

## AN OVERVIEW OF FORESTS IN PAKISTAN

By

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### Background

Pakistan is a forest deficient country, mainly due to arid and semi-arid climate in large parts of the country. According to the Forestry Sector Master Plan (FSMP) 1992, natural forests accounted for 4.2 million ha (4.8 percent) irrigated plantations occupied 103,000 ha (0.12 percent) and rangelands covered 28.5 million ha (32.4 percent) out of the total land area of 88 million ha (879,800 km<sup>2</sup>). The area of natural forests and state-owned plantations declined at a rate of 27,000 ha/year but there was a 67 percent increase in the area of tree over farmlands.

Pakistan covers an area of 87.98 million ha; this includes 4.57 million ha of forests, constituting 5.2 percent of the total land area (Table 1). In 1998, the population was estimated to be 130.6 million with an annual growth rate of 2.6 percent. The population density is 164 persons/km<sup>2</sup> and 33 percent of the population live in urban areas. The forestry sector contributes only 0.3 percent to the GNP. This excludes the indirect benefits that forests provide. Annual wood production is 3.5 million m<sup>3</sup>, which satisfies the domestic demand for industrial wood. Forest and related small industries provide employment for more than 500 000 people. Forests and rangelands provide forage to 90 million head of livestock. The GNP per capita is US\$450 and the annual GDP growth rate is 3.6 percent. Category-wise details are given in table below.

### Forest Area Controlled By Provincial/Regional Forest Departments by Legal Category

Legal Category	Khyber Pakhtunkhwa	Punjab	Sindh	Balochistan	Gilgit-Baltistan	AJK
State	-	-	-	684.07	-	566.74
Reserved	93.94	311.23	323.40	-	-	-
Protected	470.80	2736.43	802.39	403.45	0.06	-
Un-Classed	105.20	102.78	13.52	-	-	-
Resumed Lands	36.53	8.69	2.39	-	-	-
Guzara	278.47	-	-	-	-	-
Communal	49.75	-	-	-	0.22	-
Section 38	7.76	19.21	-	-	-	-
Chos Act	-	1.24	-	-	-	-
Miscellaneous	839.58	21.09	-	-	0.38	-
<b>Total</b>	<b>1843.48</b>	<b>3200.67</b>	<b>1141.70</b>	<b>1087.52</b>	<b>0.67</b>	<b>566.74</b>

Source: Ministry of Environment

1. Chairman, Rockwell Group of Companies, Lahore & FPCCI Committee on "Environment".

During the year 2010-11 forests have contributed 91 thousand cubic meters of timber and 261 thousand cubic meters of firewood as compared to 93 thousand cubic meters timber and 263 thousand cubic meters firewood in 2009-10.

Provincial forest departments (PFDs) are responsible for planning, execution and implementation of forest, watershed and range improvement programs. However, policy formulation is the responsibility of the federal government. Currently, the forestry sector is facing many challenges: massive degradation of watersheds, deforestation, overuse of rangelands, biodiversity and loss of natural habitats, desertification, prolonged droughts, pollution, the heavy dependence of the rural population on biomass for energy, complex land tenure systems, weak forestry institutions, in-effective enforcement of law and lack of inter-sectoral coordination.

### **Importance of Forests**

It is not possible to sum up the importance of forests in just a few words. Forests impact on our daily lives in so many ways, even in the midst of a busy, noisy, concrete city centre. Despite our dependence on forests, we are still allowing them to disappear.

From the air we breathe to the wood we love, just think of how forests have affected your life today: Have you had your breakfast? Read a newspaper? Switched on a light? Travelled to work in a bus or car? Signed a cheque? Got a parking ticket?

Forest products are used in our daily lives. All the activities listed above directly or indirectly involve forests. Some are easy to figure out - fruits, paper and wood from trees, and so on. Others are less obvious - by-products that go into the manufacture of other everyday items like medicines, cosmetics and detergents.

But looking at it beyond our narrow, human, perspective, forests provide habitats to diverse animal species, and they also form the source of livelihood for many different human settlements as well as for governments.

They offer timber and non-timber products, and various recreational options. They prevent soil erosion, help in maintaining the water cycle, and check global warming by using carbon dioxide in photosynthesis.

