

Biodiversity Definition

“Biodiversity is the variation among living organisms from different sources including terrestrial, marine and desert ecosystems, and the ecological complexes of which they are a part.”

What is Biodiversity?

Biodiversity describes the richness and variety of life on earth. It is the most complex and important feature of our planet. Without biodiversity, life would not sustain.

The term biodiversity was coined in 1985. It is important in natural as well as artificial ecosystems. It deals with nature's variety in biosphere. It refers to variabilities among plants, animals and microorganism species.

Biodiversity includes the number of different organisms and their relative frequencies in an ecosystem. It also reflects the organisation of organisms at different levels.

Biodiversity holds ecological and economic significance. It provides us with nourishment, housing, fuel, clothing and several other resources. It also extracts monetary benefits through tourism. Therefore, it is very important to have a good knowledge of biodiversity for a sustainable livelihood.

Types of Biodiversity

There are the following three different types of biodiversity:

- Genetic Biodiversity
- Species Biodiversity
- Ecological Biodiversity

Species diversity

Species diversity refers to the variety of different types of species found in a particular area. It is the biodiversity at the most basic level. It includes all the species ranging from plants to different microorganism.

No two individuals of the same species are exactly similar. For example, humans show a lot of diversity among themselves.

Genetic diversity

It refers to the variations among the genetic resources of the organisms. Every individual of a particular species differs from each other in their genetic constitution. That is why every human looks different from each other. Similarly, there are different varieties in the same species of rice, wheat, maize, barley, etc.

Ecological diversity

An ecosystem is a collection of living and non-living organisms and their interaction with each other. Ecological biodiversity refers to the variations in the plant and animal species living together and connected by food chains and food webs.

It is the diversity observed among the different [ecosystems](#) in a region. Diversity in different ecosystems like deserts, rainforests, mangroves, etc., include ecological diversity.

Importance of Biodiversity

Biodiversity and its maintenance are very important for sustaining life on earth. Few of the reasons explaining the importance of biodiversity are:

Ecological Stability

Every species has a specific role in an ecosystem. They capture and store energy and also produce and decompose organic matter. The ecosystem supports the services without which humans cannot survive. A diverse ecosystem is more productive and can withstand environmental stress.

Economic Importance

Biodiversity is a reservoir of resources for the manufacture of food, cosmetic products and pharmaceuticals.

Crops livestock, fishery, and forests are a rich source of food.

Wild plants such as Cinchona and Foxglove plant are used for medicinal purposes.

Wood, fibres, perfumes, lubricants, rubber, resins, poison and cork are all derived from different plant species.

The national parks and sanctuaries are a source of tourism. They are a source of beauty and joy for many people.

Ethical Importance

All the species have a right to exist. Humans should not cause their voluntary extinction.

Biodiversity preserves different cultures and spiritual heritage. Therefore, it is very important to conserve biodiversity.

Biodiversity in India

India is one of the most diverse nations in the world. It ranks ninth in terms of plant species richness. Two of the world's 25 biodiversity hotspots are found in India. It is the origin of important crop species such as pigeon pea, eggplant, cucumber, cotton and sesame. India is also a centre of various domesticated species such as millets, cereals, legumes, vegetables, medicinal and aromatic crops, etc.

India is equally diverse in its faunal wealth. There are about 91000 animal species found here.

However, diversity is depleting at a drastic rate and various programmes on [biodiversity conservation](#) are being launched to conserve nature.

Biodiversity is the variety of living species on Earth – plants, animals and microorganisms – and the ecosystems they form. An ecosystem is the name given to all living species that live together in a stable community, interacting with one another and their physical environment. Biodiversity includes the diversity within species and between different species within terrestrial, freshwater and marine ecosystems. Ecosystems need a balanced and diverse number of species to thrive.

When people think of conserving biodiversity, they often think of efforts to save animals such as the polar bear or the tiger. While protecting single species is important, it is equally important to protect ecosystems. When there is a shift in the balance of an ecosystem, such as the loss of a plant or an animal or an introduction of new species, this shift can lead to irreversible consequences. Therefore, it is important to understand what makes an ecosystem thrive.

Biodiversity plays a critical role in sustaining human populations across the globe. We depend on it for sustained food growth, for clean air and water and for medicine and shelter. It is no surprise then that ecosystem degradation threatens our most basic necessity – a healthy environment to live and thrive in. This is especially true of biodiversity hotspots, which house some of the largest diversity of species in the world and provide important life-support services to the people who live in and around them.

In addition, biodiversity is embedded in human cultures and is fundamental for our understanding of the world. Biodiversity enriches our lives – it has economic, cultural, recreational, religious and aesthetic importance across the world. We have celebrated it in art, music and literature throughout history. More than 190 countries acknowledge its importance to human populations through a show of support for the [Convention on Biological Society](#).

Scope of Biodiversity



Medicinal field:

It plays important role as medicines for various diseases are derived from variety of plants and animals and knowledge of these organisms provides

information about their occurrences, use to cure the various types of diseases.

Industry:

It is the scope of biodiversity as different industries got their raw materials from plants and animals.

Agriculture:

It is also the scope of biodiversity which gives different agricultural products that are the products from different plants animals.

Research and study :

It provides unlimited resources.

Job opportunity:

It gives opportunity for the people by programs and project that have been launched for biodiversity conservation.

Environment conservation:

Different living organisms interact with environment factors. Different living organisms like plant and animals are interacting with the environmental component. so, they have also to use and have more important for them. Hence,they play vital role in environment conservation.