

UNIT 4

FOREST

A **forest** (also called woodland) **is an area with a high density of trees**. There are many definitions of a forest, based on the various criteria. These plant communities cover approximately 9.4% of the Earth's surface (or 30% of total land area), though they once covered much more (about 50% of total land area).

Having the lowest forest cover even in South Asia is definitely a matter of grave concern but simply regretting this harsh ground reality is not enough, as it requires effective policies to avoid future environmental disasters at least for the sake of coming generations.

A documented report submitted to the Ministry of Environment stated that Pakistan has forest cover of **5.2** per cent while this figure is **70** per cent in Bhutan, **37** per cent in Sri Lanka, **25** per cent in India and **18** per cent in Bangladesh — all of them are third world countries having the same problems as we face in Pakistan.

The latest data provided in the draft of National Forest Policy showed that **Gilgit-Baltistan has highest forest cover that is 27%, Khyber-Pakhtunkhwa 13.9%, AJK 11%, Sindh 4.8%, Punjab 3.1% and Baluchistan has 2.9%.**

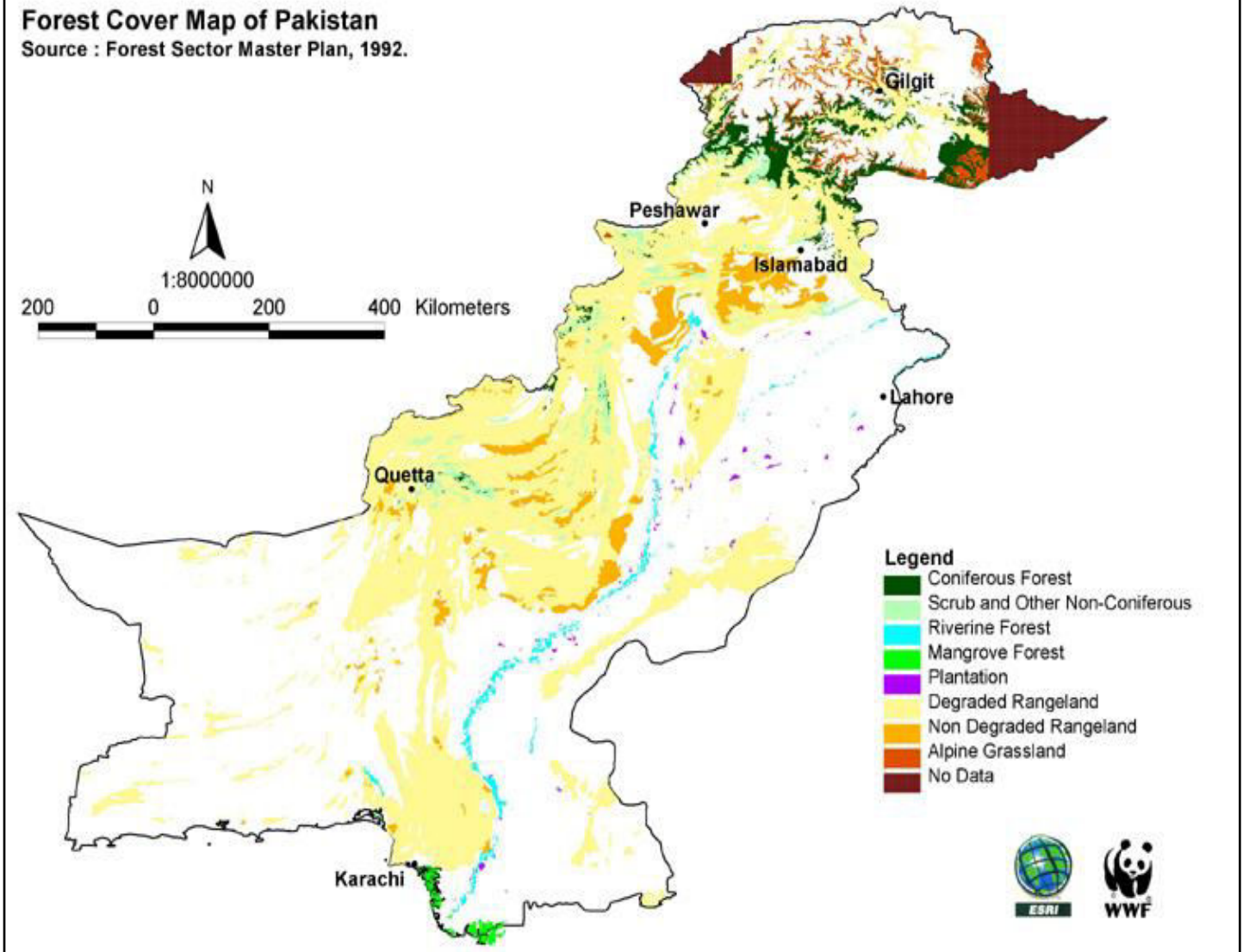
A report of the Ministry of Environment showed the fact that since 1993 there is an absolute ban on deforestation, but maximum area of forestland was declared as non-forest and converted into commercial and residential areas since then.

