

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

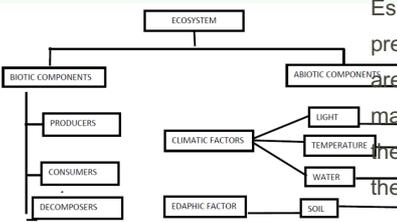


Fig.1.Schematic Representation of Structure of an Ecosystem

Schematic Representation of Structure of an Ecosystem

BIOTIC COMPONENTS

- ◆ divided into 3 categories
- 1.PRODUCERS** -autotrophs. all green plants. who make their own food by using CO₂+water+sunlight with the help of **chlorophyll**
 - 2.CONSUMERS** -heterotrophs. 3 types: Primary Consumers, Secondary Consumers, Tertiary Consumers. Goats, Snakes, Lions respectively.
 - 3.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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