

NATURAL VEGETATION AND WILDLIFE

Earth is the only planet in the solar system where life exists. Life on Earth is divided into plant and animal kingdoms. The living organisms on Earth live in an interactive zone of atmosphere, hydrosphere and lithosphere called **biosphere**. The biosphere is a very thin zone of life extending from less than 11 km below the sea level to tropopause which is upto 18 km above sea level. There are two main life zones—**terrestrial** (land) **ecosystem** and **marine** (oceans) **ecosystem**. An **ecosystem** is a system in which organisms interact with each other and with their physical environment.


Natural vegetations are those which grow naturally without any help from the humans. Variety in natural vegetation includes trees, plants, grasses, shrubs, etc. Vegetation planted by the humans can be called semi-natural vegetation. Natural vegetation is not uniform all over the Earth. Besides air, natural vegetation needs the following conditions for its growth—moisture, temperature and soil. These conditions vary in different parts of the Earth. It results in a variety of natural vegetation on Earth's surface.

Natural vegetation is generally classified into three broad categories as follows :

- (a) **Forests** : which grow where temperature and rainfall are plentiful to support a tree cover.
Depending upon these factors, dense and open forests grow.
- (b) **Grasslands** : which grow in the region of moderate rain.
- (c) **Shrubs** : Thorny shrubs and scrubs grow in the dry region. Tundra vegetation with mosses and lichens is typical of cold polar regions.

In other words, the changes in the type of natural vegetation occur mainly because of the changes of climatic condition.

Though all plants need a minimum temperature of 6°C for germination, every plant has a certain minimum temperature requirement for germination, growth of seed, and reproduction. Thus, type of plants



vary depending on the region in which they are located. Do you remember heat zones of the Earth's surface (see figure 4.3 of this book). Tropics mostly have evergreen plants that grow all through the year. A varied species of plants is found in this region. Extreme climate conditions limit the number of species found in temperate regions. In very cold conditions in polar areas there is hardly any vegetation other than mosses and lichens.

Because altitude controls temperature and rainfall, one may find a succession of plant species ranging from tropical to polar as he goes higher the mountains. Thus, the Himalayas have almost all variety of vegetation which one can see while moving from the equator to the polar region.

Let us study the characteristic features of some of the major types of natural vegetation found on the land surface and wildlife inhabiting there.

Forests

Tropical Evergreen Forests


These forests are also called **tropical rainforests**. These thick forests occur in the regions near the equator and close to the tropics (therefore named **tropical**) in South America, South Africa, Malaysia and Indonesia. These regions are hot and receive heavy rainfall throughout the year which helps in the growth of thick vegetation. **As there is no particular dry season, the trees do not shed their leaves altogether.** At any time some of the trees may be shedding leaves, but the others will keep blossoming. That is why they are called **evergreen**. These forests have tall trees with broad leaves. The thick growth makes the tree branches so intermingled that they form a **canopy** at the top. The thick canopies of the closely spaced trees do not allow the sunlight to penetrate inside the forest even in the daytime. Hardwood trees like rosewood, ebony, mahogany, sandalwood, bamboo, rubber trees are found.



Tropical Evergreen Forests



Wildlife in Tropical Evergreen Forest



In these forests, a great variety and a great deal of food for both large and small animals is found. Tree dwelling animals like monkeys, apes, squirrels, lizards, etc. outnumber all others. At ground level, turtles, alligators, crocodiles and snakes are found. Near water courses and swamp, hippopotamus (only in Africa), elephants and swine dominate. Many varieties of insects, ants, termites and spiders are also found. Other varieties of wildlife include leopards, jaguars, birds, etc.

Tropical Deciduous Forests

These forests are also called **tropical monsoon forests**. These are found in the large part of India, northern Australia and Central America. These regions are subjected to seasonal rainfall and heat. Trees shed their leaves once in a year in the dry season to conserve water. The trees in tropical deciduous are of medium height and are not very dense. The hardwood trees found in these forests are sal, teak, deodar, neem and shisham. Hardwood trees are extremely useful for making furniture, transport and constructional materials. These forests also have thick undergrowth of shrubs, plants, small trees, etc.



Tropical Deciduous Forests



Tiger



Golden Langoor

Tigers, lions, elephants, langoors and monkeys are the common animals of these regions. Other animals are rhinoceroses, leopards, bears, etc.

Temperate Evergreen Forests

These forests are found along the eastern coast of the continents in the mid-latitudes—in south-east USA, south-east Africa, south China, eastern Australia, south east Brazil etc. They have both hard wood and soft wood trees like oak, pine, eucalyptus, mulberry, etc. These forests are thick and profuse. The low-lying regions have mixed variety of deciduous and coniferous trees, while the highlands have only coniferous trees.



Temperate Evergreen Forest

Temperate Deciduous Forests

There are more temperate deciduous forests as one goes towards higher latitudes—in the northeastern part of USA, China, Newzealand, Chile and the coastal regions of Western Europe with cool climate and moderate rainfall. The trees shed their leaves once a year in the dry season of autumn. They remain leafless throughout the winter and sprout new leaves in the spring season. They have rich growth during

the summer season. The common trees are oak, ash, beech, cedar, fir, birch, etc. Deer, foxes, wolves are the animals commonly found. Birds like pheasants, monals are also found here.



