

PEOPLES PARTICIPATION IN UPLAND CONSERVATION IN N.W.F. PROVINCE (PAKISTAN)

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Introduction

Before dilating on the subject itself it would be more pertinent to have a glance over the land-use statistics, population status, extent of degradation of land resources and development strategy in Pakistan and N.W.F. Province in particular.

The total land area of Pakistan is 87.98 million hectares out of which only 59.56 million ha (68%) has been so far classified while the rest of 28.42 million ha (32%) is still to be properly surveyed and classified. The total population of Pakistan according to 1981 census was 86.79 million which when projected update at 3% increase rate per annum comes to about 100 million and thus, register a density of more than 150 persons / kilometer square.

The overall literacy level in the country is 26.2% — 35.1% among males and 16% among females. In urban area literacy ratio is 47—55% for males and 37.1% for females. However, the rural population presents a more depressing picture with the literacy figure of 17.1 — 26.2% for males and 7.3% for females.

The land use pattern in Pakistan is tabulated as under:-

Land Use Category	Area in Ml.Ha	Percentage of Total Area
1. Cultivation	20.54	23.3
2. Culturable waste	11.19	12.8
3. Not available for cultivation	23.25	26.4
4. Forests	4.58	5.2
5. Un-classed Area	28.42	32.3

The above table reveals that about 3/4ths of the area is covered by mountains and sub-mountains tract where land resources especially vegetative cover has been ruthlessly degraded. Regarding conservation status of resources in the uplands, the N.W.F. Province, occupies the most strategic position because of the following reasons:-

1. The watersheds of mighty river Indus on which the World's biggest earthen dam has been constructed at Tarbela, lies in this province. This dam is of domineering importance to the country.

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2. A portion of the watershed of Kunhar River, feeding Mangla Dam also tranverses this Province.
Reference "The State of Forestry in Pakistan" by Mohd. Amjad and Nadir Khan of Pakistan Forest Institute, Peshawar.
3. More than 3/4ths active and humid temperate uplands is situated in this Province.
4. The above Dams provide appreciable quantity of water for irrigation and supply a major portion of electricity to the industries and agriculture in the country.
5. Some of the World's most valuable wildlife species, e.g., Snow Leopard, Markhor, Musk Deer and Pheasant spp. are found in the beautiful uplands of the Province.
6. About half of the country's most aesthetic and majestic tourist resorts are punctuating the uplands of NWFP.
7. About 71% of domestic supply of firewood comes from the uplands of this Province.

The domineering position as the Province of NWFP enjoys, it would be appropriate to give the status of the land use pattern which are given below:

1. Total Land area	1,01,70,000 ha	
2. Area reported	81,14,388 ha	80.33%
3. Cultivated Area	1,83,657 ha	18.3 %
— Net sown	15,13,741 ha	18.3 %
— Current fallow	3,22,837 ha	
4. Waste Land	49,38,439 ha	48.6 %
5. Forest Area	13,39,371 ha	13.4 %
6. Area unreported	20,55,612 ha	20.0 %

From the above, it is clear that about 6.9 million ha or 68.8% of the area has not so far been attended to, and resources therein remain un-utilized. Again from the available statistics it is estimated that out of the total land area of 10.17 million ha, 7.4 million ha(70%) lies in the uplands of NWFP.

The uplands of NWFP extend from 600 meters altitude to about 8000 meters above sea-level. About half of the area lies in the active monsoon region while the rest of the uplands are getting heavy snow, causing heavy snow-slides. The upper-most reaches of the uplands are occupied by alpine pastures.

As elaborated above, the population density on average is 150/Km² while that of cattle is even more. Again in the hilly area the pressure of population of human and cattle is quite alarming when compared to the vast plains lying downstream.

Consequently, the existence of huge population in the uplands, the forests and grasslands were improperly and unjudiciously used in the past, with the result that the country was beset with the onslaughts of some occasional floods, on one hand, while on the other, the country felt acute shortage of timber and firewood. From other direction the specialists in the country and the international agencies cautioned the Government of Pakistan that if corrective measures were not taken instantaneously the Multiple purpose Tarbela, Mangla and Warsak dams along with other hydel Barrages will silt up very shortly and thus would cause intolerable loss to the country in addition to creating floods of devastating nature.

Consequent upon the advice of technicians from the country and International forum, the Government of Pakistan conceived several plans for rehabilitation of the degraded uplands where people participation was termed as preminent.

Resultantly the conservation strategy which was followed, with the active participation of local people in NWFP is elaborated as under:-

A. Tarbela Mangla Watershed Management Project

This Project was started in the catchments of Tarbela and Mangla dams during mid sixties with the active assistance of World Food Programme. The provisions of the project were to effect afforestation, soil conservation works, range management practices and provide fruit plants to local farmers. The objective was to convince these local communities to spare their lands for the afforestation activities and in return to get food materials for the work so rendered on their own lands. The local people hesitated to accept the programme in initial stages with the apprehension that the Government would snatch away their meagre resources. However, after getting enhanced income from fruit trees, grasses and reclaimed agricultural land, the local farmers were convinced that the Govt. is very interested to improve the lots of millions of poor in the uplands and thus they developed confidence in real perspective which nurtured a bond of mutual trust. The project was thus extended, revised, reshaped and reframed in one way or the other and it is still under implementation and deals with the following disciplines of conservation strategy:-

1. Afforestation and raising of plant and fruit nurseries.
2. Soil conservation on forest, agriculture and wastelands.
3. Developing of rangelands.
4. Construction of Roads.

