

Chapter 15- Our Environment

Ecosystem with functions :

The scientist Ernst Haeckel gave the term ecology and father of ecology can be considered as Alexander Von Humboldt. For survival of living organisms, they need suitable environment that is rainfall, temperature, light and food. These all are non-living things. But living organisms need non-living or abiotic things for their survival.

The ecosystem is basically made up of 2 components such as abiotic and biotic components. The components or factors which are non-living are called abiotic components. Abiotic components are divided into two types: such as climatic factors and edaphic factors. In which climatic factors are rain, wind, temperature and light etc., those of edaphic factors means soil quality and topography. The living organisms are called as biotic components. All the living organisms depend on each other for feeding. All the biotic factors living in association with another. These biotic components can be divided into 5 types such as Autotrophs, Herbivore, Carnivore, Omnivore and Decomposers. Autotrophs: The autotrophs are those organisms which can prepare their own food material such as plants can make their own food with the help of photosynthesis. Herbivore: These living organisms can be considered as plant eating organisms. They have intestine size more as compared to carnivores. Carnivores: These living organisms depend on or feed on plant eating organisms. They eat parts of animals such as meat. Omnivores: The living organisms which eat both plant parts as well as animal parts are called omnivores. For example: Human. Decomposers: The living organisms which grow on dead and decaying organic matter called as decomposers.

Decomposers

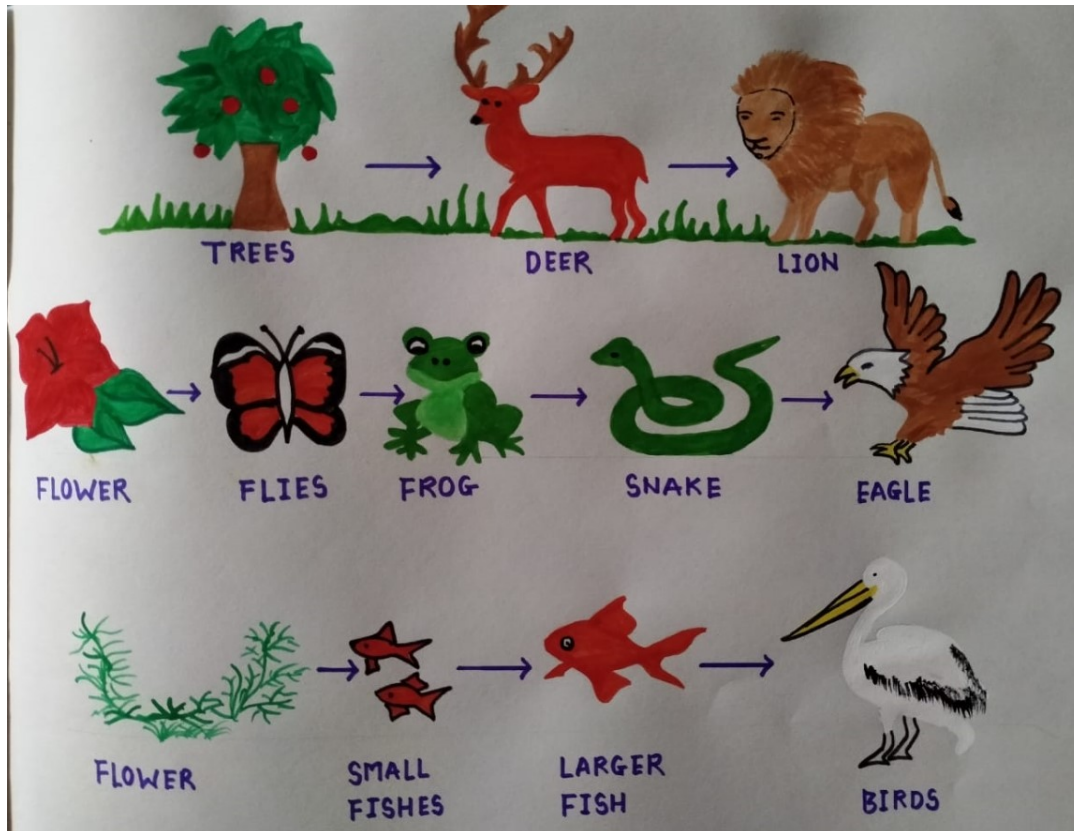
Decomposers are the living organism which feed on dead and decaying organic matter. These are the most important part of food chain. They usually depend on dead organic matter. The decomposers are the last component of food chain. Productivity of ecosystem is generally depend on decomposers.

