

The world over, there is a strong sense of crisis in forestry. Forest goods and services, once thought to be abundant, are now known to be scares. Pakistan suffers far more severe forest scarcities than most countries. Its natural forest asset is very small and forest or woodland area persons are one of the worlds lowest while most forests are slow growing.

## Chapter 3 Forests – the guardians of present and future generations

### Pressures

The natural forests of Pakistan are confronted by a wide variety of threats and pressures. Direct causes of forest degradation and loss include excessive exploitation of forest resources for commercial and subsistence purposes, encroachment and fire. Indirect causes include such factors as population growth, inequity, poverty and insecure land tenure. With population growth in the country, forests are under increasing demand for watershed regulation and subsistence uses including firewood and grazing.

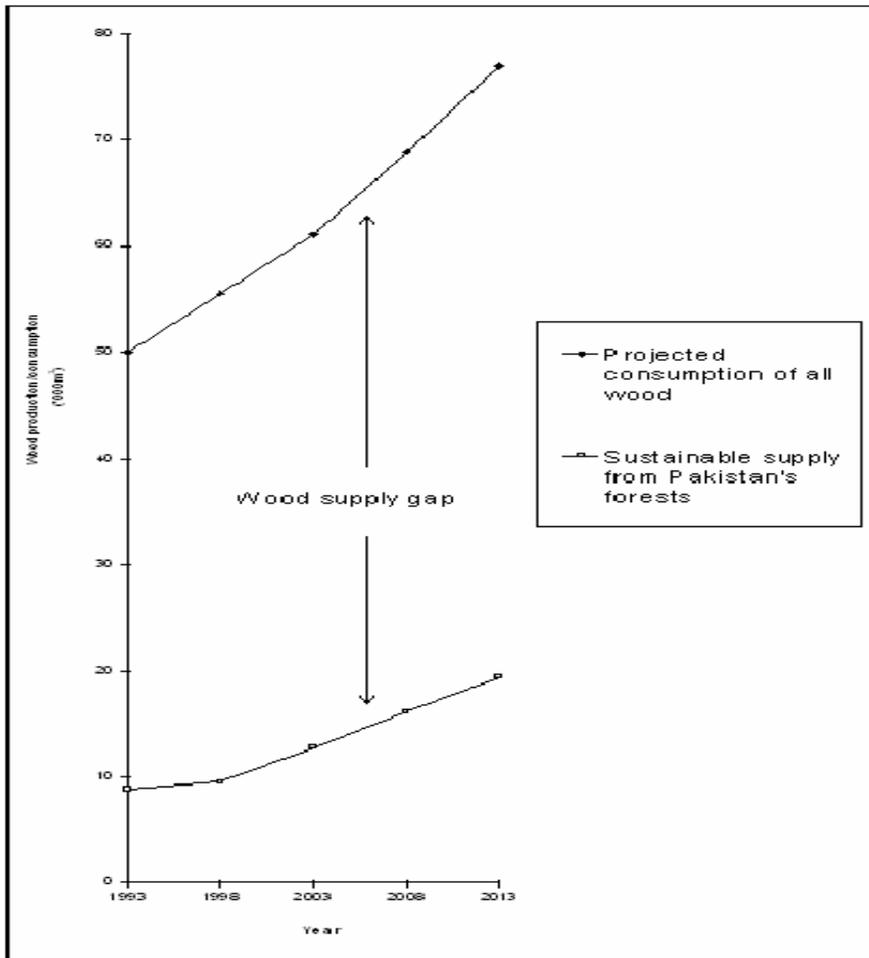


The projected consumption and growth of forests in Pakistan depicts a rapidly increasing pressure on forest resources. The major demand arises from industrial wood based sector and fuel wood consumption bifurcated into urban and rural sources of demands.

