

## 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

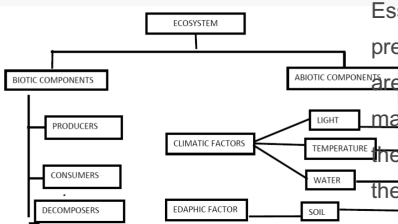


Fig.1.Schematic Representation of Structure of an Ecosystem

## 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 CO<sub>2</sub>+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		Importance for Plants	Importance for Animals
Type 1. Climatic Factors	Light, Temperature, Humidity, Rain etc	♦Metabolism.	♦Warm-Blooded or Endo- thermic animals
Type 2. Edaphic factors	Minerals, Soil, Organic and Inorganic components of the soil, Substratum etc.	♦On Growth & Development	♦Cold – Blooded or Ecto-thermic Animals
the non-living factors in form of solid, liquid or gas found in the nature (ice, water, moisture		♦Thermal Stratification	♦Migration or Thermal Migration



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