

Forests

Aforestation:

Plantation of trees in a non- forest area. Planting tree a new area is called aforestation.

There is 3 kind of aforestation of Pakistan;

- i) To plants forests alongside roads and canal is called is linear plantation.
- ii) Plating of trees around dams barrages, reservoirs to save the surrounding area from water- logging, salinity, floods and to increase the scenic beauty.
- iii) To plant trees in barren area with the help of irrigation facilities like canal and tubewell irrigation.

Reforestation:

Plantation of trees against deforestation in a forest area or planting of trees against cutting from commercial purposes.

Deforestation:Reckless cutting of trees or to clear the forest area is called deforestation.

Protected forests: These are government owned forest where no one can cut even a single tree without the prior permission of the government. Cutting of trees is only allowed.

When the country is in severe economic crisis.

During war (to accommodate the army) or for strategic purposes

Production Forests:These are government as well as privately owned forests. Here people are allowed to cut trees for commercial purposes like; furniture making, sports goods industry, match sticks, wooden boxes etc. In these forests reforestation is necessary according to law.

Importance of forests for Pakistan:

- Act as wind breakers.
- Provide fuel wood.
- Provide raw material for wood based industries.
- Provide herbs for pharmaceuticals.
- Prevent desertification.
- Source of charcoal.
- Provides fodder for animals.
- Prevents flooding on mountain slopes.
- Provides humus.
- Protects wild life.

Causes of deforestation in Pakistan:

Cutting trees for fuel wood: People cut the trees for their wood to warm their houses, cook their food etc. in the remote villages of Punjab, Sindh K.P.K. and Baluchistan. Most of it is required and cut in K.P.K. due to severe climate conditions.

Lack of enforcement of forests rules and regulation:

Cutting of trees for commercial purposes: Furniture, paper, sports goods, wooden boxes, match box and rifle bolt etc.

Agriculture: To clear the area for cultivation, particularly known as shifting cultivation.

To clear the forest area for settlement:

To accommodate the ever increasing population.

To clear for building infrastructure:

Roads, dams, flyovers, canals etc.

Forests fires:

To avoid this situation in hot and dry areas.

Consequences of deforestation:

Decreases the amount of rainfall and raises the temperature.

Global warming.

Soil erosion (dirty river water).

Siltation in dam reservoirs, canals etc.

Chances of flood increase.

Decreases the commercial activities especially wood related industries.

Decreases soil fertility.

Threat to wildlife.

Suggestions to preserve forests:

Enforcement of forests rules in Pakistan.

Discourage deforestation and encourage afforestation and reforestation.

Provide alternative sources of energy like Kerosene oil LPG and electricity especially northern areas and remote villages of Pakistan where people use wood as fuel.

Educate the people about the disadvantages of deforestation.

Making the aware people about the proper tree cutting techniques like do not cutting trees in a sequence cutting only the dead trees, do not cutting the young trees from the roots and cutting trees at a particular angle, so that they can regrow.

Types of Forests:

1. Alpine forests:

Alpine forests are found at the altitude of 4000m to snowline. They are found in Swat, Chitral, Dir, Kohistan and northern areas.

Alpine forests are not taller than 8m. They have dwarfed and stunted growth because of extremely cold weather, lack of sun light and frozen sub soil. They have fleshy and hairy leaves. Due to heavy rainfall in these areas, alpine trees are normally caution shaped. Most of the alpine trees have large brightly colored flowers. They have start roots due to freezing sub- soil hard rock's beneath the surface.

The important species of alpine forests are silver, fir, Juniper, Birch etc.

They are not very important economically and are mainly used as fuel wood.

2. Coniferous forests:

They are found at the altitude of 1000-4000m in the hilly areas. They are found in Swat, Kohistan, Dir, Malakand and Manserah district of K.P.K. they are also found in Rawalpindi district of Punjab and in Quetta and Kalat division of Baluchistan.

Most of the coniferous trees are conical in shape. The average height of these is 13-30 meters. They have small and needle shaped leaves so the surface area is small. This control the evapotranspiration. They are evergreen forests due to less leaf fall. The cone shaped allows the snow to fall off. The trees grow close to each other to maintain the forest temperature. Important species are; fern, spruce, Deodar, Kail and chir.