Sectors	Units	1993	1998	2003	2008	2013
<b>Industrial Wood</b>						
Total consumption	000 m <sup>3</sup>	3549	4280	5339	6419	7933
Consumption of all wood	000 m <sup>3</sup>	50004	55569	61065	68940	76967
Projected sustainable supplies from forests	000 m <sup>3</sup>	8847	9506	12802	16099	19395
Required from other sources	000 m <sup>3</sup>	41157	46063	49163	52841	57572
<b>Fuel wood consumption</b>						
Rural	000 m <sup>3</sup>	36578	40385	44587	49228	54353
Urban	000 m <sup>3</sup>	6917	7636	8431	3909	10187

However on the supply side the projected forest growth rate presents a major concern for the country where the wood supply gap is enormous. Consumption of firewood exceeds that of industrial wood by over 10 times and significant growth is expected in each, following population growth. This may lead to huge pressures on forest resources in areas without significant plantations that is, most of Pakistan except parts of Punjab and Sindh. It will also lead to pressures to import more wood, directly influencing the price hike which can in turn encourage investments in plantations and better forest management to fill the supply gap.

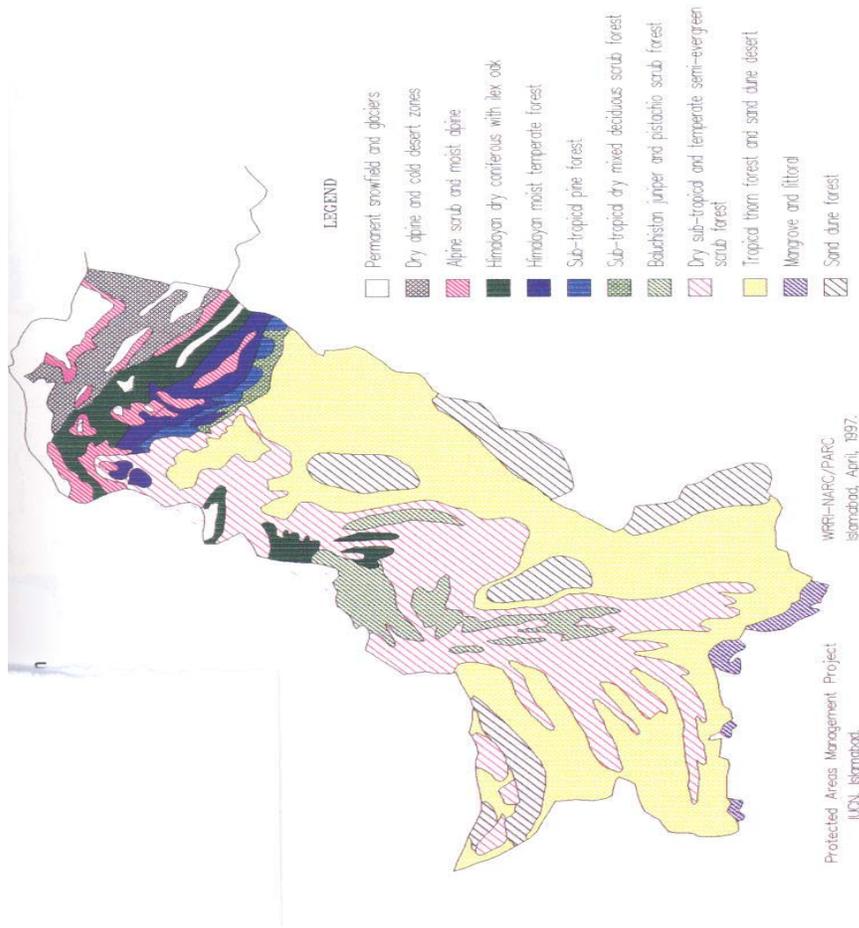
Both direct and indirect causes are exacerbated by poor forest management and planning, including the lack of an enabling environment in the form of policy and law for sustainable forestry. In addition, insufficient institutional capacities and the lack of community involvement in forest management are other areas of concern.