The intensity of situation can be gauged by only reviewing 'brutal slaughtering' of trees in Murree and its adjoining areas where investors are keen to establish their commercial businesses. The construction of Murree Expressway might be a good step but opportunists found new possibilities for investment and thousands of trees have so far been removed along this road by private housing societies.

The government has set a target to enhance forest cover from 5.2% to 6% by 2016 and it needs concerted and consistent efforts to achieve desired results.

Forest Cover Map of Pakistan

Source : Forest Sector Master Plan, 1992.



Key Points:

- A large stretch of area dominated by trees is called forest.
- About 25 % of the total area should be covered with forest.
- In Pakistan forest dominate only 4-5 % of the area.

Types of Forest:

(i) Productive Forests:

- The forest which produce wood for furniture, herbs for medicines etc.
- They are thick forest; the canopy is so thick that sapling hardly receives sunlight.
- They can be natural or irrigated forests.
- They are also planted to maintain ecological balance.

(ii) Protective forest:

- These forests are planted to protect the environment.
- They are normally planted along both sides of roads, railways, rivers etc.
- The canopy is not as thick as that of production forests.

- They are mostly man made (irrigated) forests but they can be natural as well.
- Their main function is to protect the soil and to prevent it from eroding or blowing away.
- They keep the environment pleasant by lowering the temperature and providing shade.

Types of forests found in Pakistan:

(i) Alpine forests

- They are located in north and north western mountains.
- These forests are located above 4000 meters.
- They are located in snow – covered areas.
- Trees have stunted growth due to low temperature and less sunlight.
- Roots spread sideways on the thin soil to absorb nutrition and to have better grip on the ground.
- Used as fuel wood normally.
- Leaves are directed downwards to avoid snow accumulation.
- Gilgit, Skardu, Chitral, Dir etc are some of the areas where alpine forests are found.

(ii) Coniferous Forests:

- These forests are found at the height between 1000 meters and 4000 meters.
- Due to the availability of optimum environmental conditions, they are ever green forests and rise to the height of 20- 25 meters.
- The top is cone like so these are called coniferous forests.
- Less leaves fall during autumn.
- Evergreen forests survive in low temperature.
- Sloping branches prevent snow accumulation.
- Murree, Abbotabad, Muzafarabad , swat, Mardan, Rawalpindi, Islamabad, Quetta etc are some of the areas of coniferous forests.
- Cheerch, Deodar etc are some of the species of coniferous. Wood is used for furniture making domestic fuel, Herbs are used for medicine.
- Good breeding and conserving centers for birds and wildlife.
- Add to the scenic beauty of the area.



(iii) Subtropical Scrub Forests:

- These forests are located at the foothills of mountains and in plain areas.
- Due to the availability of optimum environmental conditions the trees grow to reasonable good height and remain green for long period of time.
- Sub tropical broad leafed and tropical thorny species.
- Shisham, Babool, Diar, Willow etc are some of the species.
- Wood is used for furniture making, sports goods, and fuel wood by the local people.
- These forests are also used for grazing purpose.
- Gujrat, Sheikhpura, Sialkot, Gujranwala, Peshawar, kohat mardan are some of the places.

(iv) Tropical Thorn Forests (Rakh) :

- These are found in Punjab plains, southern and western Baluchistan and in Sindh plains.
- Due to lack of optimum conditions trees do not attain good height (6 to 10 meters).
- Trees are mainly thorny bushes.
- Deep roots to search for water
- Wood is used as fuel wood by the locals.

