UNIT - III

grassland ecosystem

GRASSLAND ECOSYSTEM.

Introduction

Grassland occupies about 20% of earth's surface addition to grass species, some trees and shrubs are/also pre in grasslands. Limited grazing helps to improve the net primary production of the grasslands. But, overgrazing leads degradation of these grasslands resulting in desertification

Types of grassland ecosystem

Depending upon the climate conditions grassland cal classified into three types

1. Tropical grasslands.
2. Temperate grasslands.
3. Polar grasslands.

Features of different types of grassland

1. Tropical grasslands

They are found near the borders of tropical rain . forests. are characterized by high temperature and moderate rainfall (40 to 100 cm). It is also known as Savanna type. They ye tall grasses with scattered shrubs and stunted trees and animals like zebras, giraffes, antelopes, etc.,

2. Temperate grasslands

They are usually found in the centers of continents, oil sloped hills.. They are characterized by very cold winters and hot summers: Intense grazing and summer fires, do not W shrubs or trees to grow.

3. Polar grasslands

They are found in arctic polar regions. They are characterized by severe cold and strong winds along with ice and snow. In summers several small annual plants grow. They 'e animals like arctic wolf, weasel, arctic fox, etc.,

Characteristics of Grassland Ecosystems

Grassland ecosystem is a plain land occupied by grasses. Soil is very rich in nutrients and organic matter. Since it has tall grass, it is ideal place for grazing animals. It is characterized by low or uneven rainfall.

Structure and function of the grassland Ecosystems

I. Abiotic components

Nutrients, , H, 0, A, P, S, etc.,

These abiotic components are supplied by CO_2, H_2, C, Nitrate, phosphates and sulphates.

II. Biotic Components

1. Producers: They produce food.

Example :Grasses, forbs and shrubs.

2. Consumers:.

Primary consumers (herbivores) :They depend on grasses for their food

Examples: Cows, buffaloes, deer, sheep, etc.,

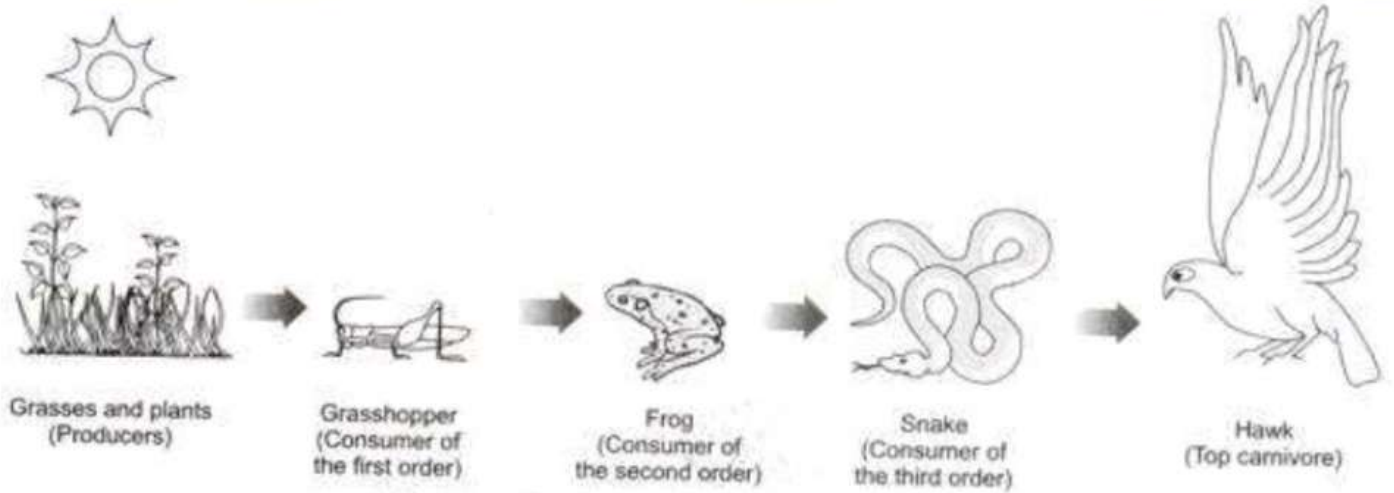**Secondary consumers (carnivores)** :They feed on herbivores.