Decomposition process depends on temperature. If high temperature present in surrounding then decomposition will be more and if low temperature present in surrounding then decomposition will be less.

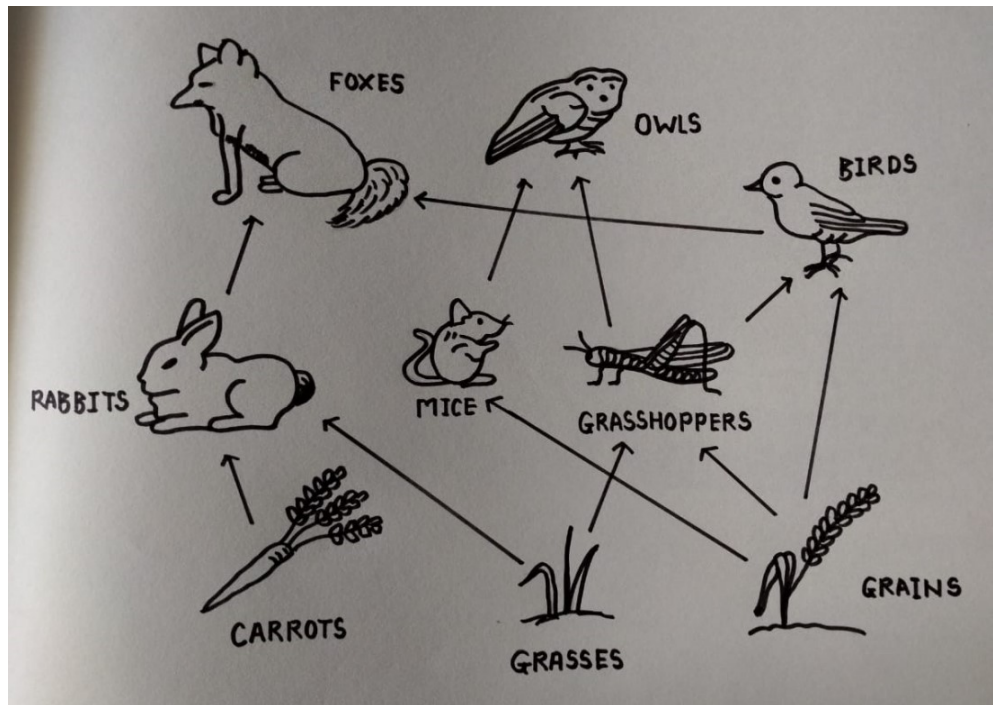
The reason behind this is presence of bacteria and fungus. For example: tropical region where high temperature is present there is more decomposition process.

Decomposers are divided into 4 types such as Saprophages, Coprophages, Necrophages, and Geophages.

Food chain: Food chain can be defined as arrangement of different trophic level of one ecosystem so that one organism can eat another, and form a chain called as food chain. It is a diagrammatic representation. The food chain is divided into producers, herbivore, carnivores, omnivores and decomposers.



Food web: Food web can be defined as network of animals which are dependent on each other, in nature there is no any concept that one herbivore can eat only one type of plant but it can eat variety of plants, so single linear chain is not possible, that means every organism eat different variety of food. So when many types of food chain linked up with each other called as food web. It is a connection of animals to get their food.



Transformation of energy in food chain : Transformation of energy in food chain can be termed as the part of food chain and food web, in which one organism consuming another organism and that organism intake next organisms in food chain, so energy transforming from one organism to another. The highest energy present in producers that is autotrophic organisms such as plant and energy will decrease as we go down to trophic levels. In the diagram the arrow indicates flow of energy from one organism to another. The plants have highest energy means stored carbohydrates, so that they can grow like larger trees.

Ozone layer depletion : Environmental pollution is the major problem in front of world now, there are various kind of sources which are responsible for pollution. The pollution can be defined as excess increase in pollutants and decrease in the quality of air called as pollution. Pollutants basically can be divided into 2 categories such as primary pollutant and secondary pollutant. There are various causes of pollution such as Due to unlimited growth of human population, rapid industrialization, uncontrolled use of vehicles.

Ozone is commonly denoted as O_3 . It is usually present in upper layer of atmosphere. This gas provide protection from UV rays to earth, but when it enter on earth it serves as pollutant. Ozone have major toxic as well as drastic effects on earth to living organisms. The sources present on earth for ozone are industries and vehicle, companies. Ozone have worst effect on human, such as it is responsible for pneumonia, eyes itchiness, nasal cavity problems and severe exposure of ozone can also lead to cancer.

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