Furthermore, due to recent natural disasters and water shortages, public expectations on the role of forests, which aid in the prevention of disasters, and provide a stable supply of good quality water (one tree can retain ground water up to 30,000 Litres), have been increasing. Accordingly, it is necessary to improve forests in order to prevent disasters in mountains such as land slides, erosion or avalanches. At the same time, it is necessary to improve forests in order to promote headwater conservation for the alleviation of water shortages and floods by stabilizing stream flow. Furthermore, in line with the progress of urbanization, demands for the environmental functions of the forest,

such as air purification and prevention of noise, have been increasing. A tree can absorb up to 6.3 Tons CO<sub>2</sub> and release 4.6 Tons of Oxygen.

**Importance of Forests in the National Economy**

Forests are considered as the backbone of a country's economy. They are being directly or indirectly used in our daily life to raise the economic growth of a country. Some of these uses are as follows:

- Raw material for paper, sports, silk, furniture and tanning industries.
- Medical herbs and seeds for pharmaceutical industries.
- Recreation facilities for tourism and camping.
- Timber/wood for fire.
- Reduce floods intensity.
- Increase fertilizer of land.
- Provide employment opportunities.
- Causes rains.
- Control soil erosion.
- Fodder for cattle.
- Provide employment opportunities.
- Chemicals such as turpentine oil.
- Leaves of forests provide natural fertilizers.
- Forests are great source of recreation, natural beauty and attraction.

**Forest Resources of Pakistan**

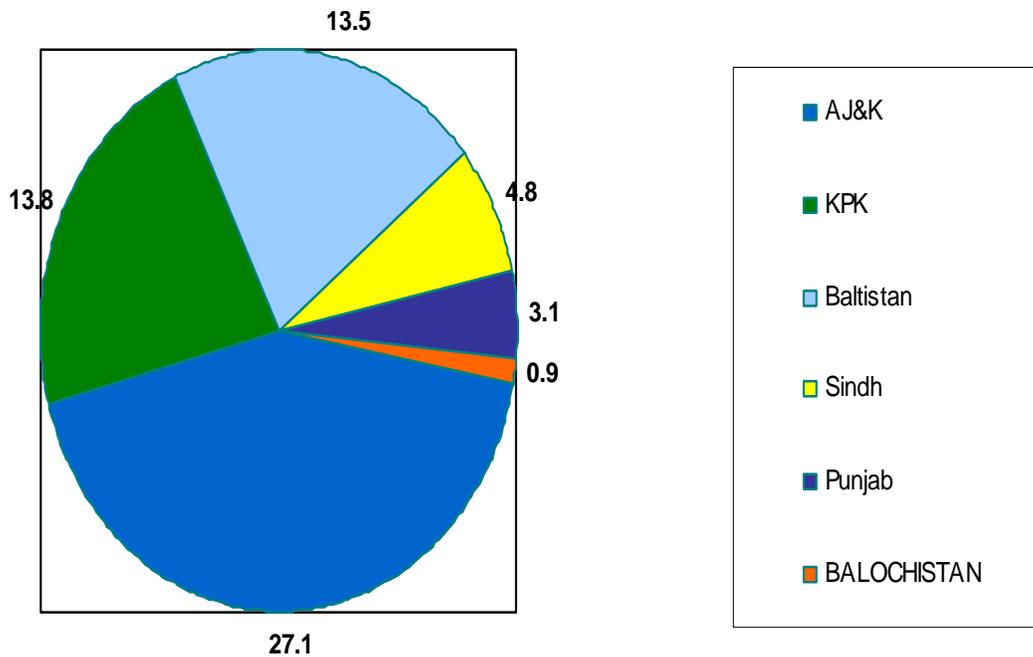
Although the landmass of Pakistan offers diverse soil conditions but the area under forests despite very congenial climatic conditions is barely 2.2% or about 1,687,000 ha of Pakistan is forested (according to recent research in 2007). Of this 20.2% ( 340,000 ha) is classified as primary forest, the most bio diverse and carbon-dense form of forest. Pakistan had 340,000 ha of planted forest. 2.2% is really a small area as compared to international standard according to which it should have been 25%.

Though the forest resources are meager, it plays an important role in Pakistan's economy by employing half a million people and fulfills one-third of the nation's energy needs. Forest and Rangelands support about 30 million herds of livestock. Forestry sector plays an important role in soil conservation, regulates flow of water for irrigation and power generation, reduction of sedimentation in water conveyances and reservoirs, employment and maintenance of ecological balance.