Temperate Deciduous Forest



Wolf



Beaver



Deer

Temperate Deciduous Forest–Wildlife

Mediterranean Vegetation

This type of vegetation is generally found on the west and south-west margins of the continents in the regions around the Mediterranean sea in Europe, Africa and Asia, hence the name. This type of vegetation is also found outside the actual Mediterranean region in California in the USA, south-west Africa, south-western Australia and parts of western America. These regions are marked for hot dry summers and mild rainy winters. The plants grow during the winters. The trees have broad leaves and are widely spaced. They are not thick and tall. This is to meet the long dry summer season. People have removed the natural vegetation of the trees—oak, cedar, pine, fir in order to cultivate what they want to. Citrus fruits such as oranges, figs, olives and grapes are commonly cultivated here.



A vineyard in the Mediterranean Region



Coniferous Forest

Coniferous Evergreen Forests

The eyecatching coniferous forests (figure 6.10) are found in the higher latitudes (50° N–70°N) of the Northern Hemisphere. These are also called as Taiga meaning pure or untouched in the Russian language. They are also found in the higher altitudes of the mountains. They are found in the regions with long severe cold winters and short warm summers. Under these conditions the growth of the trees is slow. The leaves become small needle-shaped to conserve water and the trees are tall and straight. Their wood is light and soft. However, these forests are evergreen. The soft wood is very useful for making pulp, to make paper and newsprint. Match boxes, packing boxes and furniture are also made from soft wood. The important species of trees are chir, pine, cedar, fir etc. The animals in these forests are of small size with thick coat of fur, such as silver fox, mink, reindeer, polar bear, etc.



Reindeer (in Coniferous evergreen forest)

Grasslands

Tropical Grasslands

Tropical grasslands are found in tropical region and known by different names in different countries. They are called Savanna in East Africa, Campos in Brazil and Lianos in Venezuela. They grow on either side of the equator and extend till the tropics in Africa, Brazil and North Australia. These regions have moderate to low amount of rainfall (75



Giraffes (in tropical grasslands)

cm to 25 cm) which is hardly sufficient for the growth of trees but it can support grass well. The grass grows very tall upto about 3 to 4 metres in height. These grassland are suitable for grazing and farming. Elephants, zebras, giraffes, deer, lions, leopards, hyenas, etc. are found in tropical grasslands.

Temperate Grasslands

These are found in the inner part of the continents in the temperate regions, i.e., mid-latitudes. They are known by different names in different countries. They are called Prairie in North. America, Pampas in Argentina, Veld in South Africa, Steppe in Central. Asia and Downs in Australia. Due to scarce amount of rainfall, the grass is short but nutritious. These grasslands are suitable for rearing cattle and sheep. These regions are also used for large scale farming of wheat and corn. Wildlife includes wild buffaloes, wild asses, horses, bison, antilopes, wolves etc. The kites, eagles and owls are also found.

Desert Vegetation

Tropical deserts are located in the western margins of the continents—northern Africa (Sahara desert), southern Africa (Kalahari desert), Chile (Atacama desert), south-western Australian, Arabian and Indian deserts. Because of scanty rain and scorching heat, the vegetation cover is scarce. There are also found short trees and bushes with thorns, thick stems and long roots. Their leaves are wax-coated to conserve water. Dates, palms, thorny bushes, cacti and grasses are found. **Thorny shrubs have fleshy leaves and thorny scrubs have fleshy stems.** Camels, wild asses, hyenas, snakes, lizards are found.



Thorny Shrubs (Desert vegetation)

Tundra Vegetation

This vegetation is found in the polar areas of Europe, Asia and North America. The winters are very long and severe, the summers are short and quite cool. The regions are quite dry. Very limited short trees grow along the ground. Due to these conditions, these regions are often termed as cold polar desert. Only mosses, lichens and very small shrubs are found here. It grows during the very short summer. The animals have thick coat of skin or thick fur to protect them from freezing cold. Wildlife includes polar bear, seal, walrus, musk-ox, snow fox, Arctic owl, etc.



Tundra Vegetation



Polar Bear



Seal



Walrus

Wildlife in Polar Region



Human Interference

Every biotic and non-biotic component of an ecosystem (life zone) is important because in an ecosystem, organisms interact with each other and with their physical environment. We have sufficient vegetation on Earth to use wisely but local people clear up the forests for agriculture and settlements. Deforestation, grazing, cultivation of cash crops, constructional activities, industries, vehicles, etc. have disturbed the balance of the ecosystem and polluted it badly. Then where will the wildlife go? Will the forest take its original shape again? If people go cutting the trees, will there be enough oxygen, water vapour, timbers, fruits, nuts available in future?