## State

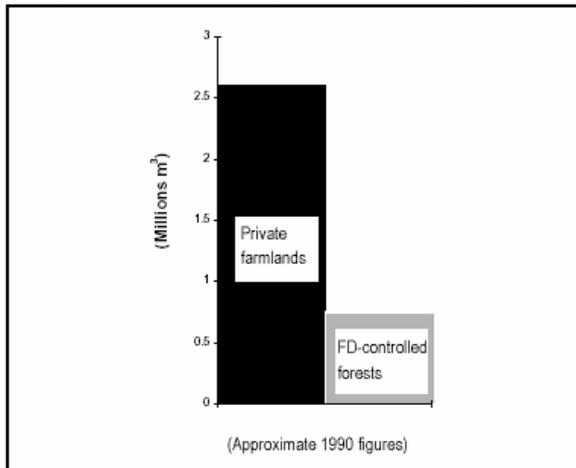
According to Forestry Sector Master Plan, forests, scrub and trees on farmlands cover 4.2 million hectares or 4.8% of the country. The deforestation rate has been estimated as 0.2% to 0.5% per annum - world's 2<sup>nd</sup> highest rate of deforestation. Two recent studies revealed that Pakistan's woody biomass is declining at a rate of 4-6% per year. The mangrove forests of Indus delta show a similarly dramatic decline.

There is no denying that Pakistan has a very low forest endowment however, this is compounded by a considerable debate over the precise estimate of forest cover. The problem stems from the use of legal areas of forest land as an indication of forest cover, irrespective of the actual amount of tree cover and its conditions. Seen from this perspective, the forest area under the jurisdiction of Forest Departments has increased in the last 5 decades – biggest increase of almost 1 million ha being in 1970-71 when several former princely states were merged in Pakistan and their large tracts of forest land were accounted for as state property. Deforestation within state forests and other legal categories of forest land is also not recorded. Counterbalancing this is the lack of inclusion of many farm plantations in forest area statistics.



Although there is, at present, no routine assessment of the production, distribution and marketing of all forest goods and services, it appears that farm plantations produce most of the timber – about 80% of the total of forests controlled by Forest Department.

Comparison of timber production from private farmlands and FD-controlled forests

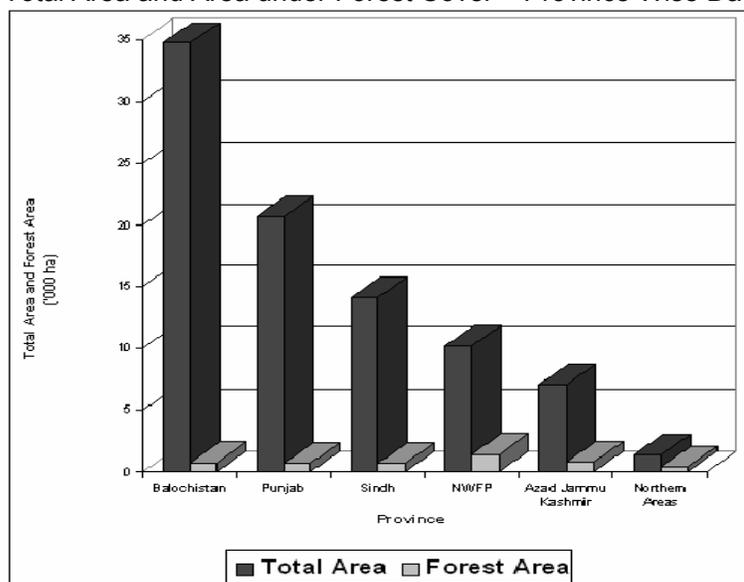


Source: Pakistan Forest Institute, 1990 and Reid, Collins and Associates, 1992

Acknowledging the statistical problems, the coniferous forests in northern parts of the country would appear to occur over 1.93 million ha. These are the main source of construction timber, resin, medicinal plants and wild fruits. The irrigated plantations, covering an area of 220,000 ha, are mostly in the Punjab and Sindh provinces. These plantations are a major source of furniture timber including rosewood and Dalbergia Sissoo. Also wood used for sporting goods (mulberry *Morus alba* and willow *Salix* spp) and mining timber (babul – *Acacia nilotica*) as well as the smaller wood for fuel comes from these plantations. The riverine forests cover some 300,000 ha and the scrub forest over 1.2 million ha. The scrub forests in the foot hills are managed primarily as soil cover but grazing of livestock by local communities is another major use. Following figures present forest cover by province and distribution of forest under state and private ownership.

