made soil erosion a regular feature right from Bani to Vishumiprayag which is affecting the historic town of Joshimath also. The debris and silt carried by the tributaries i.e. Garuganga, Patalganaga, Karmasha destroyed six motor road bridges, thirteen bridle path bridges, 30 buses and hundred of houses in the Belakuchi floods in which scores of human lives and hundred of cattle were lost. Five hundred acres of agricultural land was washed away and the Industrial Training Institute at Srinagar (Garhwal) was silted up. Loss of crores of rupees occurred because of the silting up of 9 Km. of Ganges canal from Hardwar 300 Km. away from the flood affected area. The canal remained closed for six months. The agricultural land and houses of 400 villages scattered over an area of 450 Km.

length are still affected by the Alakananda and its tributaries numbering 148. The experts estimate that 65 lacs of rupees would be needed for treating these rivers and nalas. The area become so very constable after 1970 floods that loss of life and property has become a regular feature. The losses caused by the Alakanda and its tributaries after 1970 as per official estimate is as under.

Year	Human lies lost	Cattle lost	Estimated loss to crop & building
1971	10	440	4-77 lacs
1972	7	22	1-23 "
1973	3	169	8-68 "
1974	9	25	0-77 "
1975	1	85	7-01 "
1976	1	22	5-00 "

In addition to this, It is difficult to assess the indirect losses caused by the floods,

The areas above Chamba on way to Bharkar have also similarly been marked and soil erosion is very common. The excellent forests of Bihal fall below Rohtang pass have been destroyed and soil erosion is a regular feature at places between Udhampur, Bolaut and Ramban. In the hill slopes between Siliguri and Darjeeling, soil erosion is apparent. The forests between ~~Karponag~~ Karponag and Chhangs lake have also been destroyed and this resulted in soil erosion which affected the roads also. Same is the story of Thal and nearby areas. Vast areas extending over lacs of hectares is lying barren because of shifting cultivation (Jhunkheti). As a result, soil erosion

has become a normal feature in these states and extent of floods is increasing in the plains every year. In the high altitude pastures and the barren land in the forests, the vegetation is not reproducing itself. Besides, the transportation of timber in the high altitude areas is being done by rolling which affects the regeneration adversely. The excessive forest in the high hills adversely affects the regeneration. In hills, forests reproduce naturally though the growth is extremely slow. I have personally seen in the catchment area of Alaknanda viz. at Kunwari pass above 10000' where heavy landslides occurred seven years back, that there were no signs of vegetation reproducing itself as yet. The reproduction is very meagre or absent where openings have been created by thinning of trees in which the forest hits the ground direct.

In the Working Plans of the hills, the felling technique adopted is complicated and the use of land for transportation is very harmful which accelerates soil erosion and landslides. The felling of trees in the hills should have been done according to the terrain meaning thereby that raising of trees should have been preferred to felling at places where soil erosion is active and depth of soil is between 10-15 cm.

Therefore, the problem of desirable forest areas in the hills should be studied. The policy for utilisation of forest produce should be decided with reference to geographical, geological and economic condition of the area and the needs of the local people in particular.

The forest areas in different states of the Himalayan region are S&P 38.51%, J&K-9.47%, U.P. hills 60% Arunachal 61.67%, Manipur 20.92%, Tripura 60.11%, Meghalaya 30% Mizoram 20%, Nagaland 37.05% and Sikkim 33%. But the net

actual area under forests in the above would be far meagre. So far the forests are managed as Reserved, Civil and Boyan and also personal in some states. The majority of the forest land bearing reserved forests is barren and devoid of any tree growth which is being trodden by animals and man since years, where gullies etc have since been created. Such forest lands are situated above agricultural lands also. If efforts are not made to maintain the soil fertility there, the lands would soon become unfruitful. Therefore, forest should only be raised near such areas and the species selected should be easy to grow. It will check the soil erosion and land slides on the one hand and increase the soil fertility on the other. Only the most fertile land should be used for agriculture and forests and fodder species should be raised on less fertile land. This way the uncontrolled grazing would be stopped and the landless and the small artisans should be allotted such land for growing forest species as per requirement of the forest based industries. If forests are used for cultivation instead of felling the tree cultivator will clearly understand that forests is not the property of only one generation but of so many. The old original forest is the property of the present generation which has been over felled. We had the right to utilise it rationally only and it is our duty now to raise new forests for the coming generations. In such cases, the two generations have the right only to use the subsidiary forest produce such as fodder, grasses, leaves, fruits etc or these developing forests are the property of the next generation. Middle aged forests are the property of the third, young forests of the fourth and those to be planted of the fifth generations. Thus tree culture like agriculture would become an essential part of the cultivator's life and using valuable or less valuable trees would mean snatching the rights of the coming generations. Such

rational use would protect the forest the forests and the minor subsidiary forest produce from tree culture will open new avenues of employment. It will also solve the acute problem of fuel and fodder of the local people. It will safeguard the catchment areas of the rivers in the Himalayan region against soil erosion, land slides and check the floods and imbalances in the climate. The beginning of such tree culture (Poa Kheti) will make people conscious of the forests and will create love and affection for the forest and their produce among them.

— अशोक (A) शर्मा  
(Chandi Prasad Bhatt)