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Commentary

Types and Importance of Biodiversity

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DESCRIPTION

Biodiversity typically creates a beautiful globe, keeps it balanced, and helps it work properly. Biodiversity, specifically, refers to the diversity of life on Earth. Because there are several forms of biodiversity, the greatest benefit of biodiversity is maybe unknown. Many species of biodiversity are vanishing at an alarming rate, even before we realize what is lost. However, scientists and researchers throughout the world are attempting to identify the root reason and eliminate or decrease the pace of loss. Biodiversity, also known as the biological variety, is one of our planet's most complicated and important characteristics. It describes the diversity and complexity of life on Earth. It refers to the variation seen in plants, animals, and microorganisms. Life cannot exist in the absence of biodiversity. All terrestrial (land-dwelling), marine (aquatic), and many other habitats and biological complexity are often included in biodiversity. The phrase biodiversity was first used in 1985 [1].

Biodiversity is defined as the variance among living species from various sources, such as terrestrial, marine, and desert environments and their ecological complexes. In other terms, biodiversity is the total number of species of animals, plants, fungi, and microorganisms that live on Earth or in varied ecosystems.

Importance of biodiversity

Biodiversity is an essential component of any ecosystem and plays an important role in ecosystem function and services. Diversities of all kinds contribute to the preservation of nature's equilibrium. As a result, biodiversity and its correct management are critical to the survival of life on Earth. The following are some essential reasons for the importance of biodiversity [2].

Environmental stability: Each species is critical to the functioning of an ecosystem. Typically, they collect and store the energy needed for biological activity. Furthermore, they generate and degrade organic materials in the environment. The environment provides several services that people require to exist. Different species also have a link with the ecosystem's services. As a result, ecological stability arises from a diversified, productive ecosystem and aids ecosystems in coping with environmental change.

Economic importance: Biodiversity is a wealth of resources for the production of food, cosmetics, pharmaceuticals, and other goods. Crops, animals, fisheries, and forests are examples of abundant food supplies. Various wild plants (for example, *Cinchona,* Foxglove, and so on) are good sources of medicines and may be used medicinally. Furthermore, most resources, including wood, fiber, lubricants, resins, resins, toxins, and others, are derived from plant species.

Ethical importance: Everyone has the right to life since all species play important roles in the environment. Humans should not cause issues for them while also assisting them in survival [3]. Humans have no right to produce difficulties that may lead to the extinction of any species.

Types of biodiversity

Species diversity: The variety of species refers to a collection of related creatures that mate to generate progeny. They are inherited from the same ancestor. The most fundamental categorization unit is species diversity, which comprises all species from plants to microbes. Furthermore, two separate individuals from the same species group are not identical; they differ. For example, two other people are not the same. Aside from that, people from completely different places exhibit a high amount of variation.

Genetic diversity: It refers to variations in organism's genetic resources. Each individual of a species differs from the others in terms of genetic composition [4]. That is why each and every human being is unique. Similarly, many types of rice, wheat, maize, barley, and so forth exist.

Each member of each animal or plant species differs greatly from other individuals in terms of genetic composition since there are several gene combinations that can give each person unique features. This genetic heterogeneity is required for specie's healthy reproduction.

Ecological diversity: The complex network of diverse species present in local ecosystems and their dynamic interactions is

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referred to as ecological variety. An ecosystem is made up of creatures of various kinds that live in a certain area and are linked through the movement of energy, nutrients, and materials [5]. These interactions occur when individuals of various species engage with one another. The Sun is the principal source of energy in practically every ecosystem. Plants transform the sun's radiative energy into chemical energy. This energy is released from those systems when animals ingest plants, which are subsequently consumed by other creatures. Fungi obtain energy from decaying organisms that release nutrients into the soil.

CONCLUSION

India is regarded as one of the most diverse countries in the world. India ranks eighth among all countries in terms of the availability of various plant species. Many major agricultural species are derived from it, including cucumber, pigeon pea, sesame, eggplant, and cotton. Aside from that, India is one of the few countries that produce a diverse variety of domesticated species, such as aromatic crops, legumes, medicinal plants, grains, and vegetables. India is also home to two of the world's twenty-five biodiversity hotspots.

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