

PH-200-222

200-11

**GOVERNMENT OF PAKISTAN  
FORESTRY PLANNING AND DEVELOPMENT PROJECT  
MINISTRY OF FOOD, AGRICULTURE AND COOPERATIVES**

**COUNTRY STATUS REPORT ON  
LOCAL ORGANIZATIONS IN COMMUNITY FORESTRY EXTENSION IN  
PAKISTAN**

**Presented at the  
Regional Expert Consultation  
Chiangmai, Thailand  
7-12 October 1991**

*By*

*Dr. Bashir Ahmed Wani, Deputy Inspector General of Forests, Government of Pakistan.*

*Mr. Rashid Mahmood Randhawa, Conservator/Project Director, FP&D Project, Punjab.*

*Islamabad, Pakistan*

## TABLE OF CONTENTS

<b>Topic</b>	<b>Page</b>
National facts relevant to forestry in Pakistan	1
The forests of Pakistan	2
Needs and importance of forestry extension	2
Community managed forests	4
Forest management on private forest lands	4
Guzara forests	4
Protected forests	5
Communal group management of range lands	6
Tree planting and management on non-forest lands	7
Participatory planning in on-going projects	8
i). Forestry Planning and Development Project	9
ii). Village organizations-A programme of AKRSP	16
iii). Malakand Social Forestry project	17
Constraints of community and private forestry programs	18
Map of Pakistan showing FP&D project areas	10
Appendix - Land ownership and management patterns	21

**GOVERNMENT OF PAKISTAN  
FORESTRY PLANNING AND DEVELOPMENT PROJECT  
MINISTRY OF FOOD, AGRICULTURE AND COOPERATIVES**

**COUNTRY STATUS REPORT ON  
LOCAL ORGANIZATIONS IN COMMUNITY FORESTRY EXTENSION IN  
PAKISTAN**

**Presented at the  
Regional Expert Consultation  
Chiangmai, Thailand  
7-12 October 1991**

*By*

*Dr. Bashir Ahmed Wani, Deputy Inspector General of Forests, Government of Pakistan.*

*Mr. Rashid Mahmood Randhawa, Conservator/Project Director, FP&D Project, Punjab.*

*Islamabad, Pakistan*

## SOME NATIONAL FACTS RELEVANT TO FORESTRY IN PAKISTAN

<u>CATEGORY</u>	<u>FACT</u>
1) Size	87.98 Million ha.
2) Population, (August 1990)	112.8 million
3) Rural Population	70 Percent
4) Urban Population	30 Percent
5) Population growth	3.1 Percent, greater in rural areas
6) Gross National Product	\$ 365/year/capita
7) Gross Domestic Product (August 1991)	5.2 percent
8) Extent of forests controlled by Forest Departments	10.853 million ha (5.4% of land area).
9) Protection forests	4,814,000 ha
10) Productive forests	1,477,000 ha
11) Dry or moist forest (1500-3000 AMSL)	1,959,000 ha
12) Broad-leaved evergreen forest (500-1500 AMSL)	1,702,000 ha
13) Coniferous forests	1,959,000 ha
14) Scrub forests	1,702,000 ha
15) Rangeland (Non-forests/agriculture)	61,190,000 ha (65% of land area)
i) Rangeland considered desertified or in imminent threat	48,389,000 ha (55% of land area)
ii) Rangeland suitable for grazing	18,475,800 ha (21% of land area)
16) Uplands consisting of mountains and hills	35,192,000 ha (40% of land area)
17) Import of Paper and Pulp	Rs. 3,000 million per year
18) Fuelwood consumption	22 million M <sup>3</sup>
19) Fuelwood needs by year 2000	35 million M <sup>3</sup>
20) Area under cultivation	20,540,000 ha
21) Area under irrigation	16,000,000 ha
22) Livestock population (1987).	
i). Local	98,000,000 numbers
ii). Afghan Refugee	2,371,000 numbers
23) Arid to semi-arid lands	80 Percent of country
24) Amount of land in private ownership	80 Percent of total land

Source: Upland Watershed Consultant Report, Forestry Sector Master Plan and Government papers.

**THE FORESTS OF PAKISTAN:**

Pakistan has a total land area of 87.98 million ha out of which 10.953 million ha are under the control of provincial Forest Departments. This includes 6.119 million ha rangelands which are managed by Forest Departments and are very important source of grazing. The actual area under forests is 4.737 million ha, comprising 5.4 percent of the total land area. The area under productive forests is 1.477 million ha while 4.814 million ha are protective forests. The breakdown of forests by types and ownership is given in Table-1.

**TABLE-1: FOREST AREA BY TYPES, OWNERSHIP AND PRODUCTIVITY****(Million ha.)**

VEGETATION TYPE	AREA	STATE OWNED	PRIVATE	PRODUCTIVE FOREST
Coniferous	1.959	1.197	0.762	0.931
Irrigated	0.392	0.233	0.159	0.142
Riverain	0.296	0.296	-	0.246
Scrub	1.702	0.900	0.802	0.158
Coastal	0.347	0.345	0.002	-
Others	0.041	0.017	0.024	-
Total	4.737	2.988	1.749	1.477
Percentage	-	63.1	36.9	31.2

**NEEDS AND IMPORTANCE OF FORESTRY EXTENSION:**

The term forestry extension indicates the transfer of new knowledge about tree crop management on forests and private farmlands in an informal context at the farmers level of need and understanding. The objective of extension is to transfer knowledge and technology so that there is a change in the behavior about tree planting which result in enough economic opportunities to the farmers. Extension addresses the issues as : "How to do something and when to do it". Although farmers have been planting trees on farmlands since time immemorial but farm forestry as a science has been started recently in Pakistan. The launching of Forestry Planning and Development Project is first major initiative of extending tree crop management on private farmlands with the active participation of the farmers.

The conservation of soil and water in Pakistan's uplands which comprise 35.192 million ha., upon which the nation's low land agricultural sector depends, is increasingly in a state of advance degradation. The resources of that major part of the country consisting of fragile watersheds are neither being maintained for high productivity nor being protected against degradation. The increasing

demand for tree products in this area is greatly outstripping supply, so that the needs are not met and the growing stock in these forests are being utilized to meet short term needs. Most of the upland coniferous forests have lost their regenerative capacity because of the immense population and livestock pressures which are further aggravated by over three million Afghan refugees. These startling environmental and economic issues point a the need to develop a very effective forest extension service with social forestry as a major component of Pakistan's forest policy.