Examples: Snakes, lizards, birds, Jackals, fox, etc.,

Tertiary consumers: They feed on secondary consumers

Examples :Hawks, eagle, etc.,

3. Decomposers : They decompose the dead organic matter
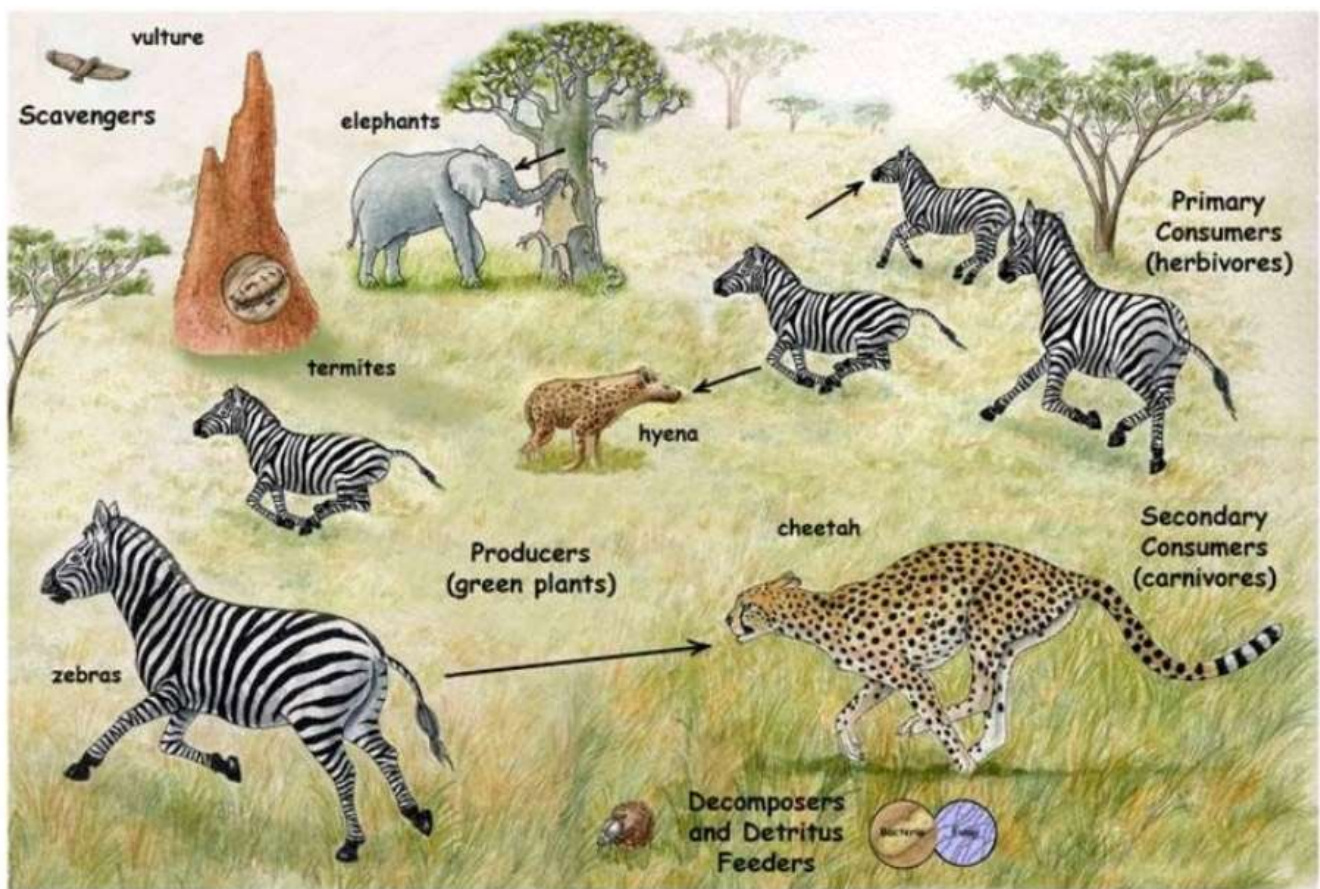
Examples :Fungi and bacteria.

Fig. 8.3 A food chain in a grassland ecosystem

Grasses and plants (Producers) → Grasshopper (Consumer of the first order) → Frog (Consumer of the second order) → Snake (Consumer of the third order) → Hawk (Top carnivore)

In a freshwater aquatic ecosystem like a pond, the organisms in the food chain include algae, small animals, insects and their larvae, small fish, big fish and a fish-eating bird or animal (Figure 8.4).

Grassland Food Web

vulture

Scavengers

elephants

Primary
Consumers
(herbivores)

termites

hyena

Producers
(green plants)

cheetah

Secondary
Consumers
(carnivores)

zebras

Decomposers
and Detritus
Feeders

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