

## Natural Vegetation and Wildlife (Notes to search direct answers as well)

### Introduction:

India is a vast country where different types of bio-forms are available. There is huge variety in the species of animals and plants can be seen due to which India is among the 12 mega bio-diversity country.

### India:

1. It occupies 10th place in the world.
2. In Asia, it has 4th place in plant diversity.
3. It has 47000 plant species, out of which about 15000 species are of flowering plants ( 6% in the world's total number of flowering plants)
4. It also has approximately 90000 species of animals as well as, a rich variety of fish in its fresh and marine water.

### Virgin Vegetation:

- Virgin Vegetation refers to a plant community which has grown naturally without human aid and has left undisturbed by human beings for a long time.
- *For Example* : Tropical forest, Mangrove forest.
  - **Endemic**: The vegetation which is purely Indian.
  - **Exotic** : The vegetation which has come from outside India.

### Types of vegetation:

1. **Natural Vegetation** (naturally grown)
2. **Vegetation** (grown by human beings)

**Flora:** Plants of a particular region or period.

**Fauna:** Species of animals are referred to a fauna.

### Factor affecting flora and fauna

1. **Relief:** It refers to the elevation and shape of the land. It basically details the height and steepness of an area.
  - **Land**– Land is every where and plays significant role in affecting the natural vegetation. It has direct as well as indirect effects.
    - The nature of land influences the type of vegetation.
    - Therefore different plants and animals are found in mountainous, plateau and plain

- areas or in dry and wet regions.
- **Soil:** Different types of soil helps to grow different types of vegetation.
    - *For example:* Cactus and Thorny bushes are grown in Deserts while [Mangroves](#) and [deltaic vegetation](#) grow in wet, marshy and deltaic soils.
2. **Climate:** Climate refers to the sum total of weather conditions and variations over a large area for a long period of time. (more than thirty years)
- **Temperature:** The degree of hotness and coldness of the air is known as temperature.
    - Temperature, humidity in the air, precipitation and soil determine the character and extent of vegetation.
    - As the altitude rises the temperature falls. This way it affects the types of vegetation and its growth.
      - **Height or tallness** of trees depends on these above given factors; altitude and temperature.
  - **Photoperiod** (Sunlight): Duration of sunlight affect the **speed** of growth.
    - *For Example:* Trees grow faster in summer due to longer duration of sunlight.
3. **Precipitation:** It is any liquid or frozen water that forms in the atmosphere and falls back to the Earth.
- Precipitation depends on the temperature within the cloud and at the Earth's surface.
  - It plays important in growing **density** of the vegetation.

## Importance of forests:

- Forests are **renewable resources**
- They play a major role in enhancing the quality of environment.
- Moreover, forests **modify local climate** because forests can absorb and store carbon.
- They hold the top most layer firmly by their roots which helps in **Controlling soil erosion**.
- Furthermore, they also **regulate stream flow**.
- They **Support a variety of Industries** as many industries needs wood.
- Forests **provide livelihood** for many communities.
- They helps to **control wind force and temperature** and cause rains.
- Additionally, they **provide humus** to the soil.
- Lastly, they also **give shelter** to the wildlife.

## Types of Forests or Natural vegetation:

### i) Tropical Evergreen Forests:

- These forests receive **heavy rainfall** and grows well in the areas having more than **200 cm of rainfall**.
- They appear green all the year round because these forests have no particular dry season for shedding their leaves altogether and also known as **rain forests**.
- Also, they remain **warm and wet** throughout the year due to which trees reach great **heights** up to **60 metres or above**.

- All **kinds** of vegetation are found in these regions like **trees, shrubs and creepers**.
- In India, these forests are found in the areas of **Western Ghats, Island groups of Lakshadweep, Andaman and Nicobar, upper parts of Assam and Tamil Nadu coast**.
- Some Commercially **Important trees** of this forest are **ebony, mahogany, rosewood, rubber and cinchona**.
- The **common animals** in these forests are **elephant, monkey, lemur, deer, birds, bats, sloth, scorpions and snails**. **One horned rhinoceroses** are found in the jungles of Assam and West Bengal.

## ii) Tropical Deciduous Forests:

- These forests are also called **Monsoon forests**.
- They receive rainfall between **200 cm and 70 cm**.
- Also, they take six to eight weeks to shed their leaves in dry summer.
- These forests are further divided into **two types of forests** on the basis of availability of water; **moist and dry deciduous**.
  - **Moist:** These areas receive rainfall between **200 and 100 cm**.
    - These forests exist mostly in eastern parts of the country- northeastern states, along the foothills of the Himalayas, Jharkhand, West Odisha and Chhattisgarh, and on the eastern slopes of Western Ghats.
    - Some of the trees found in these forests are Teak( most dominant species of this forests), Bamboos, Sal, Shisham, Sandalwood, Khair, Kusum, arjun and mulberry.
  - **Dry Deciduous Forests:** These are found in areas having rainfall between **100 cm and 70 cm**.
    - These forests are found in the rainier parts of the Peninsular plateau and the plains of Bihar and Uttar Pradesh.
    - The Trees grow in these forests are teak, sal, peepal and neem.
    - The common animals found in these forests are lion, tiger, pig, deer, elephant, huge variety of birds, lizards, snakes and tortoises.