The loss of forest tree cover in the uplands as well as low lands because of the wide gap between supply and demand has made firewood an increasingly scarce commodity which is evident in an average 15% rise per year in the price of fuelwood during last 20 years. This has resulted in increasing burning of wood substitute such as dung and agricultural waste. The rural communities in Pakistan burn dung in their households not as a matter of preference but because of necessity. According to an estimate 36% of the cow dung is used as a substitute for firewood whereas 64% is used as organic manure. This practice inevitably effects soil fertility and agricultural productivity.

The indirect effects of resource degradation are even more serious than loss of fuelwood and timber supplies. Forests in the upland watersheds play a critical role in preserving the soil cover, which is essential to the productivity of upland agriculture and also reduces the delivery of sediments to water reservoirs. The soil cover of 1/3 of upland watersheds is currently in critical condition. The annual rate of sediment delivery into Terbela and Mangla reservoir are estimated at 158 million M<sup>3</sup>, and 48 million M<sup>3</sup> per year respectively, resulting in an annual loss of Rs. 2 billion due to increased maintenance, reduction in power generation capacity and agricultural and industrial production losses. People living in watershed areas have small holdings and live under unfavorable socio-economic conditions. Notwithstanding the fact that a number of watershed rehabilitation projects are operational in upland forests, it is very difficult to meet the needs of people unless there is an efficient extension service to launch a massive watershed awareness programme.

In the upland state and community forests, general type of forest extension services are provided by the provincial Forest Departments. Given the magnitude of the resource problems and the lack of appropriate communication and extension skills among forestry professionals, it is not possible to provide these advisory and technical services to all the people. The greatest potential for promoting tree cultivation in Pakistan is not on the 2.988 million ha of state forests, but on the 20.54 million ha of farmland.

The purpose of promoting on farm tree cultivation through forestry extension service, is to augment farmers income through increased sales of surplus fuelwood and timber, as well as through the growing of seedlings for sale to both, Government and private sector. In NWFP, hybrid Poplar species planted in Peshawar and Mardan valleys, have resulted in a net return of Rs. 3,000 per acre. In Sindh, *Acacia nilotica* (Babul), grown for mining timber market in hurries, a traditional agro-forestry

system, yields a return of Rs. 2,000 per acre per year. Both these returns compare favorably with the returns from agricultural crops, especially considering the lower cost inputs in tree cultivation.

### COMMUNITY MANAGED FORESTS:

Forests in Pakistan fall into a number of different legal or tenure classes. Ownership and user rights, as defined by relevant laws, are slightly different in each of these tenures. Understanding different classes of ownership is slightly complicated because in each Province or State classification system is different. Forests under the control of Forest Departments are both public and private. Public forests include reserved (Punjab, NWFP), protected (Punjab, NWFP, Balochistan), state forest which may be demarcated or un-demarcated (Azad Kashmir), reserved and un-classed forests. Private forests are either individually owned, Guzaras, communal (shamilat), Section 38 or Chos Act forests. It is estimated that 80 percent of the land in Pakistan is privately owned and the remaining 20 percent belongs to the public sector. Land ownership and management patterns in each category is given as an Appendix.

### FOREST MANAGEMENT ON PRIVATE FOREST LANDS

Although the overall management of forests is the responsibility of Forest Departments, however, each legal category of the forest private or state owned has its own arrangements. Reserved forests are well stocked forests worked out for commercial exploitation of timber. These forests are managed under working plans by Forest Department without any input from the local residents. By law everything including removal of dead firewood is prohibited in these forests but still people manage to get minor usage like collection of small fire wood, fodder, honey, medicinal herbs, mushrooms etc., from these forests. During timber harvesting these forests also provide employment to the local population.

Guzara forests: These are privately owned forests and their ownership may range from an individual family to a group of village households as joint property. These forests are located in the uplands of Murree & Kahuta (Punjab) and Hazara (NWFP). The term Guzara implies that the needs of the local population in terms of timber, firewood, fodder are to be met by these forests whereas reserved forests are managed to meet national requirements. The management is, however, controlled by the Forest Departments in collaboration with the Guzara Societies. Separate Guzara Forest Divisions are functioning in Punjab and NWFP Provinces, to manage these forests according to working plans with active involvement of the Societies.

In 1975 the Government recommended that Guzara owners be given a certain amount of responsibility for their management. NWFP Forest Department formulated a pilot project to transfer the management from Forest Department to Cooperative Societies of landowners. In 1981, 15 multi-

purpose Forest Cooperative Societies were established and presently 31 Cooperative Societies are active in Hazara Division. Once a Society is constituted its management plan which lays down harvesting and forestry development programme is prepared by Forest Department. The Cooperative is then given the control of the landowners of the Guzara forest. While preparing work plans the needs of the landowners and community are taken into consideration as far as activities like rural communications, education, health care, water development and afforestation are concerned. 80% of the revenue realized from the sale of timber goes to the land owners having share in the Guzara forests while the rest is provided to meet the development needs. Unfortunately funds provided for afforestation and rehabilitation of the forest areas are as low as 2% and in many cases it is seldom made available in the beginning of the year for scheduling the activities. Consequently these important forests contributing immensely to the welfare of the watershed communities are under the severe threat of degradation.

The management objectives of some of the cooperative societies are not in line with the those of Forest Department. In some cases there appears a concerted effort to harvest as much timber as possible. Some landowners consider that the Forest Department's management strategy, is too conservative with very low allowable cuts. Because of this some of the cooperatives have decided to harvest all they can before the end of ten year test period. In other cases the landowners do not consider that their land should remain under forest cover indefinitely, as agricultural production to many appears a profitable venture. Thus the forest harvest may actually be a land clearing with no intention of allowing forests to regenerate.

The rate of population growth in the mountain regions is 5%, against the national average of 3.1% each year. On account of inadequate funds earmarked for forestry operations and the tendency of mountain population to bring additional land under agricultural production, harvesting of wood is always in excess of the working plan provisions. The shareholders of Guzara forests are often interested in bulk exploitation of forests to get maximum returns.