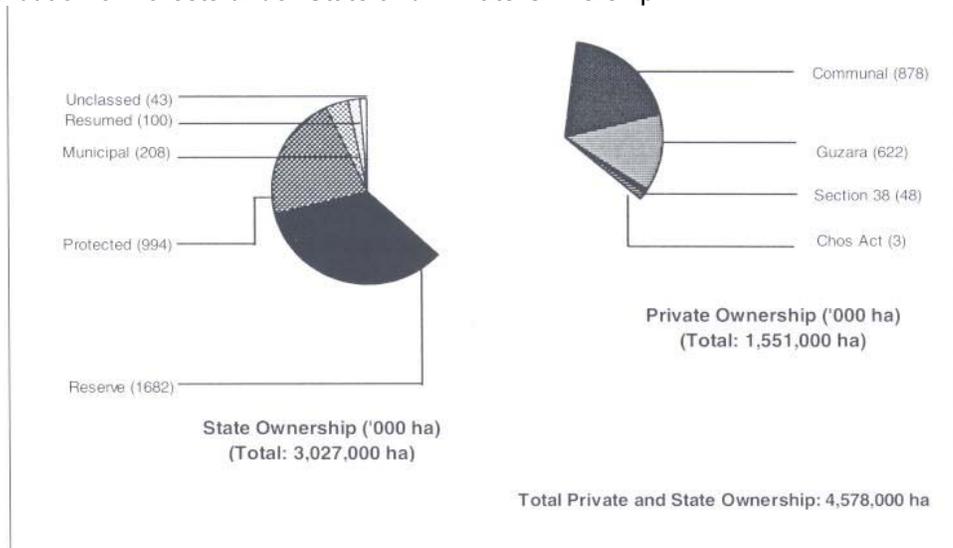


Total Area and Area under Forest Cover – Province Wise Data



Source: Pakistan Forest Institute

## Distribution of Forests under State and Private Ownership



Source: Pakistan Forest Institute

Depending on the legal status, there can be many stakeholder groups with different rights and claims in the forest resources as well as varying means for securing these.

### Stakeholders, Stakes and Means to Pursue their Stakes

Stakeholders	Stakes in Forests	Means to Pursue Them	Constraints Faced
Local Communities			
a. Guzara forest owners	Subsistence and commercial use	Individual land and shamilat. Legal rights. Illegal means	Continuous degradation of forest reserves; conflicts with other stakeholders; weak FD/FDC management
b. Right holders	flow of royalties and domestic use of wood products	Sale of royalties to timber traders. Collection or purchase of firewood and grazing	Declining income and supply of forest products; low royalty prices
c. Non-right holders	Use of forests for fuel wood, construction and grazing	Pay in cash or kind to right holders. Illicit felling.	Declining supply of forest products for subsistence use; exposure to high risks/security issues
Timber Traders	Commercial profits and political power	Purchase royalties at very low process. Contacts with FD officials. Removal of more timber than permitted.	Dwindling forest resources for commercial exploitation
State of Pakistan	Ecological and revenue generation aims		Dwindling forest resources, increasing local and international pressure for prudent management
a. Federal government	Honouring the relevant international treaties	Policy, legislation and inter-provincial coordination, international liaison and support	
b. Provincial government	Revenue and ecological balance	Management and protection capacities; policy and legislation	
International Agencies	Conservation of biodiversity of international prominence. Mitigation of global warming. Support to poor communities	Bilateral and multi-lateral funding, technical assistance and conditionalities	Continuous degradation and destruction of habitats, ecosystems, biodiversity. Political constraints

Industry	Wood for processing / profits	Purchase from the domestic market. Import wood	Rising prices with falling supply. Import restrictions
Pakistani NGOs	Biodiversity conservation and poverty alleviation	Political influence; bilateral and multi-lateral funds; links to foreign NGOs	Weak state and civil society relationship. Inexperience
Consumers	Wood products at low prices	Purchase from the market. Purchase substitutes	Rising prices with falling supply

## Impact

The issues pertaining to global warming, desertification and biodiversity conservation are associated directly with forest cover. This is one reason why forest resources and any steps towards their conservation can not be isolated from other sectors and have to be managed for a broad spectrum of goods and services. In addition, there are increasing conflicts over between different groups over the goods and services which can be obtained from forests and those who 'win' such conflicts often end up reducing the quantity and quality of remaining forests. The immediate losers are the rural communities whose livelihoods suffer while the long-term impact is borne by the whole nation as the forest asset is not utilised to its optimum renewable capacity, as critical watersheds are degraded leading to soil erosion, flooding and drought.

