6th – Habitat of Living

Living things (organisms) live everywhere on this earth. They live deep inside the oceans where no light reaches and it is totally dark. They also live in high mountains which are always covered with snow. They live all around our house and also inside your house. In fact, several organisms even live inside our bodies too! Plants and animals living in different places are different from each other. They adjust themselves to their surroundings. All organisms, both plants and animals, need food and other materials from their surroundings to survive. Air, water and soil form an essential part of our surroundings. The life of an organism is, thus, affected by the Living and non-Living things around it.

Everything surrounding and affecting an organism is known as its **environment.** The study of the relationship between Living things and their environment is called **ecology**. All of them interact with each other.

• The living or biotic components include all living organisms. These constitute the biotic or biological, environment.

• The non-living or abiotic components include air, water, soil, sunlight, temperature, etc. These constitute the abiotic or physical environment. These factors affect the living organisms found in the area.

Biotic and abiotic components constitute the natural environment.

Human beings are also a part of the environment. We can change the environment to suit our needs. Today we do not live in the natural environment, such as a forest. The cities or villages we live in have a human made environment.

Even though in different areas, such as deserts, hilly or coastal areas have different environment but the basic components are the same.

Biotic Components and their Interactions

The living or biotic organisms that make up he biotic components of an environment can be divided into three groups, depending on how they obtain their food.

Producers: We know that green plants make their own food from carbon dioxide and water, using the energy of sunlight. This process of making food is called photosynthesis. Organisms that can make their own food are called producers. They are also called autotrophs 'auto' meaning self and 'troph' meaning food.

Consumers: Some organisms depend directly or indirectly on the food prepared by plants. They are called consumers or heterotrophs. All animals, including human beings are consumers.

• Herbivores, such as cows, deer and goats are animals that eat plants. They get their food directly from plants. Such animals are known as primary consumers.

• Carnivores, such as tigers and wolves eat other animals. They, thus, get their food indirectly from plants. They are called secondary consumers.

• Omnivores, such as humans, bears and crows consume both plants and animals.

Decomposers: Bacteria and fungi are very small organisms that cannot be seen with the naked eye. These are known as micro-organisms. They are consumers that feed mainly on the dead remains of plants & animals.

The nutrients that producers (green plants) absorbs from the soil are passed on to all the consumers. When a producer or a consumer dies, bacteria and fungi act to break down or decompose the dead material of its body into the nutrient substances it was made up of. These nutrients return to the soil from where they came and mix with it. Therefore bacteria and fungi are known as **decomposers.**

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Thus, the decomposers serve a very useful purpose of maintaining the balance of nutrients in the soil by returning the nutrients to it. Nature recycles the nutrients that have been taken from the soil. This is very important, since the total amount of these nutrients does not change.

Interactions among Biotic Components

Animals depend on plants for food, oxygen and shelter. Some other things we humans get from plants are medicines, spices, wood, timber, rubber, cotton and jute.

Plants depend on animals for pollination and dispersal of seeds. These help plants in reproduction. Animal excreta and their dead bodies add nutrients to the soil. They act as manure and provide minerals for plant growth.

Abiotic Components and their Interactions with Biotic Components

All biotic components in a habitat share the biotic components, such as air, water, soil, temperature and sunlight. There is constant interaction between the two. For example, plants need light and water to prepare food. They also need soil to grow. The animals also cannot live without food, water and air. Both plants and animals need a certain temperature range to survive.

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