The Protected Forests: These comprise coniferous forests in uplands and scrub forests in the foothills. They are heavily burdened with all types of user rights to obtain timber for construction/repair of hutments, agricultural implements, fuelwood, grazing and resin collection and other minor forest products. Because of high population growth since the last land settlement (in the beginning of this century), the rights have multiplied. It has made the management of these forests extremely difficult. According to the working plan provisions after the harvest of these forests a closure over 3/4th of the area is required to be imposed which in fact has never been effective because of grazing rights of the community living adjacent to these forests. Consequently, natural regeneration is never established unless it is provided protection by employing Protection Watchers.

Because of lack of establishment of regeneration in the protected forests, the right holders

tend to encroach upon these forests, resultantly the Forest Department gets engaged in litigation to evict these encroacher, and no afforestation activity can be undertaken on these lands, till the case is decided and the encroacher's evicted.

The land tenure and usage of these forests may vary from place to place. Cernea (1989) reports that in Azad Kashmir analysis of the tenure system indicated three categories of forest land with high potential for reforestation. Khalsa or crown land is state owned consisting of demarcated and un-demarcated forests. Shamilat land belonging to communities are used as common grazing grounds, village public buildings, graveyards. Malkiat land is privately owned with ownership rights recorded in revenue register.

In village revenue records, although Shamilat land is described a communal land, it is erroneous to assume that this land necessarily entails joint ownership. Rural population growth, fragmentation of holdings through inheritance and small holdings have contributed to a need of the households to exploit this land, thereby changing its communal status to private ownership in certain areas. This conversion of the communal land to privately owned land has occurred over a long period because of socio-politico-economic change which is still persistent especially in Azad Kashmir. This tenure transformation takes place in three stages

- i). informal partitioning of adjacent Shamilat lands amongst the shareholders;
- ii). encroachment of the Shamilat lands by the influential community members for agriculture;
- iii). gradual privatization of the encroached land due to abolition of tax on land in 1974 and entry got made in the revenue records.

Under the World Bank assisted Hill Farming Technical Development Project in Azad Kashmir, it was observed that small farmers hesitated to accept the project for tree culture on their lands. The farmers are fearful of losing possession or control over their land in favor of the government as they would be deprived of rights to collect fodder and graze their cattle. Most of the small farmers interviewed indicated that they might offer small plots for planting under the project provided they could be convinced that Forest Department would not alienate their lands and they would be able to cut grass for their cattle. In contrast, the big landowners being confident of their political power do not regard tree planting by the forest department as threat to their ownership of land and trees, and tend to utilize available project incentives and resources to their own benefit. Ahmed (1980) also reports that some tribal elders interviewed in Mohmand Agency, NWFP defined Shamilat as "lands belong to the most powerful".

### COMMUNAL GROUP MANAGEMENT OF RANGELANDS:

In Pakistan 65 percent of the land is classified as Rangeland, this is mostly located in Tharparkar, Cholistan, Thal, and Balochistan province. The pattern of land use has traditionally been

pastoral, supplemented wherever possible by subsistence cropping, (the livestock population estimate in 1987 was more than 87 million). Rangelands are typically controlled and defended by communal groups or extended families who control access to these areas in order to restrict outside usage. Pure nomadic movement common in earlier times, much of the livestock herding is traditionally transhumant with movements to upland pasture areas in summer and to valley floors during winter months.

Water remains the principal constraint for dry land agriculture in arid areas especially in upland Balochistan. Since the mountain areas are devoid of vegetative cover, therefore, flash floods are common. The traditional system of tapping underground water resources in Balochistan is by constructing elaborate under-ground water channel system known as "KAREZE" often several kilometers long. In Quetta-Pishin valleys there are more than 300 Kareze's to irrigate several thousand ha of land.

Given the environmental conditions and pattern of land use, competition between groups in the dry uplands for the use of the limited water supply and land resource is substantial and conflicts are common among different ethnic groups, for assertion of their territorial hold and prestige. Coexisting with this competition however, is a strong belief in sharing, cooperation and mutual aid and assistance in times of extreme droughts.

On a limited scale, Forest Departments in the past have been able to organize village grazing associations to control overuse of common grazing lands in Alpine pastures i.e., Azad Kashmir, and NWFP, and in the tribal areas of Balochistan. These efforts though limited to project interventions at selected places have not been instrumental to develop permanent village/tribal organizations. Nevertheless, grazing use conflicts which sometimes result in armed conflicts among different ethnic groups are resolved through traditional "JIRGA system" the decision of which is binding on all communities. The institution of Jirga System is an important focal point for enhancing the institutional arrangements and capability to manage this resource at the community level.

The traditional land use practices in these areas are rapidly undergoing change as a consequence of population growth, environmental degradation, socio-economic development and easier access to markets as more communication links are established. Research at Arid Zone Research Institute, has reported a slight decrease in transhumant pastoral activity and smaller flock sizes among the groups. Accompanying this has been an increase in more permanent settlement and crop production.

### TREE PLANTING AND MANAGEMENT ON NON-FOREST LANDS.

Pakistan's economy is based on agriculture, as 70% of the total population is dependent on pursuits related to agriculture. The energy needs, especially in the rural areas are met from fuel wood. Farmers traditionally plant trees on their farmlands to meet timber requirements for agricultural imple-

ments and fuel wood. Planting on farmlands has a long history in this country. Hurries cultivation of babul (*Acacia nilotica*) in agro-forestry system in Sindh Province was started in 1858. Country's entire match industry is fed by wood produced in the private sector.

Since the 1950's, the provincial Forest Departments are engaged in motivational drives during spring and monsoon seasons each year, to encourage the people in general and farming community in particular, to undertake planting on the marginal farmlands. During 1991, about 175 million saplings were distributed/planted in public and private sector to overcome the shortage of wood in the country. To increase the bio-mass energy resources and meet firewood requirements the government is promoting social/community forestry on private lands in rain-fed and irrigated areas. Various models have been conceived and developed. At present 90% of the country's fuel wood requirements are met from the wood produced on farmlands.