Pakistan being an agricultural country relies on sustained supplies of water and fertile soil. This is only possible when our forests and watersheds in the high hills are intact. Pakistan being a forest deficient country is facing timber and fire wood shortage to the tune of about 29 million cubic meters. There is need to increase the area under tree cover, not only to meet material needs of growing population but also to enhance environmental and ecological services being provided by the forests.

**Forest Area by Province (Percentage)**

The chart is presenting that most of the forested area comes under AJ&K (27.1%) whereas Balochistan has the least area covered by forests which is only 0.9%. KPK and Baltistan have almost the same percentages. So Pakistan has most of its forests in AJ&K



**Biodiversity and Protected Areas**

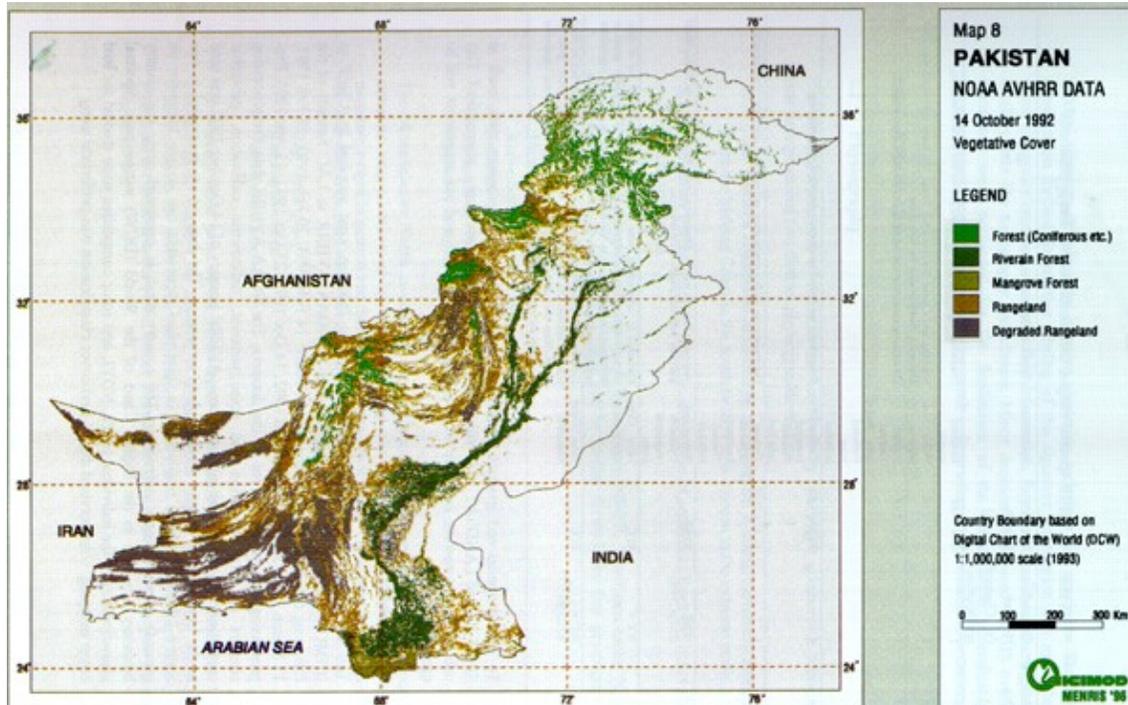
Pakistan has some 1027 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. Of these, 3.5% are endemic, meaning they exist in no other country, and 5.5% are threatened. Pakistan is

home to at least 4950 species of vascular plants, of which 7.5% are endemic.

The type of forests that exist in Pakistan with relative share are moist and dry temperate: coniferous 40%, scrub 28%, tropical thorn 3.5%, man made irrigated 5%, riverine 7%, mangrove 8% and farm forests 11%. Some types of forests with their detail of total area covered and species present in it are as follows:

