

8th – Conservation of Plants & Animals I



- India is a large developing country known for its diverse forest ecosystems. The protection of forest ecosystems is critical as forests are a home to a large number of plants and animals.
- In India, about one-fifth of the area is under forest cover with immense wealth of wildlife. Forest is a complex biological system. It is essential to protect forests and to conserve air, water and land. Forests are important to us because they:
 1. Check soil erosion.
 2. Provide raw material for making paper.
 3. Control climatic conditions.
 4. Prevent floods.
 5. Help in maintaining the CO₂ and O₂ balance in air.
- Conservation of Forest:** the methods of forests conservation are prevention of:
 1. Cutting of trees for agricultural purpose results in loss of habitats of plants and animals, replanting of trees in a forest is very important part of conservation. In order to conserve forests the prevention of cutting down of trees is essential.
 2. Excessive grazing: increasing population of domestic animals has led to overgrazing which must be controlled to save forests.
 3. Poisoning of Biodiversity: avoiding disposal of wastes from cities, agricultural fields and industries into forests.
- However, forest land is being sacrificed for massive developmental projects that have become a necessary part of urbanisation and industrialisation.**
- All these factors have led to the indiscriminate cutting down of trees in the forests. This is known as deforestation. Deforestation has both domestic and global consequences.
- Domestic Consequences of Deforestation:**
 1. Disrupted river flow: Deforestation increases soil erosion and decreases rainfall. Both these factors, in turn, affect the flow of rivers and the path taken by them.
 2. Flooding: Deforestation results in increased instances of flooding as there is lack of trees that bind the soil and absorb water. The deposition of soil in river bed decreases the depth of rivers.
 3. Drought: Fewer trees means more carbon dioxide in the atmosphere. This leads to global warming, i.e. increase in temperature on earth that, in turn, disturbs the water cycle. Due to decreased rainfall, droughts occur.
 4. Wildlife extinction: Since forests provide habitat to many plants and animals, deforestation makes these animals homeless. This is the main cause of extinction of a large number of rare plants and animals.
 5. Displacement of forest dwellers: The tribes, for whom forest is their only home, are also displaced due to deforestation.
 6. Scarcity of forest products: Fewer trees in a forest also means decrease in the production of a number of forest products which are useful to man.
- Global Consequences of Deforestation:**
 1. Climatic change: A shift in climatic belts is being felt all over the world as a result of deforestation. The summers are becoming hotter and rainfall in many parts is deficient.
 2. Desertification: Deforestation leaves the soil naked and leads to soil erosion. Due to this, the soil becomes less fertile and, at times, the lower rocky layers are exposed. This leads to the formation of deserts.
 3. Ozone depletion: Certain greenhouse gases, such as nitrous oxide accumulate in earth's atmosphere due to deforestation. These gases destroy the ozone that forms a protective shield in the form of the ozone layer present in the stratosphere.
- Conservation of Forests and Wildlife:** The protection, preservation, management or restoration of wildlife and of natural resources, such as forests, soil and water is known as conservation. The variety of life on earth is commonly referred to as biodiversity. It

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plays an important role in the function food chains and food webs. In fact, it helps to maintain the ecological balance of ecosystem.

- **Biodiversity:** number and variety of life forms includes plants, animals and microorganism that exists is known as biodiversity.

- **Conservation of Wildlife:** by preventing deforestation, planting new forest (afforestation) and creating wildlife sanctuary we can protect natural habitat and provide food and shelter.

- An **ecosystem** is a natural unit consisting of all plants, animals and microorganism (biotic factors) in an area functioning together with all of the physical (abiotic) factors environment. For example, a forest is a natural ecosystem, while an aquarium or a field is an artificial ecosystem.

- **Species:** A group of organisms that can interbreed freely under natural conditions to produce fertile offspring is said to belong to the same species.

- **Endemic species** are unique to a particular geographic location, such as a specific island, habitat type, nation or other defined zone. The extinction of endemic species has many causes, including pollution and natural disasters, human action is responsible for four main cause:

1. **Loss of habitat:** it occurs when an environment is altered so much that species can no longer survive there. It may occur due to pollution.

2. **Overexploitation:** when living organisms are hunted to the extent that their population is not able to maintain itself. E.g. passenger pigeon in North America.

3. **Introduced species: Colonization** i.e. introduction of new species can have a significant impact on endemic species as the new species can prey on or compete for resources.

4. **Ecosystem disruption:** the living organisms are linked together like the food chain or pollination of plants by insects, bats or birds. Because of these links, the reduction in the population of one species can affect the population of the other species.

- **Endangered Species:** These includes the species which are diminishing to the level of danger of extinction like Asian Lion, Rhinoceros, Blue Whale.

- **Extinct Species:** The species of plants and animals which have already been lost are called Extinct species. E.g. Dodo is extinct animal. Brahmkamal is extinct plant.

- **Threatened Species:** Species belonging to endangered and rare species are classified as threatened species.

- A **national park** is a reserve of land, usually declared and owned by a national government, protected from most human development and pollution. National parks are protected areas.

- National parks help in conservation of endangered species of animals, well as plants, and are thus, very useful. The Jim Corbett National Park was the first National Park in India established in 1935.

- Bandipur National Park is one of the India's best known protected areas and is an important reserve for Project Tiger. It is located in Karnataka.