Grassland Ecosystem

The Grassland Ecosystem occurs in the temperate and tropical regions of the world with less rainfall. It covers the landmass of the latitude and altitudes with the conditions of the soil and climate not suitable for the growth of trees.

The regions with less rainfall during the monsoon are able to support the growth of grass, but the amount of rainfall is not sufficient for the growth of shrubs or trees. The Grassland Ecosystem supports a large population of insects, reptiles, and rodents. The animals found in the grassland ecosystem are antelopes, zebras, asses, foxes, Badgers, etc.

Functions of Grassland Ecosystem

The Grassland ecosystem is essential because of the following reasons-

- It maintains the flow of energy through the food chain.
- It is responsible for the biogeochemical cycles, i.e., the different Nutrient cycling.
- It contributes to the feedback control mechanisms or Homeostasis.
- It is an important part of ecological succession or ecosystem development.
- Due to low rainfall, the grassland ecosystem helps in reducing the leaching of minerals.
- It regulates the productivity of the ecosystem by increasing soil fertility.

Importance of Grassland Ecosystem

Not only does the grassland ecosystem forms an important part of the ecosystem development, but it also has economic importance. The economic importance of the Grassland ecosystem is as follows-

- Many rural communities depend on the grasslands for grazing, especially the farmers that keep goats or other cattle.
- Common village lands are used for grazing domestic animals.
- In summer, there is no leftover grass for grazing. At that time, the collected fodder was used to feed cattle.
- It is home to various insects, and these insects help them to pollinate crops.
- The grass collected from the grasslands makes farm sheds and houses.
- Various grasslands have been degraded because of overgrazing by huge domestic livestock herds.
- It has insect predates, including amphibia such as frogs, birds of prey, reptiles like lizards, and small mammals like shrews.
- The carnivores help in controlling the insect pests in the agricultural lands.

Components of Grassland Ecosystem

The structure or the composition of the Grassland Ecosystem includes biotic and abiotic components. These components are explained as follows-

Abiotic Components

The Abiotic components of the Grassland Ecosystem include aerial and soil nutrients. It also includes the elements required by plants, like Sulphur, phosphorus, nitrogen, oxygen, and

hydrogen. These elements are present in soil and air and are supplied to the plants in the form of sulfates, phosphates, nitrates, water, CO_2, and as trace elements in the soil.

Biotic Components

The biotic components of the Grassland Ecosystem include producers, consumers, and decomposers.

- **Producers**: The producers contribute to the primary biomass production. It includes herbs, shrubs, and grasses.
- **Consumers**: The composers comprise primary, secondary, and tertiary consumers. Herbivores are the primary consumers, e.g., millipedes, termites, insects (Leptocorisa, Coccinella, etc.), and grazing mammals (buffaloes, rabbits, deer, sheep, etc.). The organisms that feed on the primary consumers. This includes birds, lizards, frogs, snakes, jackals, foxes, etc. The tertiary consumers include animals and birds that feed on the secondary consumers, e.g., hawks.
- **Decomposers**: The decomposers consist of fungi, moulds, and bacteria of death and decay. The decomposers are responsible for bringing the minerals back into the soil.

Classification And Structure of Grassland Ecosystem

Formation of the Grassland Ecosystem is dependent on the climate. Based on the climate of the region, the grassland ecosystem of the world is divided into two categories, i.e., one in the tropical region and the other in the temperate region

Tropical Grasslands

Tropical grasslands are found on both sides of the equator and spread to the tropics. These grasslands receive low rainfall annually, and the vegetation grows upto 4m in height. The common fauna of the tropical Grassland includes leopards, deer, giraffes, zebra, and elephants. E.g., Savannah grasslands of Africa.

Temperate Grassland

The temperate grasslands exist in the middle of the latitudinal zones and much inside the continents. The vegetation of such grasslands is short and nutritious. The fauna of the temperate grasslands includes antelopes, bison, and wild buffaloes.

Place	**Name of Grasslands**
Australia	Down
South Africa	Veld
Venezuela	Llanos
Brazil	Campos
India	Grassland, Savanna

South America	Pampas
Africa	Savanna
Eurasia (Europe and Asia)	Steppes
North America	Prairies

Savannas are the common names for tropical grasslands. They form the complex ecosystem in India, Australia, South America, and Eastern Africa. They comprise scattered medium-sized trees.

Grasslands in India

The Grasslands in India are found in the country's western part as the extensive low pastures, Alpine Himalayas, and the village grazing grounds. Here are the details about the Grasslands in India-

- The dominant plant community of the grasslands in India includes perennial grasses.
- There are high and cold pastures in the mountains of the Himalayas.
- The South of the Himalayan foothills has tall elephant grass, especially in the low-lying Terai belt.
- The semi-arid Grassland is found at the Deccan Plateau, parts of Central India, and Western India.
- It supports a variety of herbivores.
- There are extremely moist evergreen forests found as patches of shola grasslands in Southern parts of India.
- It also supports members of the sunflower family, legumes, and sedges.
- The fauna in the grasslands in India includes ferrets, lions, tigers, buffalo, dogs, elephants, deer, rodents, mice, and rats.
- The one-horned rhinoceros is found in northeast India but is one of the threatened animals in that region.
- It appears to be colorful because of several avian faunas.