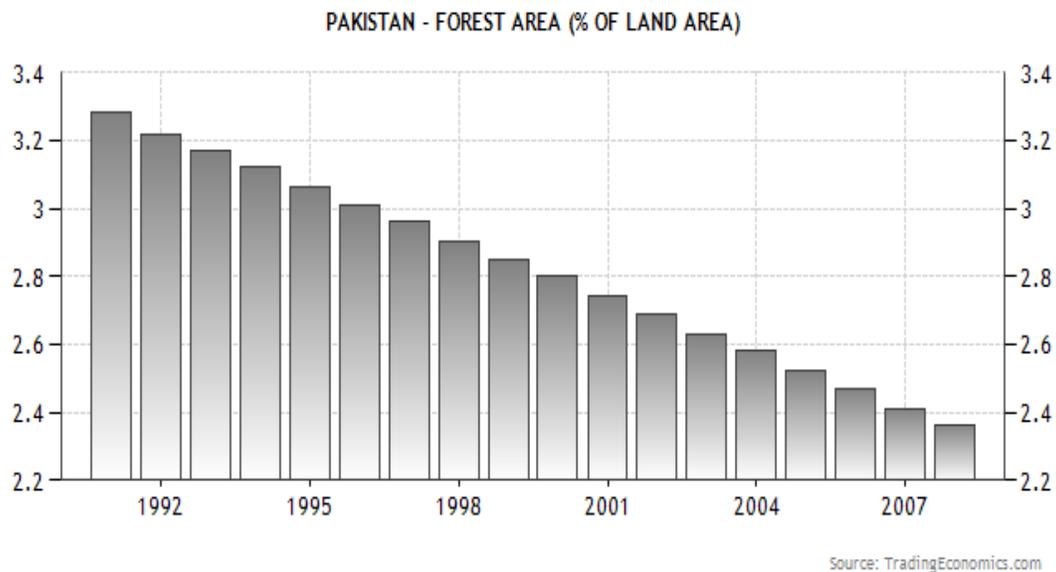
### Forest Resources in Pakistan

Forest Types	Total Area (acres)	Species	Location
Coniferous Forests	171,000	Chir, Kail, Deodar	Murree & Kahuta Hills,
Scrub Forests	635,497	Phulai, Kahu, Sanatha	Attock, Chakwal, Jhelum, Khushab, D.G.Khan & Foot Hills of Murree
Irrigated Plantations	370,657	Shisham, Euc Mulberry, Poplar, Semal, Kiker	Irrigated Plains
Riverain Forests	144,343	Shisham, Kiker, Eucalyptus	Located along Rivers: Indus, Jhelum, Chenab and Ravi
Rangelands	318,000	Phulai, Jand, Farash, Peelo, Kareer Dhaman and other Grasses	Thal (Layyah, Bhakkar), Cholistan (B/Pur, B/Nagar & R.Y.Khan). Pothwar (Chakwal, Attock), D.G.Khan
Total Compact & Rangelands	1,639,497		
Linear			
- Canalside	32,640 km	Shisham, Eucalyptus, Kikar, Farash	Throughout irrigation channels, roads and railway tracks of the province
- Roadside	11,680 km		
- Rainside	2,987 km		
Total	47,307 km		
Farmland Plantations	(17 trees per Acre)	Shisham, Kikar Euc. Simal	Throughout the province



### Change in Forest Cover

Between 1990 and 2000, Pakistan lost an average of 41,100 hectares of forest per year. The amounts to an average annual deforestation rate of 1.63%. Between 2000 and 2005, the rate of forest change increased by 24.4% to 2.02% per annum. In total, between 1990 and 2005, Pakistan lost 24.7% of its forest cover, or around 625,000 hectares. Measuring the total rate of habitat conversion (defined as change in forest area plus change in woodland area minus net plantation expansion) for the 1990-2005 intervals, Pakistan lost 14.7% of its forest and woodland habitat.



This rate of deforestation is very much alarming and there is actually a need of time to do some thing to protect these forests other wise it will be totally diminished in next decade.

#### Laws Dealing With Forests in Pakistan

The following laws are dealing with the forests in Pakistan.

1. The Forest Act 1927
2. The Punjab Land Preservation (West Pakistan Amendment Ordinance, 1963)
3. The Forest (West Pakistan Amendment ), Act 1964
4. The West Pakistan Fire Wood and Charcoal (Restriction Act, 1964)
5. Some Other Provincial Legislations

#### Departments Working For the Protection of Forests in Pakistan

Following are the departments working for the protection of forests.

##### Forest Department

Major department working for the protection of forest since 1888 is **Forest Department**. Department was created under British rule as *Imperial Forest Service*. Forest department proceeds under forest act 1927.

