

CONCEPT OF ECOSYSTEM

- ♦ basic structural and functional unit of the environment
- ♦ without exchange b/w the living and non-living component of the nature, an ecosystem is not possible
- ♦ The study of ecosystem includes analysis, regulation and function of every component in the ecosystem
- ♦ All to simply understand the equilibrium of the environment

Both the living and non-living component of nature, when interact with each other to establish a stable living community, it is called an Ecosystem.

STRUCTURE OF ECOSYSTEM

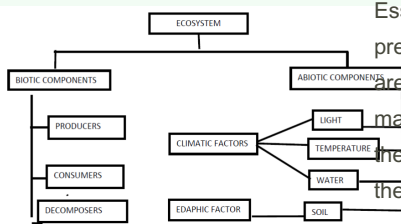


Fig.1.Schematic Representation of Structure of an Ecosystem

Schematic Representation of Structure of an Ecosystem

BIOTIC COMPONENTS

- ♦ divided into 3 categories

- PRODUCERS** -autotrophs. all green plants who make their own food by using $CO_2 + \text{water} + \text{sunlight}$ with the help of **chlorophyll**
- CONSUMERS** -heterotrophs. 3 types: Primary Consumers, Secondary Consumers, Tertiary Consumers. Goats, Snakes, Lions respectively.
- DECOMPOSERS** -heterotrophic. Fungus, Mushrooms. aka detritivores. no chlorophyll, hence these orgs grow on dead decaying materials of environment to absorb them for energy/food.

Climatic Factors-1.Light

Essential for all living orgs. In presence of the sunlight plants are able to prepare their food material, which in turn eaten by the heterotrophs & ultimately by the decomposers.

Importance for Plants

- ♦ Chlorophyll production

- ♦ Distribution of plants

- ♦ Decides physiology of plants

- ♦ Provides and Regulates proper Temperature

- ♦ Regulates Stomatal Movement

- ♦ Duration of Light

Importance for Animals

- ♦ Controls Metabolism by affecting enzyme activity

- ♦ Provides Vision

- ♦ Pigmentation (colour of skin)

- ♦ Reproduction (with the help of vision hence light)

- ♦ Circadian Rhythm. Waking up, sleeping, response to light

Climatic Factors-3.Water

- ♦ Life is never possible without water
- ♦ animals and plants need water
- ♦ Water regulates the body temperature of both plants and animals

- ♦ amount of water present in an area decides the type of ecosystem to be developed there

- ♦ amount of rainfall also decides the kind of plants to grow over there

- ♦ amount of humidity also affects the plants and animals

- ♦ different vegetation leads to different animals living there

Climatic Factors-2.Temperature

ABIOTIC COMPONENTS

Type 1. Climatic Factors
Light, Temperature, Humidity, Rain etc

Type 2. Edaphic factors
Minerals, Soil, Organic and Inorganic components of the soil, Substratum etc.

the non-living factors in form of solid, liquid or gas found in the nature (ice, water, moisture

Importance for Plants

◆Metabolism.

◆On Growth & Development

◆Thermal Stratification

Importance for Animals

◆Warm-Blooded or Endo-thermic animals

◆Cold – Blooded or Ecto-thermic Animals

◆Migration or Thermal Migration

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Page 2 of 2.

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