Tropical thorn forests :(desert vegetation)

These forests are generally found in Thar, Thal, Kharan and Cholistan desert. They are also found in the barren areas of Punjab and Sindh.

They are mostly found in the form of thorny bushes with long spines. They have small leaves with small surface areas to control the rate of transpiration. They have hard bark due to hot and dry climatic conditions of desert. The trunk wood is very hard and roots are very long. Roots speared inside the earth in search of water. They have medium tree crown. They average height of these bushes is 3-8 meters and are mostly found in scattered patches.

The important species of these forests are acacia, tamarisk, salvadora, cuts. They are primarily used as fire wood and also used for animal fodder and grazing ground for animals.

River rain / Bela forest:

These are found alongside Indus and all its eastern tributaries. They are very dense alongside river Indus in the lower Indus plain.

They are large crowned, dark green colored trees. They mostly have broad leaves with waxy texture and drip tip to allow rain water to slide off. They have soft bark but hard wood as water is continuously available. These trees are mostly away from each other due to large

crowns. The surface area is covered with small grasses, shrubs, fungi. The trees grow in a linear and rise up to the height of 50 meters because of availability of water & sunlight.

The important species of river rain forest are Babul, Teak, Sheesham, Willow and dhak.

❖ Babul, Teak and Sheesham make good quality furniture.

The valuable species of river rain forests are used for making furniture, agricultural implements, sports goods etc. the hard wood of low quality is used for making beams, Pillars of wooden hoses etc.

The grasses and shrubs of river rain forests are used as fodder for animal and grazing pastures.

Mangrove forests:

Mangroves are found in the coastal areas of Pakistan. Especially in the coastal areas of Sindh there is a thick growth of mangroves in the Indus delta. In the Makran coastal areas the mangroves are found near Hub delta, Porali delta and Hingol. (Only patches mangroves remain)

❖ **Hub, Porali and Hingol are seasonal rivers. This the growth of mangroves is thin:**

The height of mangroves ranges from 3-8 meters. The growth of mangroves depends upon the availability of fresh water. Near Indus delta their height is about 8 meters. The height decreases west ward. They have soft and waxy braches with small leaves. The inner part of the leaves is covered with salt which can trap the fresh water and store it for a long time. The roots of these trees are sometimes on the surface to get fresh water from the delta. The main role of mangroves forest is to protect the soil from erosion. These forests also provide breeding ground for fish and fodder for livestock.

The important species of mangroves are timar, chori, Avicinea and kunni etc.

Mangroves are mainly used for making fodder for animals, charcoal (by burring the trunk of mangroves trees). It is also used for leather tanning. Used as fire wood by local people. Also used making card board for furniture. Mangroves provides important herbs for pharmaceutical and local doctors (hakims)

Irrigated forests:

Irrigated forests are mostly found near the source of water. Nine out of eleven forests are found in Punjab and only two in Sindh. In Punjab they are found in Changa Manga and Chicha Watni near mangla dams etc. in Sindh they are found near Guddu and Kotri barrage.

They have broad leaves soft bark and hard wood as water is easily available. They have large green crowns and the leaves have a waxy texture, with drip- tip to allow rain water to slip down. Irrigated forests are planted in liner form and belong to only one type of species as

they are planted by humans. The height of trees varies from 30-40 meters. In some cases the trees are planted in compact and dense form in gardens and parks.

Important species irrigated forests are Teak, Shisham, Babul, Mahagony, Eucalyptus and Jhand. , Eucalyptus helps reduce water logging and salinity. Jhand is used as fuel in locomotives.

Economically they are very important used on timber in industries for making furniture, also used for making sports goods. Used as firewood for locomotives. They also clean the environment by filtering the polluted air, check the water run- off, reduce soil erosion and increase soil fertility. Provide shade near roads for pedestrians. Reduce wind speed in farmlands for crops. Provide shelter to animals in the farms.

Subtropical dry forest:

These forests are found at the altitude of 1000 m in Gujrat, Jehlum, Attock and Rawal Pindi in Punjab. In K.P.K in Mansehra, Mardan and Peshwar. Also found in foot hills of sulaiman mountains.