Key Words

- » Ecosystem : a system in which organisms interact with each other and with their physical environment.
- » Natural Vegetation : vegetation which grows naturally without any help from the humans.
- » Wildlife : animals growing in their natural habitats (homes).
- » Evergreen forests : in which all the trees do not shed their leaves in any particular season.
- » Coniferous forests : having evergreen trees with needle shaped leaves and bearing cones.
- » Deciduous forests : in which trees shed their leaves in a particular dry season to conserve moisture.
- » Savanna : grasslands of Africa with tall coarse grass.
- » Prairie : temperate grasslands in North America.

SUMMARY

- ▶ Type of plants vary depending on the region in which they are located.
- ▶ A varied species of plants is found in tropical region. Extreme climate conditions limit the number of species found in temperate regions. In very cold polar areas there is hardly any vegetation.
- ▶ Because altitude controls temperature and rainfall, one may find a succession of plant species ranging from tropical to polar as he goes higher the mountains.
- ▶ The trees in an evergreen forest, do not shed their leaves altogether.
- ▶ Trees in deciduous forests, shed their leaves once in a year in the dry season to conserve water.
- ▶ Tropics and temperate zones have evergreen and deciduous forests both.
- ▶ Evergreen and Deciduous forests have hard wood trees.
- ▶ Soft wood coniferous trees are found in higher latitudes and higher altitudes. Animals are of small size with thick coat of fur.
- ▶ Mostly citrus fruits are grown around the Mediterranean Sea.
- ▶ Grass grows tall and coarse in tropical grasslands.
- ▶ Grass grows short in temperate grasslands.
- ▶ Deserts have thorny shrubs (having fleshy leaves) and scrubs (having fleshy stems).
- ▶ Only mosses, lichens and very small shrubs are found in the cold polar deserts. The wildlife have thick coats of skin or thick fur to protect them from freezing cold.

Exercise Time

A. Tick (✓) the only correct choice amongst the following :

- In evergreen forests, one of the common animals is
 - Monkey
 - Camel
 - Giraffe
 - Walrus
- One important variety of coniferous forest is
 - Rosewood
 - Teak
 - Pine
 - Neem
- Savanna grassland is found in
 - Australia
 - East Africa
 - Russia
 - India
- Thorny bushes are found in
 - Hot and humid climate
 - Hot and dry climate
 - Cold polar climate
 - Mediterranean climate
- Mosses and lichens are found in
 - Hot deserts
 - Tropics
 - Tundra
 - Swamps

B. Fill in the blanks :

- _____ vegetation is not uniform all over the Earth.
- The tropical monsoon forests are also called _____.
- The tall and straight trees with needle-shaped leaves are called _____.
- The cactus is a form of _____ vegetation.
- Thorny shrubs have fleshy _____ while scrubs have fleshy _____.

C. Match the Following :

- | | |
|-------------|---|
| 1. Elephant | a. Temperate grassland in Australia |
| 2. Downs | b. Tropical grassland of Brazil |
| 3. Walrus | c. Soft wood tree |
| 4. Olives | d. A polar animal |
| 5. Campos | e. A citrus fruit |
| 6. Cedar | f. An animal of tropical deciduous forest |

D. Write true (T) or False (F) against the following statements in given brackets :

- Temperate grasslands are located in the interiors of continents.
- Grasslands are the homes of monkeys and apes.
- Sal and Teak trees are mostly found in Mediterranean forests.
- Deciduous trees shed leaves in the dry period.
- Vegetation varies from tropical to tundra in a high mountain.

E. Define the following terms :

- Ecosystem
- Evergreen
- Deciduous
- Coniferous



F. Identify the following :

1. A very thin layer and narrow zone of life on Earth
2. An order system in which animals and plants interact with their physical environment
3. The interacting sphere of lithosphere, hydrosphere and atmosphere
4. In these forests, a great variety and a great deal of food for both large and small animals is found
5. Both hard wood and soft wood trees are found in these forests

G. Answer in one word or one phrase :

1. Name the two factors on which the growth of vegetation mostly depends.
2. Name two hardwood trees commonly found in tropical evergreen forest.
3. In which climatic conditions citrus fruits are cultivated ?
4. Where are the broad-leaved, widely spaced trees found ?
5. Soft wood of which type of trees is used to make pulp for paper ?

H. Answer these questions briefly :

1. Which are the three broad categories of natural vegetation ?
2. Why do the type and thickness of vegetation changes from place to place ?
3. What are known as deciduous forests ? Where are they found in India ?
4. Why do tropical deciduous trees shed their leaves in the dry season ?
5. Name the two types of deserts. Compare their characteristics.
6. Mention the uses of coniferous forests.
7. What are the results of human interference with the natural vegetation and wildlife ?
8. Why do animals in polar region have thick fur and thick skin ?

I. Answer these questions in detail :

1. Distinguish and compare between tropical evergreen and tropical monsoon forests.
2. How is different variety possible in natural vegetation with reference to latitudes and altitudes ?
3. Distinguish between Taiga and Tundra vegetation.
4. Distinguish and compare between Tropical and Temperate grasslands.

PROJECT WORK

1. Look around in your surroundings and find out the articles made of hard wood and soft wood.
2. Find out and learn few names of trees of your locality.
3. Make a list of birds and animals in your surroundings that you have seen.
4. Collect samples of variety of tree leaves and grasses in your area. Find their names from local people.