Loss of biodiversity, diminishing cultural and tourism values are other direct impacts associated with forest degradation. Similarly, lack of clearly defined property rights and rights that do not reflect today's conditions directly impinge upon sustainable forest management.

## Response

Significant efforts have been made for increasing forest cover at an average annual rate of about 33,000 ha. However, most forest policies in Pakistan have followed a normative-autocratic approach that is conditioned by colonial traditions of governance and forest management. With very limited forest cover in Pakistan, the task of sustainable forest management fulfilling the multiple and conflicting needs including ecological protection of highland watershed areas, commercial timber demands and



and subsistence requirements of local forest communities, demands high level policy commitment coupled with sound and elaborate planning framework, implementation mechanisms and effective monitoring and evaluation systems. Hence the need remained for an overarching National Forest Policy of Pakistan has remained for providing the guiding framework for sustainable forest management practices as well as wider participation of all stakeholders.

## **History of Forest Sector Policy Processes**

Since Pakistan has a small wood resource base, most policies have focused on maximizing wood production through intensive management of forests. It was not until the late 1980s that the forestry sector revisited some of its assumptions and operating principles. Although it cannot be said that the 1991 Forest Policy took care of most of the problems associated with earlier policies, it was a turning point in ushering in an era of greater openness and flexibility. Certain factors were responsible for this shift. Most significantly, the results of the large participatory forestry and rural development projects were beginning to have some impact on thinking about community rights and responsibilities in relation to government. As important, the preparation of the Forestry Sector Master Plan and the National Conservation Strategy pioneered means of looking at cross-sectoral interactions, and helped to draw attention to the need for a more people-centered multi-purpose forest policy.

Pakistan inherited the comprehensive 1894 forest policy, developed for the Indian Subcontinent at a time when there were abundant forests and low human and livestock populations. This was superseded by the policy statement of 1955 with subsequent revisions occurring in 1962, 1975, 1980 and 1991. According to the Forestry Sector Master Plan 1992, the wooded area of Pakistan at that time was about 3.584 million ha. However, the rate of natural resource depletion has reached alarming levels during the last three decades, with added pressures from socio-economic, political and institutional forces.

The 1990s may go down in the history of Pakistan's forests as marking a turning point in policy. As a consequence of a growing sense of crisis in forestry, courageous individuals from forest departments, key NGOs and certain donor agencies – fueled considerably by observing events elsewhere in the world – have instituted a series of experimental approaches to resolving shortages of forest goods and services, and to reducing the conflicts between stakeholders.

## **Forestry Sector Master Plan (FSMP)**

The Government of Pakistan prepared this long term Plan for the development of forestry sector over a period of 25 years from 1993-2018. The Plan reviewed in detail the state of Pakistan's forestry and suggested a number of approaches, policies, strategies and programs to meet wood demand, improve environment and promote social and economic well-being of rural communities. It also identified the social, economic and physical causes of forest depletion in the country, and proposed five areas of development programs, namely; soil conservation and watershed management, forest management, wood production and industrial development, ecosystem and biodiversity and provincial and federal institutional strengthening. The programs were presented as investment profiles, giving objectives, scope, strategies, costs and benefits.



The FSMP, highlighting the forestry issues at national and provincial levels, stipulated investment of Rs.48 billion over 25 years with resultant increase in forestry resource from the existing 5% to 10%. Based on the recommendations of this plan, World Bank prepared an investment programme of \$ 25 million for forestry development in Punjab. Similarly, the

Asian Development Bank prepared an investment programme of \$ 42 million for forest sector development in NWFP with \$ 1.5 million as Federal component for monitoring and updating the FSMP.