## iii) The Thorn Forests and Scrubs:

- These regions receive **less than 70 cm rainfall** and consists of thorny trees and bushes. For example: **Arid and Semi Arid areas**.
- These are found in north-western part of the country, including semi-arid areas of **Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Haryana**.
- Some of the main plants grow in this region are **Acacias, palms, euphorbias and cacti**.
- Trees are scattered and have long roots to get moisture. Leaves are mostly thick and small to minimise evaporation.
- The common animals in this region are **rats, mice, rabbits, fox, wolf, tiger, lion, wild ass, horses and camels**.

## iv) Montane Forests:

These are found in mountainous areas.

- These forests can be found in the higher hilly areas of Kerala and Tamil Nadu, also in the region of Eastern Himalayas including the hills of Assam, West Bengal, Sikkim, Arunachal Pradesh and Nagaland.
- As the altitude increases, the temperature decreases and it results in different types of vegetation from tropical to tundra region.
- The common animals found in these forests are kashmir stag, spotted deer, wild sheep, jack rabbit, Tibetan antelope, yak, snow leopard, squirrels, Shaggy horn wild ibex, bear and rare red panda, sheep and goats with thick hair.
  - **Montane forests** are divided into four different regions depending on height.
    - **Wet temperate forests** : Height – 1000 m and 2000 m.
      - Trees – oaks, chestnuts ( Evergreen broad leaves trees)
    - **Temperate forests** : Height – 1500 m to 3000 m.
      - Trees -pine, deodar, silver fir, spruce and cedar. ( Coniferous trees)
      - Place – Southern and North-East India
    - **Temperate grasslands** : At higher elevations, temperate grasslands are common.

**Alpine forests:** Height- 2900 m to 3500 m. ( *temperate forests– Alpine vegetation– temperate grasslands*)

- Trees- Silver fir, junipers, pines and birches.

**Alpine grasslands** : These are used extensively for grazing by nomadic tribes like Gujjars and the Bakarwals.

**Tundra forests:** Height- above 3600 m.

- vegetation- mosses and lichens.

## v) **Mangrove forests:**

Vegetation formed on delta are called Mangrove forests.

- The roots of these plants are submerged under water.
- This type of vegetation are found on the deltas of the Ganga, the Mahanadi, the Krishna, the Godavari and the Kaveri.
- Sundari trees are the example of Mangrove forests. These are found in the Ganga Brahmaputra delta which provide durable hard timber, Palm, coconut, Keora, agar, etc.
- Animals like Royal Bengal Tiger, Turtles, Crocodiles, gharials and snakes are found in these forests.

## **WildLife:**

- a. India is also rich in its fauna.
- b. It has approximately 90,000 animal species.
- c. The country has 2,000 species of birds (constitute 13% of the world's total).
- d. Fishes: 2,546 species (12% of the world's stock)
- e. share of Amphibians, reptiles and mammals in the world: 5 and 8 percent.
- f. Different animals are found in different kinds of environment depending upon their adaptive character.

For example: i) Elephants are found in hot wet forests of Assam, Karnataka and Kerala.

ii) One horn rhinoceroses are the other animals live in swampy and marshy lands of Assam and West Bengal.

iii) Wild ass live in Arid areas of the Rann of Kachchh and Camels are found in Thar Desert.

iv) Tigers are found in the forests of Madhya Pradesh, the Sundarbans of West Bengal and the Himalayan region.

v) Ladakh's freezing high altitudes are a home to yak, the shaggy horned wild ox, the Tibetan antelope, the bharal (blue sheep), wild sheep and the kiang (Tibetan wild ass).

vi) The natural habitat of Indian Lion is Gir Forest in Gujarat.

vii) Turtles, crocodiles and gharials are found in the rivers, lakes and coastal areas.

viii) Similarly, birds like Peacocks, pheasants, ducks, parakeets, cranes and pigeons are inhabited in wetlands and forests.

There are other animals also who live in other parts of India.

g. This Bio-diverse environment provided human beings resources to develop themselves, as a result of which human got involved in those activities which has disturbed the ecosystem. However, Human has become aware about the role of every species in the ecosystem.

h. To protect these animals, [Wildlife Protection Act](#) was implemented in 1972 in India.

i. About 1,300 plant species are endangered and 20 species are extinct. Likewise 7 endangered species of animals in India (2020).

j. **Causes for imbalance in the nature:** Hunting for commercial purposes, pollution due to chemical and industrial waste, acid deposits, introduction of alien species and reckless cutting of the forests to bring land under cultivation and habitation.

### Steps taken by the Government:

i) **Eighteen biosphere reserves** have been set up to protect flora and fauna of the country. Ten out of these have been included in the world network of biosphere reserves – Sundarbans, Nanda Devi, the Gulf of Mannar, the Nilgiri, Nokrek, Great Nicobar, Manas, Simlipal, Pachmarhi and Achanakmar-Amarkantak.

ii) Botanical gardens are provided **Financial and technical assistance by the Government since 1992**. These are Kachahh, Cold Desert, Seshachalam and Panna.

iii) **Eco-developmental projects** have been introduced such as Project Tiger, Project Rhino, Project Great Indian Bustard.

iv) For taking care of natural heritage, Government has set up 103 **National Parks**, 535 **Wildlife sanctuaries** and **Zoological gardens**.

Conclusion: Natural vegetation, Wildlife and human beings are the part of ecology. To maintain the balance among these, should be the topmost priority of everyone as it is significant for our own survival.

### Category

1. Class 9th

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