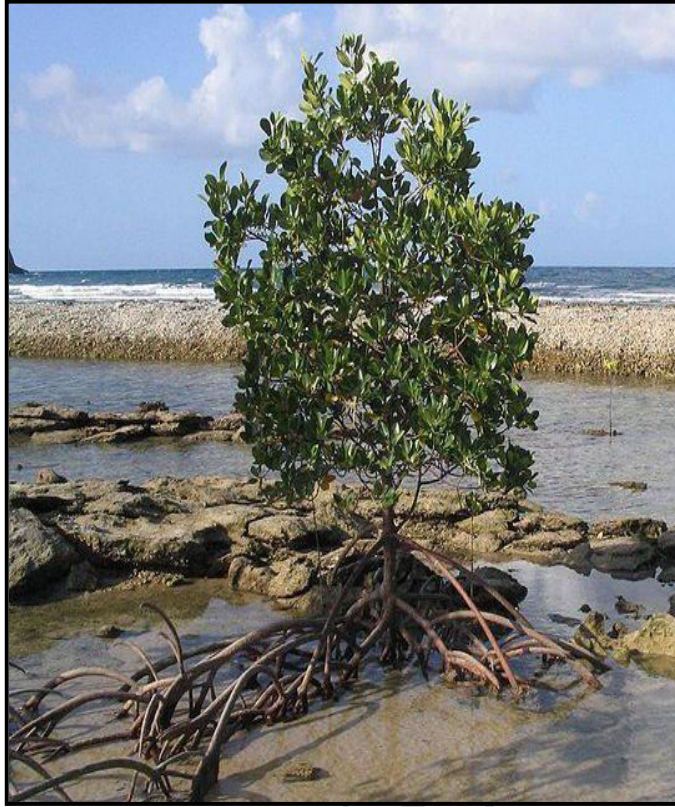
(V) Riverain or Bela Forests:

- These forests are found in the Active Flood Plains of river Indus and its tributaries.
- Linear plantation along the banks of rivers.
- As the optimum environmental conditions are met so the trees grow to good height.
- Species like Eucalyptus, Poplar, Shisham, Babul etc are grown there.
- Wood from these forests is used in furniture making, sports goods making, papermaking etc.
- Areas of the upper Indus plain are located in this region.

(vi) Mangrove Forests:

- These forests are found in coastal areas of Sindh and of Baluchistan.
- The conditions required by the mangrove forest are in the coastal areas.
- They grow in salty water of the sea and require marshy soil.
- These forests do not grow to good height as their roots remain in water all the time. In better water areas, the trees rise to 6-8 meters but their general height is 3 meters.

(Mangroves are salt tolerant trees adapted to live in harsh coastal conditions. They contain a complex salt filtration system and complex root system to cope with salt water immersion and wave action. They are adapted to the low oxygen conditions of waterlogged mud).



(vii) Irrigated Forests:

- These forests were planted mainly by human.
- These can be both productive and protective forests.
- Changa Manga is such a forest; other locations are Chicha Watni Guddu barrages.
- The British planted these to provide fuel wood to run locomotives.
- These are planted in the linear style on both sides of roads, railways, canals etc.
- They are planted to protect environment, to protect wood for furniture, for sports goods manufacturing, solution to water logging and also use for paper making.

Deforestation:

- The removal of trees on large scale is called Deforestation.



Sustainable forestry:

- SF means that we should manage the forest resources in such a way as to ensure that we will be able to obtain the things that we want from the forests on regular basis while conserving the natural environment.

Types	Areas	Description	Importance
Alpine Forest	1. Northern Areas (Chitral, Dir) Below the snow line	Trees have stunted growth due to low temperature and less sunlight	Used as fuel wood only
Coniferous Forest	1. Northern Areas. 2. NWFP 3. Rawalpindi, Islamabad 4. Baluchistan hills 1000-4000meters	Evergreen forests survive in low temperatures. Conical in Shape. Sloping Branches which prevent-snow accumulation. Less leaf-fall provides less humus formation.	Source of timber for furniture. Environment protection. Scenic Beauty. Attract tourists.
Tropical Thorn Forest (Rakh)	1. Punjab plains 2. South & Western Baluchistan. 3. Sindh plains Below 1000 meters	Low height (6- 10 meters). Forests dominated by thorny hardwood.	Used as firewood.
Scrub Forest	1. Hills and foothills of Jhelum, Gujrat, Attock Districts. 2. Areas of NWFP.	Sub tropical broad-leafed and tropical thorny species.	Watershed protection. Firewood. Grazing purposes.
Riverain or Bela Forest	1. Along banks of river Indus.	Linear plantation along banks of rivers. High-yielding commercial hardwood species.	Shishum and Babul. Furniture.
Mangrove Forests	1. Indus Delta 2. Hub Delta	Low trees and Shrubs grown on tidal mud flats. Roots spread under Water. Limited number of Species. Stunted growth of trees because of industrial waste.	Supply firewood. Used for timber. Breeding grounds for fish and shrimps.
Irrigated Forests	1. Changa Manga 2. Wan Bachan 3. Chicha Watni	Economically important species planted.	Important source of timber, firewood.