Management of trees on the non-forest lands is the sole responsibility of the individual farmers. The functionaries of the forest department however, provide technical know-how about planting and post planting care including tending and harvesting operations. The marketing of the wood produced from farmlands is done by the farmers for use in small wood based rural industries. The provincial forest departments are strengthening their institutions which would develop a viable linkage amongst the wood producers and the users for making tree planting activities as a remunerative venture. In this context a Wood Producers-Users Seminar was organized by the Government of Pakistan in 1989 to identify, plan and formulate the strategy for developing these linkages.

The general level of education and awareness of the farmers being low, promotion of forestry on farmlands without adequate extension is difficult. However, Government of Pakistan along with various NGO's is striving hard to use all its resources such as electronic and print media to provide necessary information to motivate the farmers for planting maximum number of trees on farmlands for wood production and environmental improvement. Panel discussions are also arranged in schools, colleges and other fora for this purpose. Every year competitions are held for participation of the educational institutions in tree planting activity and Presidential awards are given as incentives.

### **PARTICIPATORY PLANNING IN ON-GOING PROJECTS:**

The magnitude of Government concerns for participation of the people for success of the forestry related projects has assumed greater importance for food security, environmental improvement, regulation of quality water for irrigation, power generation and uplift of the rural poor. The on-going development projects have devoted considerable efforts in developing village organizations especially in case of Malkand Social Forestry Project and Aga Khan Rural Support Programme. For the most part, the efforts have been directed to stimulate the formation of new

organizations of individuals interested in particular activities rather than relying upon using existing organizations such as village councils. These organizations lay considerable emphasis on decision making by consensus rather than by committee.

The participatory development involving inter-community efforts is un-developed at present, however, a need is felt for coordination in participatory watershed planning. On account of lack of awareness and education, prevalent tribal system, ethnic differences exist between different communities. A possible forum for such a problem is the Union Councils. These bodies consist of elected representatives of 10-50 villages and are involved in planning process for local development under the provincial annual development programme. Unfortunately these union councils are by and large under the influence of large land owners for political reasons and therefore remained ineffective in implementation of forestry, range and environmental programs. However, with the package of incentives and awareness programs the union councils can be developed as an effective tool for the extension of forestry activities on forest and non-forest areas. Some of the important projects involving participatory approach are as follows :

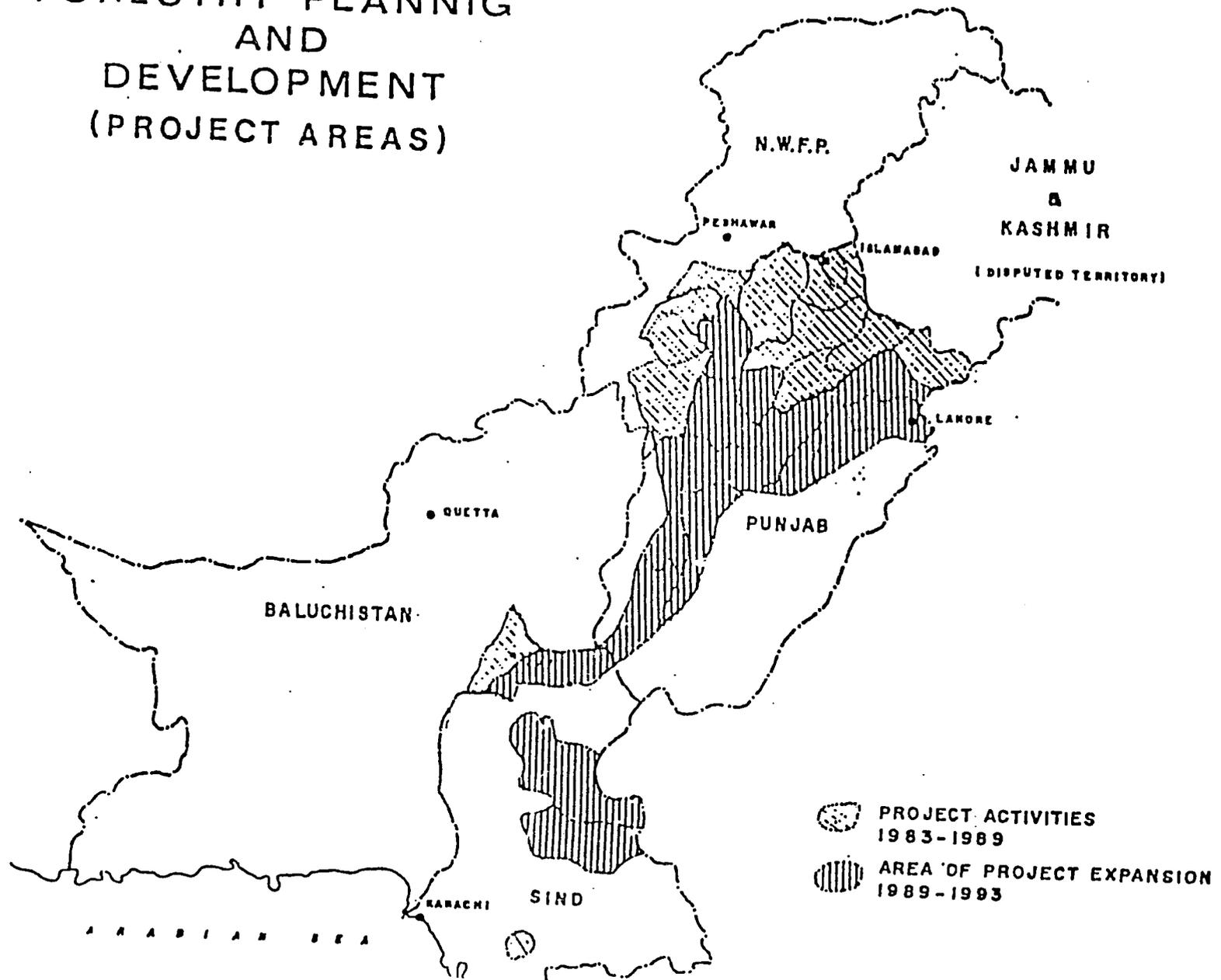
## FORESTRY PLANNING AND DEVELOPMENT PROJECT

### BACKGROUND

Although no formal local village organizations exist in rural Pakistan to promote tree crop management on the farm lands, nevertheless, rural Pakistan, comprising 4.07 million farms with an average size of 4.7 ha, has always contributed significantly to the timber and fuelwood energy requirements of the country. It has been estimated that trees grown on marginal farmlands in different spatial configurations meet 90% of the rural energy, and 50% of the timber requirements of Pakistan. Firewood production from private farmlands is estimated at 22 million M<sup>3</sup> whereas state forests provide 2 million M<sup>3</sup> of firewood annually. A systematic effort to launch a large scale country-wide tree planting programme on private farm lands using different spatial configurations, in accordance to the needs of the farmers was launched in 1985. Called the Forestry Planning and Development Project it envisages the expenditure of Rs. 843 million, till 1993, to promote Social or Farm Forestry.