### **National Forest Policy**

Pakistan's National Forest Policy was launched in 2001 highlighting the need to conserve and develop the forests and biodiversity of Pakistan. This policy seeks to initiate a process for eliminating the fundamental causes of the depletion of renewable natural resource through participation of all the concerned agencies and stakeholders, to enable the sustainable development of the resources in the form of an umbrella policy which guides the Provincial and District level policy processes.

The goal of the National Forest Policy is to foster the sustainable development of forests grazing-lands and biodiversity of Pakistan, for the maintenance and rehabilitation of its environment and the enhancement of the sustainable livelihoods of its rural masses, especially women and children. This goal is aspired through key elements of the policy including: reducing the impact of socio-economic causes; reducing political interference in the forestry and other environmental departments; renovating and invigorating the institutions responsible for management of renewable natural resources; and preparing and implementing policies for fragile ecosystems. It is in these various key elements that the specific policy guidelines are suggested for all stakeholders for implementation and further action planning.

Under this Policy long-term forest working plans will be prepared in consultation with the local communities in accordance with the guidelines issued by the Federal Government. Commercial felling of trees from any forest area without a sustainable working plan is not allowed. Where private ownership rights in forests are 60% or more, protection/management mechanisms is left to the communities under legal cover and based on working plans. According to the Policy, management cost of such forests will be borne by the communities out of income from timber sales. Forest Departments will continue to assist the village communities in preparation of sustainable working plans and to monitor the activities regarding protection and management of their forests.

### **Forest Management, Planning and Implementation**

Responsibilities for planning and development in provinces rest with the Chief Conservator of Forest of the provinces. Development has often been in the form of projects with the project formulation being at the District Forest Officer level. However, of late, this arrangement has been reviewed and significant changes made. For instance, NWFP has established a Forest Management Centre (FMC) which has the mandate to prepare working plans using participatory approaches and reflecting environmental conditions and demands, especially those contributing to pollution control. FMC has also gained repute as an active player for policy, legal and institutional reform processes for the forestry sector of Pakistan.

There has generally been no detailed assessment of the impact of forestry projects. Nevertheless, this gap is being increasingly filled through FMC informing the processes for policy making. There are several other noteworthy institutions within the forestry sector that have been established to strengthen the institutional base for sustainable forest management and implementation of policies and plans.

Of these, the office of the Inspector General of Forest (IGF) maintains the role of the federal level policy formulation, national and international liaison, professional and education and training, research and processing of foreign assistance for projects. Establishment of Forest Development Corporations has been another step of the government towards streamlining forestry sector of the country. The Corporations stemmed out of the concerns felt in mid

1970s that the system of sales of standing trees through competitive bidding has been less than successful due to over harvesting by contractors. These corporations were envisaged to improve forest harvesting practices. However, later their role became more of awarding logging and transportation contracts.

In addition to government's efforts for institutional strengthening within the forestry sector, the civil society and NGOs have also played an important role. Amongst these the Aga Khan Rural Support Program (AKRSP) has been at the forefront of establishing a natural resource management strategy in Northern Areas of which forestry is an essential element.

### **Pakistan Forest Institute**

Amongst the forestry related institutions, the Pakistan Forest Institute, Peshawar (PFI) stands out as the most significant playing a vital role in strengthening the forestry sector in Pakistan. PFI is a national organization mandated for training and research in forestry and allied disciplines, for the conservation and management of natural renewable resources in the country. It was established in 1947 and at present is functioning as an attached department to the Ministry of Environment, Local Government and Rural Development, Islamabad. For these reasons, it has got an international recognition as well as a forestry institution of regional importance. Since its inception, the research activities of PFI remained focused mainly on applied research and development of technology packages for the promotion and scientific management of natural renewable resources. In this regard a major break through has been achieved in dry-zone afforestation techniques, biological rehabilitation of degraded lands, rehabilitation of waterlogged and saline areas to increase their productivity and combat desertification.

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