

## Introduction

- A great variety of plants and animals exist on earth. The part of the earth which contains living and non- living organisms is called Biosphere.
- It contains huge variety of species living together that are interdependent on each other.
- The presence of large number of organism found in a particular area is called Bio- diversity.

## Deforestation

- Cutting down of trees on a large scale and converting the land to a non- forest use is called Deforestation.
- Trees in the forest are being cut for the following purposes:
  - Procuring land for cultivation.
  - Building houses, factories, dams and roads.
  - Making furniture or using wood as fuel.
  - To obtain wood for making paper.
- Natural causes of deforestation are forest fires and severe droughts.



## Consequences of Deforestation

- Deforestation disturbs the balance in nature.
- Plants take carbon dioxide during photosynthesis. But a smaller number of trees increases the level of carbon dioxide in the atmosphere. This in turn is responsible for global warming.
- This increases the temperature and pollution level on the earth.
- It also decreases the water holding capacity of the soil which results in decreased level of Ground water.
- It leads to extinction of large variety of animal and plants.
- It results in soil erosion because of roots of trees hold the soil particles firmly.

## Conservation of forest and Wildlife

- The plants and animals that grow naturally in a particular area are called Flora and Fauna of that area.
- They maintain the balance required in the food chain to maintain the ecosystem.
- Food chain is the transfer of energy from autotrophs to heterotrophs.
- Plants produce food by photosynthesis and are called Autotrophs. The energy of the food is taken by herbivores like deer, goat etc. The energy is then taken by carnivores like lion, tiger etc. and omnivores like bear and human beings.
- In the absence of any of these the food chain gets disturbed which in turn results in imbalance in the ecosystem. Thus it is necessary to conserve plants and animals.
- To protect the flora and the fauna, some protected areas have been set up. These include wildlife sanctuary, national parks and biosphere reserve.
- All kind of activities are prohibited in these areas such as cultivation, grazing, cutting trees, hunting poaching etc.

## Biosphere Reserve

- These are protected areas marked for biodiversity conservation.
- The biosphere reserves help to maintain the biodiversity and culture of that area. It may also cover other protected areas in it.
- The Pachmarhi Biosphere Reserve consists of one national park called Satpura and two wildlife sanctuaries called Bori and Pachmarhi.

## Flora and Fauna

- The plants and animals that grow naturally in a particular area are called Flora and Fauna of that area.

## Flora and fauna

i) **Flora** are the plants found in a particular area.

ii) **Fauna** are the animals found in a particular area.

Eg:- The flora of Pachmarhi consists of sal, teak, wild mango, jamun, silver ferns etc.

The fauna of Pachmarhi consists of wild dog, cheetal, wolf, leopard, blue bull, barking deer etc.



## Endemic Species

- A species is a group of same kind of organism which can interbreed to produce fertile offspring.
- Endemic species are those species of plants and animals which are found exclusively in a particular area.
- They are not naturally found at any other place.
- A particular type of animal or plant may be endemic to a zone, a state or a country.

## Wildlife Sanctuary

- Wildlife Sanctuaries like reserve forests provide protection and proper living conditions to wild animals.
- Certain activities are allowed in Wildlife sanctuaries such as grazing by their livestock, collecting medicinal plants, firewood, etc.
- Some of the threatened animals like black buck, elephant, rhinoceros' golden cat, gharial, marsh crocodile, python, etc. are protected and conserved in the wildlife sanctuaries.
- Nowadays even the protected forests are not safe because the people living in the neighbourhood encroach upon them and destroy them.

## National Parks

- These reserves are very large area with huge diversity to protect whole sets of ecosystems.
- They preserve flora, fauna, landscape and historic objects of an area. The first Reserve Forest of India is Satpura National Park.
- The finest Indian teak is found in this forest. There are more than one hundred National Parks in India.
- Satpura tiger Reserve was the first Project Tiger launched by the government to protect the tigers in the country.
- The objective of this project was to ensure the survival and maintenance of the tiger population in the country.

## Endangered Species

- Animals whose population is decreasing to a level that they might get extinct in near future are known as the endangered animals.
- Strict rules are imposed to protect plants and animals in all National Parks.
- Human activities such as grazing poaching, hunting, capturing of animals or collection of firewood, medicinal plants, etc. are strictly not allowed.

## Ecosystem

- An ecosystem comprises of all the plants, animals and microorganisms in an area along with non-living components such as climate, soil, river deltas etc.
- The source book which keeps a record of all the endangered animals and plant found in a state or country is known as the Red Data Book.
- Red Data Book is maintained by International union for the Conservation of natural resources (IUCN).
- India also maintains Red Data Book for plants and animals found in India.

## Migration

- The Birds that fly long distances to reach another land are known as migratory birds.
- These birds fly to far off areas every year during a particular time because of severe changes in the climate.
- They migrate when it is extremely cold or hot which results in non- availability of food.
- Birds and animals leave such adverse climatic conditions and move to some different habitat where they can stay comfortably and have food to survive.

- They sometimes fly for laying eggs as the weather in their natural habitat becomes very cold and inhospitable.

### Recycling of paper

- Recycling of paper means to process the used waste paper into a new one. It is a waste management practice.
- By recycling and reusing paper, trees can be saved because paper is produced from wood pulp.
- A paper can be recycled five to seven times for use. This will also save energy and water required for manufacturing paper.

### Reforestation or Afforestation

- Planting of trees in a destroyed forest cover is called Reforestation.
  - The planted trees should be of the same species which were cut down earlier in that forest.
  - Reforestation can take place naturally also. When the deforested area is left undisturbed, it re-establishes itself naturally. In natural reforestation human beings have no role to play.
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