To begin with, professional foresters with no or little formal training in Social/Farm Forestry, (requiring an entirely different communicative and extension skill to reach the farmers), were apprehensive about the success of the project. It was opined that farmers, especially small farmers, would neither be able to curb or surmount the age old tradition of open grazing, common in the village's, nor would they be able to prevent trees from being grazed by cattle, or cut by the neighbors for fuelwood. How wrong would the project prove them to be: over the years the project has gained considerable momentum and tree planting on farmlands has now become a village ritual like "Folk Mela", needless to say, the trees so enthusiastically planted, are equally fiercely guarded.

# FORESTRY PLANNING AND DEVELOPMENT (PROJECT AREAS)



## PROJECT FUNCTION AND MODALITIES

The Forestry Planning and Development Project, is based on the concept that the farmer who is interested in planting trees will achieve his objective, with the minimal material assistance from the project. On it's part the project will impart full technical assistance, including transfer of technology to the farmer. As such the Tree Farmer is committed to labor and other inputs, and the project is committed not to touch the tree.

In short (with apology to Abraham Lincoln), the Forestry Planning and Development Project, is envisioned as "Forestry of the People, By the People, For the People". This concept, untried before, has caught on and the Project is considered as the best ever started by the Government of Pakistan.

The project has 5 operational thrusts aimed at helping Pakistan to increase it's energy self sufficiency and reduce deforestation by taking forestry assistance to the people and encouraging development of the private sector in forestry.

- Strengthening forest policy.
- Reversal of deforestation through tree crop management on private lands.
- Improvement of forestry education and training.
- Expansion of forestry research.
- Development of farm forestry outreach.

This involves the use of forest officers as teachers and technical advisors to farmers and private industries, and stresses the point that Pakistan should NOT rely totally upon government forests for its needs. The project assists Farmers to establish Nurseries in and near villages where other farmers are willing to plant trees, and after the plants are ready, these are purchased by the project, against cash payments to the Nursery operator. These plants are then distributed free of cost to those farmers who had committed to plant trees on their lands. This has the advantages of:

1. Transfer of tree nursery and tree planting/management technology to the farmer.
2. Cash Income for the nursery farmer after 4 to 6 months.
3. Double benefit to the tree planter, one that he gets free seedlings and the second he does not have to travel far to a nursery, which would add to his overhead costs.
4. Training of the Forest Department Project staff in outreach and extension venture's.

## PROJECT STAFFING AND AREA

The provinces were quick to realize the advantage to be had by this venture. Each of the four province's have provided provincial Forest Department Staff to work in the project. The project infrastructure comprises a Conservator of Forests who is the Project Director, he has a Divisional Farm Energy Forest Officer for each district, with a Range Forest Officer and two Foresters working

as technical cum extension agents at each tehsil level. Additionally the province of Sindh, has a Divisional Forest Officer Afforestation, who is responsible for the execution of the working of the Dharo forest, in Thatta District.

The current project areas of operation are:

**Punjab:** Districts of Rawalpindi, Attock, Gujrat, Chakwal, Khushab, Sialkot, Narowal and Jhelum.

**Balochistan:** District of Tamboo, Dera Allah Yar and Usta Muhammad.

**NWFP:** District of D.I. Khan, Kohat, Karak, Bannu, Peshawer, Mardan and Charsadda.

**Sindh:** Thatta irrigated plantations, in Dharo.

### **INITIAL EXTENSION EFFORTS AND OUTREACH METHODOLOGY.**

The extension model initially adopted for promoting forestry related activities on farmlands was relatively simple.

- Village motivator's (usually a farmer with some trees, or some one with a little forestry related background, i.e., wood depot worker etc.), paid a nominal honoraria, were initially engaged wherever required and served as a link between farmers and project staff, they arranged small meetings where the farmers could meet with the forester, to talk about trees, and learn about the project.
- An expatriate Project Anthropologist with Pakistani staff, made a diagnostic field survey and contacted local people and village leaders. The subject of their reports varied from "Prospects for Farm Forestry in Pakistan, Village and Household Level Determinants", to "Socio-Economic Research on Farm Forestry in Pakistan". Studies on earthy subjects like "Household-Level Factors Affecting Interest in Planting Trees and Operating Nurseries" including Village and District data, for all four provinces; and exciting report on the "Prospects for Wood-Dung Fuel Replacement Through Farm Forestry Development", and many more.
- After initial contacts, a village gathering of the farmers interested in planting trees on their lands, and/or to participate in the Farm Forestry programme was held and an open dialogue conducted in which the staff and farmers discussed the project's operational outline, technical and farmer input packages, etc.
- These meetings were also used to identify/assign responsibilities to the farmers interested in planting trees and raising nurseries.
- A contract is then entered into between the project staff and the farmer, under which the staff is committed to providing technical assistance and knowledge to the farmer at all stages, and the farmer commits his desire to put in labor and other cost inputs, to raise nursery stock, or plant trees provided free of cost from the farmers nursery.

The current methodology is not much different, the only exception is that the project has made so many converts that it is now at a stage where there is more demand for trees and nurseries than can humanly be catered to in a season, or period of time. Motivator's are no longer needed, the tree farmers, most willingly many unwittingly, perform the role of motivator's.

### KISSAN NURSERIES:

The most important component of the Project is raising of tree stock in farmer operated Kissan Nurseries. Based on experience it has been found that the best nursery unit has a production capacity of between 20-50,000 plants. This number is within the capability of the farmer to manage easily. The purpose of Kissan nurseries was to transfer the technology to farmers ultimately leading to sustainable on-farm tree production system and also to involve all the members of the family in this activity.

