BIODIVERSITY LOSS AND IMPACT ON HUMANITY

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Abstract: Biodiversity conservation has increasingly gained recognition in natural agenda. Biodiversity is a valuable, but poorly understood natural resource, which is being lost at an accelerating rate as a result of anthropogenic actions. The complexity of the " Biodiversity" concept makes it difficult to give a concise definition of the term . Biodiversity provides goods and services such as food, fiber, medicine, air, water purification, climate regulation, erosion control and nutrient cycling. Biodiversty also plays an important role in economic sector that drive development, including agriculture, forestry, fisheries and tourism. Humans are altering the composition of biological communities through a variety of activities that increase rates of species invasion and species extinction, as all scales from local to global. Biodiversity conservation is the protection restoration and sustainable management of wildlife and natural resources such as forests, water and the biological diversity within it. Through the conservation of biodiversity not only the survival of many threatened species and habitats can be ensured but also these valuable resources can be preserved. Biological diversity provides the variety of life on the earth and can be defined as the variability. The ecological consequences of biodiversity loss have aroused considerable interest and controversy during the past decade. India has a wealth of biodiversity, assets that is wildlife flora, fauna and natural habitat. The biodiversity in life forms suffers greater threat from degradation, habitat fragmentation, spreading of invasive species, climate change, pollution within aquatic environment and water flows. Biological resources serve about 40 % of the total world economy and nearly 80 % of the needs of the people. Major advances have

been made in describing the relationship between species diversity and ecosystem processes in changing environments.

KEYWORDS ;- Biodiversity conservation, Ecosystem , Biological resources, Threatened species

Introduction:

Biological diversity has been defined as the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems. This includes diversity within species, between species and of ecosystems. Biodiversity is of immense cultural and socioeconomic value but it is being widely lost and degraded at record rates as a result of human activities. Although examining counts of species is

perhaps the most common method used to compare the biodiversity of various places, in practice biodiversity is measured differently for different species, the reason being that some species are deemed more valuable or more interesting than others. One way this "value" or "interest" is assessed is by examining the diversity that exists above the species level, in the genera, families, orders, classes, and phyla to which species belong. For example, the count of animal species that live on land is much higher than the count of those that live in the oceans because there are huge numbers of terrestrial insect species. These insects comprise many orders and families, and they constitute the largest class of arthropods, which themselves constitute the largest animal phylum. In contrast, there are fewer animal phyla in terrestrial environments than in the oceans. Other animal phyla occur exclusively or predominantly in marine habitats. Various conservation initiatives have been established to reduce these impacts but with limited success to date. Consequently, it is being realised that the conservation of biodiversity is the responsibility of all sectors of society and not just environmental groups. There are also growing awareness that conservation organisation need to become more accountable to funding agencies, other stakeholders and society in general and strive to increase the efficiency of the conservation actions. Biodiversity is a comprehensive umbrella term for the extent of nature and variety or variation within the natural system, both in number and frequency. Biodiversity includes the variety of ecosystems such as those that occur in deserts, forests, wetlands and mountains. Ecosystem living creatures including human form a community interacting with one another and with the air, water and soil around them.

The conservation of biodiversity is the practice of protecting the natural environment and its many species. This can be done through the establishment of protected areas, such as national parks and nature reserves, and by encouraging responsible land-use practices. The conservation of biodiversity is important for a number of reasons:

- Firstly, it is necessary to maintain the ecosystems that provide us with essential services, such as clean air and water.
- Secondly, many of the world's medicinal plants come from biodiversity hotspots, and so it is important to protect these regions in order to ensure that we continue to have access to new drugs.
- Thirdly, biodiversity is important for tourism, and many people visit parks and reserves to see the amazing array of plants and animals that exist there.
- Finally, it is simply morally wrong to destroy species just for the sake of it, when we have no need to do so.

There are a number of ways that we can help to conserve biodiversity:

- First, we can reduce our consumption, especially of resources that are derived from endangered species.
- Second, we can support the establishment of protected areas and the funding of conservation projects.
- Finally, we can educate ourselves and our children about the importance of conserving our planet's biodiversity.

Biodiversity refers to every living thing, including plants, bacteria, animals, and humans. Scientists have estimated that there are around 8.7 million species of plants and animals in existence. However, only around 1.2 million species have been

identified and described so far, most of which are insects. This means that millions of other organisms remain a complete mystery.

The main driver of biodiversity loss remains human's use of land – primarily for food production. Human activity has already altered over 70 per cent of all ice-free land. When land is converted for agriculture, some animal and plant species may lose their habitat and face extinction. But climate change is playing an increasingly important role in the decline of biodiversity. Climate change has altered marine, terrestrial and freshwater ecosystems around the world. It has caused the loss of local species, increased diseases, and driven mass mortality of plants and animals, resulting in the first climate-driven extinctions. On land, higher temperatures have forced animals and plants to move to higher elevations or higher latitudes, many moving towards the Earth's poles, with far-reaching consequences for ecosystems. The risk of species extinction increases with every degree of warming. Protecting biodiversity impacts literally every aspect of life, from breathable air to climate, flood protection, shelter, food sources and more, which rely on the health and stability of natural resources like forests, waterways, and grasslands. The health of these elements depends on the diversity of species that interact with them and vice versa. Removing a part of the ecosystem or multiple parts of the system will inevitably cause collapse and has direct consequences for many species, including humans. When human activities produce greenhouse gases, around half of the emissions remain in the atmosphere, while the other half is absorbed by the land and ocean.