##### Ministry of Environment

Ministry of Environment in Pakistan has two wings. One is dealing with Environment (deal with Brown Sector) and the other one is dealing with Forests (deal with Green Sector). Functions of this department are Forest Policy Making (forestry research, education on top of forest policy), Forest Planning (Vision, long term plans) as well as it has two research arms, one of which is Pakistan Forest Institute and other is Zoological Survey Department.

There are many other federal as well as educational institutes which are also playing their part to protect the forests. Some of which are as follows:

- Pakistan Agricultural Research Council
- SUPARCO
- Allama Iqbal Open University, Isb
- University of Arid Agriculture, Rwp
- Some national and international NGOs dealing with forests include : IUCN, WWF, SDC / Inter Cooperation, LEAD Pakistan, Sustainable Development Policy Institute.

#### **Deforestation Rate in Pakistan is Alarming**

**The woody bio mass of Pakistan is now severely threatened by the growing consumption of fuel wood and timber.** It is feared that this natural resource would be totally consumed within the next 15 years, says a government report on deforestation. The principal cause of deforestation in Pakistan is consumption of fuel wood and timber (primarily for house hold firewood) and it exceeds production in all the four provinces except in the relatively sparsely populated Northern Areas. This consumption is expected to increase in line with the growth of population projected at about 3 per cent a year.

Pakistan is having the world's second highest rate of deforestation, leading to the wholesale disappearance of trees, shrubs and ground flora together with the vertebrate and invertebrate fauna they normally support. The loss of forest habitat has had a severe impact on Pakistan's biodiversity and has serious implications for the nation's other natural and agro-ecosystems, according to the biodiversity action plan for Pakistan. Pakistan's deforestation rate is alarmingly high, threatening the lives of many Pakistanis who are dependent upon them for their livelihood. Deforestation is also a combination of governmental mismanagement, corruption and economic development.

#### **Yet we are losing them**

Over the past 50 years, about half the world's original forest cover has been lost, the most significant cause for that being human beings' unsystematic use of its resources.

When we take away the forest, it is not just the trees that go. The entire ecosystem begins to fall apart, with dire consequences for all of us.

### **International Year of Forest**

The United Nation's General Assembly declared 2011 as the International Year of Forests to raise awareness on sustainable management, conservation and sustainable development of all types of forests.

The whole world is celebrating this year as the year for forests and planning lots of things to do some thing good or to develop policies to protect their forests. That is also the time for Pakistan to develop some effective policies to protect its forest, the country which is on 110th number according to world rating, for the percentage of land covered by forests.

### **Recommendations**

Following recommendations are forwarded for further protection of forest in Pakistan :

- There is a need to develop multistakeholder forums at Federal, Provincial and local levels to review the forest development. In the past, forest policies have been prepared in isolation from wildlife, fisheries, tourism, agriculture, education, population planning, water and the energy sectors. There is a need to develop close linkages with other sectors for sustainable resource development. Extra-sectoral influences are not considered in formal forest policies.
- There is insufficient capacity with the institutions and in some cases, foresters have poor understanding of issues related to forest biodiversity, management of forests as carbon sinks, international trade in forest products, and forest certification.
- The lack of criteria and indicators for the management of forests in different ecological zones is problematic. The existing forest classification is based on the 1935 description and classification. There is a need to undertake an ecosystem-based classification according to the accepted international system.
- Stakeholders (local communities, other government departments, NGOs and biodiversity specialists) are not involved in the preparation of management plans, which should be incorporated by forming a Committee on Federal & Provincial levels.
- Strengthening of the institutional set-up for the implementation and monitoring and review of different programs and policies is required. Support is also needed for conducting reviews to collect scattered items of forest legislation into a uniform format in accordance with international conventions.
- The subjects of international protocols, nationally important issues such as biodiversity conservation, watershed rehabilitation and a broad monitoring system of forest stocks and flows that draws upon provincial forest resource accounting systems should continue to remain with the Federal Government.

- The provinces should focus on all aspects of forest investment and management, including the preparation of working plans, harvesting, sale, afforestation, credit, research and training. They should be linked to village- and district-level organizations involved in forest management. Provinces should set up forest resource accounting systems to provide information on forest stocks.
- Government should develop a policy to maximize the recycling of paper waste.
- Conservation of forest must be practiced at national level.
- There should be an interval in cutting of trees which should be as long as a tree takes time to re-grow.
- Planting of 10 trees against the cutting of a tree should be practically implemented.