Once the nursery operators are identified, a formal agreement is made between the nursery operator and the forest department. A 6-12 months old seedling, grown in a poly bag is purchased by the project at Rs. 1.25 per seedling. These seedlings are then distributed to the farmers free of cost and records are maintained in the nursery register.

Since the implementation of this project, 2,722 farmer nurseries have been established that have produced 78 million tree seedlings. Some of the nursery operators are now selling their plants directly to farmers, who do not want to wait for next season for a free seedling, but want to plant now. This practice, it is envisioned will in the near future, help the project to withdraw the subsidy of providing free seedlings to the farmers.

### EXTENSION SERVICE:

The job of the project staff and extension motivator's does not finish with the distribution of seedlings to farmers and subsequent planting on farmlands. Project also provides training to nursery operators for nursery layout, design, bed preparation, soil mixing, filling of poly bags, pricking and other operations. Inter-provincial field trips of the farmers and nursery operators are also conducted so that farmers from different provinces communicate and share their experiences in tree planting and nursery raising. The production of seedlings in terms of quality and quantity have surprisingly been more efficient and cost effective compared to forest department controlled nurseries. There is now a serious thinking of privatization of the nursery business in Pakistan.

After tree planting, the farmers continue to get technical and advisory services on various silvicultural operations like pruning, thinning, pest control etc till the crop reaches marketing stage. Efforts are also made to promote producers-user dialogues so that the farmers gets good price for the trees grown on farm lands. Since farm grown wood have historically been used by wood based industry, recently some wood based industrialist have formulated associations to promote tree crop management on farmlands.

## PROJECT COMPONENTS:

### QUOTABLE QUOTE

*"Of all the projects launched by the Government of Pakistan, the Social Forestry Project (Forestry Planning & Development Project in NWFP), is the best".*

*Mr. Allah Nawaz, Farmer from Dera Ismail Khan*

### The "Lok Shajarkar" Logo Story



The FP&D Project Punjab, holds Mass Tree Planting Campaigns each year during the Spring and Monsoon tree planting seasons. During one such campaign in 1989, the Outreach Forester of the Technical Assistance Team, Mr. Gary G. Naughton, accompanied the then DFO Monitoring and Evaluation, Dr. Muhammad Afzal, went to one such meeting in a village in Pindi Gheb Tehsil. At the end of the motivational talk, Dr. Afzal, led and encouraged the gathering to join him in giving a cheer of "Lok Shajarkar Zindabad", (Long Live Folk Forester). The full throated response of the people, and the enthusiasm that was displayed by the gathering in planting seedlings, germinated an idea in Gary Naughton's mind - who incidentally was already in search of a symbol for the project - and he added the words "Lok Shajarkar" on top of a tree symbol, to symbolize the "Lok" or people orientation of the project. The symbol has caught on, and in less than two years, is widely recognized as the identifying mark of the FP&D Project and private forestry. The three corners of the logo represent the 3 basic groups necessary to make this programme work:- Farmers to produce trees, Industries to buy trees, and Foresters to provide technical advice.

Nurseries and farmer plantations: The most important component of FP&D Project is the raising of Kissan Nurseries. A total of 2,715 farmers have been trained in Kissan nursery operations. It is envisaged that these nurseries will produce 129.75 million plants at a cost of Rs. 155.536 million under the project. These seedlings will be planted over an area of 105,500 acres in all the four provinces of the country.

The Tree Farmer who will receive and plant these seedlings, is the second most important component of the project, for without him the seedlings would grow in the nursery, and reach a stage where it would be un-plantable. The project envisages that not only the large land owners will plant trees, but welcomes those who are willing to plant even one tree. In fact, the majority of the tree farmers have planted less than 5,000 trees.

Training: Foresters, farmers and industrial workers, are provided training in management, utilization and allied subjects, through short courses, local, industrial, inter-provincial and inter-departmental study tours and outreach programs throughout the country. The training covers forest

policy, planning and administration, monitoring and evaluation, extension, communication skills and technical and socio-economic aspects of farm forestry.

A farm forestry curriculum has been designed and is being offered at Pakistan Forest Institute for B.Sc and M.Sc degree students. Assistance is being provided in the selection of candidates for training outside Pakistan, and 22 candidates have been nominated for overseas Master Degree training.

**Technical Assistance:** Five long-term specialist (3 from United States and 2 from Pakistan), are providing 191 person months of service to advise and develop Pakistani foresters skills in policy analysis, farm forestry, training, research, communication, motivation and outreach.

**Commodities:** The project has provided funds to purchase audio-visual equipment, micro computers, laboratory and field equipment, transport etc., for utilization in national research and training institutes, and by field officers.

### **PROJECT ACHIEVEMENTS:**

- Around 78 million saplings has been raised in 2722 nurseries in all the four provinces, over the project tenure.
- 72 million saplings have been planted on 95,720 farms.
- 59,750 farmers received training and advice on how to become effective tree growers.
- Assisted farmers in developing 13,758 acres of marginal lands for tree planting and in establishing special soil conservation practices on 1,070 acres, using tractors provided by the project.
- Assisted research scientists at PFI and Punjab Forestry Research Institute, Gatwala, Faisalabad, in initiating 51 farmer oriented research studies at field stations and farm sites.
- Completed two research studies and disseminated the results to all concerned in Pakistan.
- Constructed 3 Km of canal with ancillary works and rehabilitated 706 acres of irrigated forest plantations in Sindh province.
- Provided 14 overseas MS fellowships to forestry officials in the field of farm forestry and related subjects, and short-term training for 80 officers.
- Designed and implemented graduate and post graduate level curricula at Pakistan Forest Institute, Peshawer.
- Provided in-country training for 671 foresters and B.Sc/M.Sc training at PFI for 51 people.

- Constructed 47 office buildings for project and farm extension staff.
- 4 Research centers, one in each province are to be Constructed. Two, one in Kharian Punjab, and one at Rata Kulachi, in NWFP are complete.
- Constructed boys and women hostel at PFI to accommodate provincial nominees for B.Sc/M.Sc training.
- Conducted socio-anthropological studies on 118 rural villages to guide the development of farm forestry policies and priorities.
- Completed 13 market sector wood based studies by Pakistani consultants and by faculty and students of the Pakistan Forest Institute, Peshawar.
- Organized and sponsored 2 international symposia on forest policy and wood producer-users linkages.
- Produced 134 articles, reports and proceedings on farm forestry topics.
- The improvement in operation of the Terbela Watershed Management and reforestation of approximately 5,000 acres.
- Development and establishment of NGO's and PVO's, specifically geared towards forestry related activities, to ensure sustainability of tree production on private farm lands of Pakistan, after the end of the life of project.

