

ECOSYSTEM - COMPONENTS

- (1) Abiotic Components
- (2) Biotic Components

(1) Abiotic Components

- In an ecosystem, the non-living aspects or the physical environment form the abiotic components. They are mainly categorized into three types: climatic, edaphic, and topographic factors. Here are the main points:
- (i) Climatic factors: These involve temperature, water, light, wind, humidity, and air movements.
- (ii) Edaphic factors: These are related to the structure and composition of the soil, including its physical and chemical properties.
- (iii) Topographic factors: These relate to the physical features of the Earth, such as slopes, valleys, mountains, and plains.

(2) Biotic Components

- It involves living beings that can be differentiated into three categories.
 - (a) Producers
 - (b) Consumers
 - (c) Decomposers.

(a) Producers

- They make their own food using sunlight through a process called photosynthesis. Examples include green plants, photosynthetic bacteria, and blue-green algae.
- Koromondy called producers "transducers" because they convert sunlight's energy into chemical energy.
- In aquatic ecosystems, phytoplankton are the main producers, while rooted plants dominate in terrestrial ecosystems.
- Plants rooted in shallow water are referred to as macrophytes

(b) Consumers

- They are unable to synthesize their own food directly or indirectly.
- They depend upon producers for obtaining nourishment.
- Consumers can be differentiated into following categories.

(i) Primary consumers / Herbivores :

- They get their food by eating plants.
- Examples include cows, goats, sheep, horses, deer, rats, rabbits, grasshoppers, buffaloes, zebras, elephants, and zooplankton.
- They are sometimes called "key industry animals" because they transform plant material into animal material.

(ii) Secondary consumers / Primary carnivores:

- They get their food by eating primary consumers.
- Examples include frogs, foxes, jackals, hyenas, wolves, wild cats, snakes, and small fishes.

(iii) Tertiary consumers / secondary carnivores:

- They get their food by eating secondary consumers or primary consumers.
- Because other animals do not hunt them, they are also known as top consumers.
- Examples include eagles (hawks), kites, vultures, peacocks, lions, tigers, crocodiles, and sharks.

(c) Decomposers.

- These tiny organisms like bacteria and fungi break down dead plants and animals or their parts.
- They are also known as reducers, micro consumers, and osmotrophs.
- Vultures are scavengers, not predators, because they do not hunt; they eat dead animals. Vultures also act as decomposers. Inside a vulture's body, food breaks down and turns into waste material and minerals, which are released into the soil.