These ecosystems – and the biodiversity they contain – are natural carbon sinks, providing so-called nature-based solutions to climate change. Protecting, managing, and restoring forests, for example, offers roughly two-thirds of the total mitigation potential of all nature-based solutions. Despite massive and ongoing losses, forests still cover more than 30 per cent of the planet's land. Peatlands – wetlands such as marshes and swamps – cover only 3 per cent of the world's land, but they store twice as much carbon as all the forests. Preserving and restoring peatlands means keeping them wet so the carbon doesn't oxidize and float off into the atmosphere. Ocean habitats such as sea grasses and mangroves can also sequester carbon dioxide from the atmosphere at rates up to four times higher than terrestrial forests can. Their ability to capture and store carbon make mangroves highly valuable in the fight against climate change. Conserving and restoring natural spaces, both on land and in the water, is essential for limiting carbon emissions and adapting to an already changing climate. About one-third of the greenhouse gas emissions reductions needed in the next decade could be achieved by improving nature's ability to absorb emissions.

Biodiversity is very important for human existence as all life forms are interlinked with each other and one single disturbance can have multiple effects on another. If we fail to protect our biodiversity, we can endanger our plants, animals, and environment, as well as human life. Therefore, it is necessary to protect our biodiversity at all costs.

Conservation of Biodiversity can be done by educating the people to adopt more eco friendly methods and activities and develop a more harmonious and empathetic nature towards the environment. The involvement and cooperation of communities are very important. The process of continuous protection of Biodiversity is the need of the hour. The Government of India, along with 155 other nations, has signed the convention of Biodiversity at the Earth Summit to protect it. According to the summit, efforts should be made in preserving endangered species. The preservation and proper management methods for wildlife should be made. Food crops, animals, and plants should be preserved. Usage of various food crops should be kept at a minimum. Every country must realize the importance of protecting the ecosystem and safeguarding the habitat.

Need to Conserve Biodiversity

In today's world, we are busy developing our surroundings and spoiling our beautiful environment. Today, we have exploited most of the things that were available abundantly in nature. Thus, there arises a need to conserve these natural things. Among other things, there is a serious need for the conservation of biodiversity. Biodiversity is thus considered at 3 major levels;-

- **Genetic Diversity**: This is variety of genetic information contained in all of the individual plants, animals and microorganisms occurring within populations of species. Simply, it is the variation of genes within species and populations.
- **Species Diversity**: This is the variety of species or the living organisms . If all the species have the same equal abundance this means that the variation is high diversity.
- **Ecosystem Diversity**: This relates to the variety of habitats ,biotic communities and ecological processes in the biosphere. Biodiversity is not distributed evenly on earth .It is the richest in tropics.

Importance of Conservation of Biodiversity

Conservation of biodiversity is important for many reasons. Here are some of the main reasons to conserve biodiversity:

- **Process of Food Chain:** Different species of animals and plants serve as the source of food for other animals and living organisms. Thus, conserving biodiversity help to keep the food chain among the living organisms.
- **Nutritional Needs:** The decline in the variety of plants and animals would mean the decline in the variety of food we eat. So, this is likely to result in nutritional deficiencies.
- **Cleaner Air:** Plants and trees have a greater ability to purify the air and keep the atmosphere clean. As there is a decrease in the number and types of trees and plants, it impacts the quality of air in a negative way.
- **Better Cultivation of Crops:** Fertility of soil is maintained by many insects, organisms and microorganisms work on different levels. So we have to maintain the level of microorganism which is better for the cultivation of crops.
- **For Medical Reasons:** For making different medicines many species of trees and plants are used so as to cure various diseases.

Methods to Conserve Biodiversity

Methods that can help in the conservation of biodiversity are:

1. **Control Population:** The greater the population the higher the needs which would result in further exploitation of flora and fauna and decline in biodiversity. For the conservation of biodiversity, we have to control the human population and allow other species of plants and animals to replenish on our planet.
2. **Control Pollution:** The changing climate, deteriorating air quality and the growing amount of pollution on land and water bodies are leading to different

types of diseases in many. It is essential to reduce the activities leading to pollution so as to conserve biodiversity.

3. **Reduce Deforestation:** Due to deforestation, there is the loss of habitat. Due to this reason, wild animals are unable to survive in the new environment and die.
4. **Avoid Wastage:** We need to understand that natural resources are not only essential for us but are also vital for the survival of other species. We must thus utilize only as much as we require them so that these remain available in abundance in nature for future use.
5. **Spread Awareness:** Apart from this, one of the best methods to conserve biodiversity is by spreading awareness. The government can do so at a bigger level. While we can spread awareness by word of mouth and through social media.

Conclusion:

The idea of biodiversity conservation rests on several fundamental arguments including human benefits and needs. The innate desire we all have is to experience the great pleasure and curious, excitation that biodiversity has given us. Conservation of biodiversity is of utmost importance. We must all make efforts to conserve biodiversity rather than contributing towards its declination. Thus, the richness of biodiversity is essential for the survival of living beings on Earth. Biodiversity is the heart of the planet and must be preserved as it is. Without biodiversity, there would be no life and almost all the species will extinct. Also it provides many useful resources, necessary for survival. It is our utmost duty to preserve the biodiversity to ensure a safe future of the planet and its species.

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