### VILLAGE ORGANIZATIONS: A PROGRAM OF AKRSP

The Aga Khan Rural Support Programme (AKRSP), covers 7,000 sq km of Northern Pakistan with a population of 10 million. The region is mountainous devoid of vegetation cover with agriculture restricted mainly to terraces and flood plains in the valleys. Forest resources are scarce and spread in the form of small pockets in inner valleys far removed from habitations. The rapidly growing population is not only threatening the fragile ecosystem, but dwindling forestry resources also add to the work burden of the mostly subsistence based population. Much time is spent in collecting fuelwood, and even then many homes are not adequately heated in the bitterly cold winters. In order to foster sustained yields of forest produce, and accelerate the soil formation on newly-opened lands, the promotion of tree plantations has formed an integral part of AKRSP's land development programme since its inception.

In 1987 AKRSP initiated a two year pilot afforestation programme to promote higher, sustained yields of forest produce. AKRSP has established 1400 Village Organizations (VO's), which are reached through social organizers who assess the afforestation need and explain the technical assistance available to the village organizations. The programme is developed after a series of dialogues with the village organizations & the terms of partnership are then finalized before starting the programme.

Under the forestry development programme, it is proposed to plant 7.5 million seedlings over a period of 5 years in Baltistan, Chitral and Gilgit in Northern Areas. The afforestation programme is being implemented through Village Forestry Specialist's (VFS), drawn from the community and given necessary training in afforestation and nursery management. VFS act as an interface between the village organizations and AKRSP. Comparable village level women organizations will also be developed to involve local women in tree planting activities.

#### **HIGHLIGHTS OF THE AKRSP:**

- \* as one of the biggest NGO's in Pakistan, AKRSP has given a new and dynamic philosophy to the whole issue of rural development by associating the people at grassroots levels in development activities.
- \* it has organized villages into territorial units and facilitated them in identification of community/village development projects.
- \* the projects are perceived by the villagers by consensus. Villagers provide labor, whereas AKRSP contributes financially to help people get started.
- \* strength of AKRSP lies in motivating the Village Social Organizations, and making them realize their potential as development agents and vehicles of change.
- \* farmers in Northern Area are traditional tree planters, however the quality of their planting stock and management practices are inadequate, and in need of refinement.
- \* at present, incentives are needed to activate the people, (hypothesis), after establishment of demonstrations on the value of superior trees, proper planting and management techniques, explicit incentives will no longer be required.
- \* the programme seeks an active role of women in forestry development to make tree plantation a household activity.
- \* the strength of the programme lies in the training of villagers in forestry (Village Forestry Specialists), who will help their fellow villagers carry out planned tree planting.
- \* agriculture resource management is an integral part of the programme, seeking to increase firewood and forage production by planting multi-purpose tree species, inter-cropping and establishment of woodlot's.
- \* the programme intends to create awareness on environmental issues in the youth through creation of clubs in the schools.

#### **MALAKAND SOCIAL FORESTRY PROJECT:**

Malakand Social Forestry Project supported by Netherlands Government is operational in NWFP since 1989 at a cost of Rs. 99.707 million. The Malakand agency is spread over 952 square kilometers mainly comprising mountainous area with narrow valleys. About 250,000 people inhabit 51 villages of the Malakand Agency. The population consists of several social groups, ranging from

rich landowners to poor tenants. Since conflicts already existed in the past between different groups the Forest Department was convinced that successful reforestation of the denuded hills could only be achieved through an active participation of all land users. In view of this, the Malakand Social Forestry Project was initiated with the following objectives:

- increase the standard of living of the villagers, by promoting better use of the environment and initiating community development activities,
- increase the production of the communal owned hillsides on a sustainable basis, through the active participation of the communities, to ensure long lasting benefits for all the users of these marginal areas,
- re-orient the Forest Department to become an agent for technical assistance and to encourage the people to establish a process of self-development through the organization and monitoring by the Village Development Committee.

These objectives are realized through reforestation, range management, erosion control and other village development activities. About 20 Village Development Committees (VDC's) which act as mediators between the village community and Forest Department, have been organized, it is hoped that these committees will eventually act as independent bodies to initiate village development activities, and take the responsibility of managing village plantations. Under the project afforestation has been carried out over 7,070 ha, and range improvement of 3,000 ha has been done.

The project also provides for the organization of village women interest groups, training of female motivator's, money saving programs linked with immediate development activities, introduction of improved cooking stoves and fruit nursery development. Training courses are arranged for villagers, nursery and afforestation watchers and Forest Department staff. The programme covers a wide range of topics in forest and fruit nurseries, planting techniques, plantation management and village extension.

Extension forms the essence of the activities to organize and strengthen Village Development Committees (VDC's). VDC's are especially occupied in the preparation of utilization schemes for the income from the village plantations (fodder, firewood and timber), and to create interest in community savings. Other extension activities include village and school nurseries, organization of mass tree planting campaign, introduction of farm forestry, and the production of extension and educational material for school children, women and villagers.

#### **CONSTRAINTS OF COMMUNITY AND PRIVATE FORESTRY PROGRAMS:**

**PROGRAMMING:** At present the provincial forest departments manage state forests in Pakistan. The training of the forestry officials is biased towards regulatory functions and timber harvesting to earn maximum revenue. This traditional type of forestry which is over 100 year old is

not matching the present needs of the growing population and do not come up to the expectations to meet the emerging challenges. Whereas, 90% of the wood produced from the farmlands is being consumed to meet domestic energy requirements, the programme to develop woodlot's in the private sector have not been conceived to integrate with the other disciplines involved in the development of agricultural economy. Many of the existing programs although having components of social forestry, do not compliment each other due to lack of inter-disciplinary coordination.