5. Construction of irrigation channels for local farmers.
6. Training and education of local people and staff.

The project has so far raised about 81,000 hectares of mostly conifer forests on farmers land and distributed millions of fruit plants. The last schemes which terminated on 30.6.88 had the following components:-

Total cost	Rs. 168.9 million
WFP	Rs. 243.4 million (worth food)
Total:	Rs. 412.3 million

The scheme has again been revised for another 3 years period to maintain its continuity and keep the developmental activities in progress. The participation of local owners in the project activities is quite encouraging and now it is sometimes not possible to cater for their demands of fruit trees or afforestation on their lands. The effects of the project has impressed the adjoining local population quite appreciably.

B. Dir-Swat Watershed Management Project

This project was launched during 1979-80 on the pattern of Tarbela-Mangla Watershed Management Project to reclaim the catchments of Swat river, Punjkora river and part of Indus river through afforestation, soil conservation works and range management practices on farmers lands in the upper range of NWFP i.e. in Malakand Civil Division. Here again in the initial stages i.e. in the first 4 years, people were reluctant to spare their lands for such activities but later on after knowing the achievements made in Tarbela Mangla Watershed Management Project, they relished the idea and started cooperating with the project management while heartedly. The project in extended form is still in operation with the following components.

Period of the Project. 1987—1992.
 Total cost Rs. 175 million
 Netherlands Rs. 71.7 million

1987—1992	WFP	Rs. 76.5 (Food)
	Local Govt.	Rs. 26.9 million

The Project has so far afforested more than 24,000 hectares of waste-land and brought the same area under Soil Conservation practices. The project has also distributed million of fruit plants amongst the farmers and has developed several thousand hectares of

their degraded land. This way the farmers duly benefited from the project are actively participating in all its activities with zeal and fervour.

C. Kaghan Forest Intensive Project

This project is being implemented since 1980 with the assistance of Federal Republic of West Germany. The revised project is elaborated as follows:

Period	1985—1990
Total Cost	Rs. 148 million
West Germany	Rs. 47 million
Local Govt.	Rs. 101 million
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Total	Rs. 148 million

The basic objective of this project is the intensive management of forests in the area with producing more and more conifer plants for afforestation and training the local workers in soil conservation, range management and harvesting techniques. This project has been launched in the government forests for scientific management and training of adjoining local population owning forests in the new techniques to manage their forests on such scientific lines. The project has engaged most of the local population in executing various developmental works and has thus increased their earning. The local people are actively participating in various development activities and getting first hand knowledge and training. The project has also constructed roads in the forests which are now being used by the locals for marketing their agricultural produce and effecting developmental activities.

D. Kalam Integrated Development Project

This project was initiated during 1980 in Kalam area of Malakand Civil Division where though the forests belong to the state yet the local people in addition to the right of free firewood and timber collection for their domestic uses, have the right/concession to get 60% of the sale proceeds as royalty. This means that these local people are, defacto the owners. The area was of Tribal nature a few years back and it was not possible for the Govt. functionaries to work freely and the people at their own will could cut and damage the valuable conifer forests. The Govt. had no proper control over the area though the forests belonged to the state. To get the confidence of the local people, a partly forest based pilot project with the help of Swiss Government was started in 1980 with Forestry, Rangeland and Agriculture as its components. The local people were trained/educated in harvesting raising and planting forests and fruit trees. Some research for growing best agricultural crops in the area was also conducted. Research and demonstration trials on grasslands were installed. A large number of the local people were employed in these activities. After the pilot phase of the project, some good results were achieved like introduction of some good varieties of Turnip, Tomato, beans and maize which doubled the income of farmers with the result that they envinced keen interest in further

development of such crops. Again a lot of good fodder from introduction of new grasses were made available for the million of cattle in the area from arable as well as pasture lands and thus the health as well as milk production appreciably increased. Feeling the results of this project the local people were so obliged that they themselves asked for the expansion of the project. So in 1987 the project was further extended but this time it was made more broad based to include the village development part also. The present project includes the following disciplines.

1. Forestry-Raising of new plantation especially of fast-growing species for firewood and timber.
2. Production of fruit trees to supplement the farmers income.
3. Raising of improved varieties of grasses and developing the pasture.
4. Construction of roads, bridal paths and irrigation channels.
5. Agriculture-encouraging proper crop rotation with improved, high yielding varieties and conducting research on new varieties. Also trying to introduce off the season vegetables and crops to get high prices for the farmers.
6. Providing infrastructure for village education, child care and basic health centres.
7. Provision of small cottage industries to be fed from local produces.
8. Organising village cooperatives to work as supplying, implementing and marketing cooperatives.

The village organizations have been developed to the extent that nearly all the activities are now properly handled by them under the technical and financial supervision of the project and the resources in the area especially the forests and range land are very effectively conserved and further developed.

Malakand Social Forestry

This is a new project started during 1987 with the help of Government of the Netherlands in the Malakand Agency of Malakand Civil Division.

The project is of pilot nature with total cost of Rs. 53 million for 5 years. The main objectives of the project are to involve the local community in reclaiming the degraded lands in the area. As the area to be tackled is all private, so more stress is being laid on the formation of village organizations, education, training and demonstration. Local people are invited to group discussion and field days in the adjoining Kalam or Swat area where they have already benefited from the forestry, horticulture and pasture management. This

project mainly deals with forestry, horticulture and range land as well as soil conservation activities to reclaim the degraded soils as well as to supply much needed firewood and cattle feed to the local community. The project is getting positive response from the local people.

These conservation projects especially the Kalam integrated development project, have revolutionised the orthodox and behaviour of the local community and have rendered them so devoted, convinced and enterprising that the participation of local community in the area adjoining to the treated areas and in the project areas has become a model. Through special and effective extension measures in future, the achievements of such projects will be disseminated in other parts of uplands of N.W.F. Province.