**PLANNING PROCESS:** For any planning process the importance of a data base cells at both the provincial and federal level, is being acutely felt, because without reliable statistics, especially in areas pertaining to socio, economic, customs, traditions, role of women and extent of their dependence on natural resources; no viable project can be formulated. There is lack of trained manpower at the provincial level who can oversee the planning cell and carry out monitoring and evaluation of the existing projects, so that future projects can be planned and improved accordingly. The entire planning process is very cumbersome, consequently the projects do not reach the placement stage for appropriation of funds. Since forestry projects involve long maturity periods before fruition, and most of the benefits are intangible, these do not meet the criteria of planners for inclusion in the annual development programs (short to middle term benefits). The planners are less aware about the environmental role and Carbon dioxide sequestration of trees grown on state and farm lands, and as such, tree planting remains a low priority sector.

**IMPLEMENTATION:** The forest service is not geared to the social forestry concepts. Hence trained manpower in extension and outreach functions is not available. Since farm forestry involves very vast areas the mobility of the staff to reach farmlands away from the main roads is extremely difficult. Forestry professionals who are accustomed to traditional working find it difficult to adjust themselves with the job which requires special communication and extension skills as:-

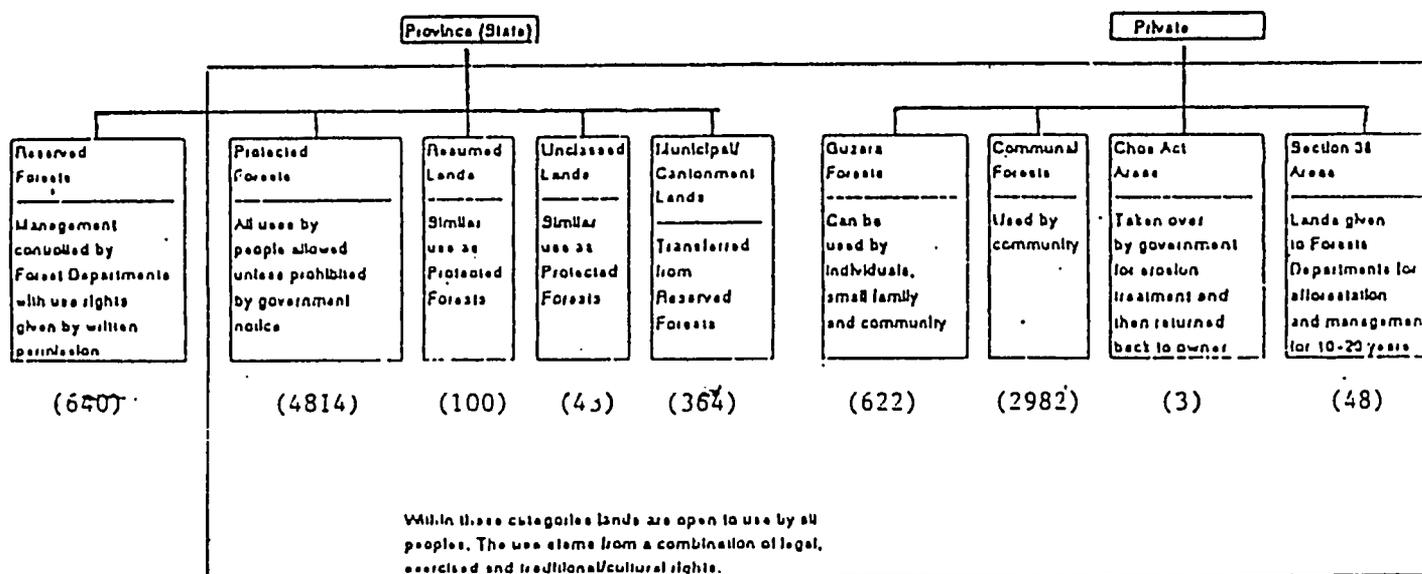
- most of the projects do not provide any inducement like honoraria, awards/recognition which could encourage foresters towards jobs which require more contacts with the farmers,
- most of the project areas, especially in upland watersheds, have so much ethnic diversity that people do not want to risk cash and labor inputs to sustain forestry projects,
- the interests of community members may clash or differ to such an extent that unified action may become impossible,
- when available community land is limited and open grazing a common practice, people are reluctant to enforce restrictions to protect trees,
- the uncertain tenure system in some areas, does not provide any incentive to a landless tenant using communal lands for open grazing, as he will have to sacrifice more compared to landowners,
- distribution of the income from sale proceeds of community managed woodlot's is difficult

- to work out, the big landlords often get away with the major share,
- long production cycle of the trees weaken the confidence of those planting today that they will get wood eight years down the road, it generates the suspicion that communal authority will appropriate wood to influential,
  - communities are not necessarily organized as joint producers, external designed programs seldom bother to establish grass root organization and institutional infra-structure within the community.

**BIBLIOGRAPHY.**

- Abeedullah Jan. 1989. Social Forestry in Pakistan: A Review. Paper read at SAARC meeting, 15-19 May, Dehra Dun, India.
- Abeedullah Jan and Gary G. Naughton. 1990. Outreach Plan For Social Forestry Program. Forestry Planning and Development Project. Islamabad.
- Agha Khan Foundation. 1989. The Agha Khan Rural Support Program; Background Notes, Agha Khan Foundation, Gilgit. 22 pages
- Dove, Michael R. 1987. Report # 5,. Prospects of Farm Forestry on Rainfed versus Irrigated Farms: The Punjab, NWFP, Baluchistan. FP&DP, Islamabad
- Dove, Michael R. 1987. Report # 6. Prospects for Wood-Dung Fuel Replacement Through Farm Forestry Development: The Punjab, NWFP, Baluchistan. FP&DP, Islamabad.
- Forestry Sector Master Plan Project, Pakistan. Upland Degraded Watersheds, May 1991, report by consultants.
- Forestry Planning and Development Project. 1990. Proceedings of the Wood Producers-Users Seminar, Lahore, 13 - 15 May 1990.
- Mohammad Amjad and Nadar Khan, 1989, The State of Forestry in Pakistan. Pakistan Forest Institute, Peshawer.

## LAND OWNERSHIP AND MANAGEMENT PATTERNS (Thousand ha)



All of these lands are grazed by livestock.

Source: The State of Forests in Pakistan (1987).