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Biodiversity in Everyday Life

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Abstract-- Biodiversity is an important resource for humanity. It is the key for a broad range of services provided by ecosystems. Biodiversity helps regulate the nutrient cycle, water and mitigates impacts of climate change. Biodiversity is also of direct importance for human well-being and for cultural and other values including recreation. The provisioning of clean water and diverse food supply makes it vital for all people. Food security faces significant challenges due to population growth, poverty, globalization, climate change and other factors. Supplying healthy food to all citizens is crucial for global development to reach it, not only food production but also equitable access to food for all people must be improved substantially. Biodiversity loss and global food security are hence two major challenges of our time. Linking these two areas from a research perspective, and seeking synergies between them is likely to generate multiple benefits for social, ecological and economic development.

Keywords-- *Types, Reasons, Convention, WWF, FAO, Acts, NBA, Land, Climate, Forest, Wild life, Flora and Fauna, Medicinal plants, Deserts etc.*

I. INTRODUCTION

India has almost all the climates found in different parts of the world, ranging from perpetual snow cover to near equatorial or tropical conditions and from mangroves to humid tropics, to hot and cold deserts and everything in between such extremes. India is one of the World's richest countries in terms of its vast array of biodiverstiy. Biodiversity forms the foundation for sustainable development. It is the basis for the environmental health of our planet and the source of economic and ecological security for future generations. The planet earth is under heavy human population pressure. India is the second largest country in the world in terms of population size. This population explosion represents a catastrophic scenario, as it exerts severe stress on our biological resources. The biological resources for our survival and sustainable development are increasingly being depleted or destroyed, because of man's greed. Improper management of the biological resources is having serious implications and it is evident from the reduced forest flora and fauna, intensive droughts and floods, depletion of ground water level, loss of grazing lands, degradation of healthy soil and the deterioration of the quality of air and water. Human beings cannot exist without the abundance and diversity of these biological resources. The biological resources of a country are of primary importance for the economic development; hence conservation of biological resources are very important for the economic life of a nation.

II. BIODIVERSITY

The term biodiversity refers to the wealth of the earth, i.e. the millions of plants, animals and microorganisms that live on our mother earth, the genes they contain, and the intricate and often delicate ecosystems they formulate.Human beings can coexist only with the abundance and diversity of nature. Living things are interdependent, intricately linked in birth, death and renewal. Human beings are just one small part of this voluminous and vibrant mosaic yet they inflict increasing pressure and pain on species and the environment. As a result, many plants and animals are at risk and under threat of extinction. They deserve our role for their conservation. All our food, many of our industrial materials and medicines are provided by plants, animals and microorganisms. Animals supply meat, leather and insulin. Plants give us rubber, timber, cotton and are used to manufacture diverse items such as glue, soaps, photographic film and plastics. Antibiotics like penicillin are derived from microorganisms. The wider the variety of species, the wider is the range of natural resources potentially available. We also rely heavily on these, many of which, being a variety of ecosystems, fulfill important environmental functions. Forests help to prevent the soil being washed away by rain and rivers, safeguard against flooding, absorb carbon dioxide, and produce oxygen. Wetlands and the life they contain, help to clean water by trapping sediments, nutrients and harmful bacteria.

A. Components of Biodiversity

Biodiversity has three components:

1. Genetic diversity
2. Species diversity
3. Ecosystem diversity

a. Genetic diversity

The physical and bio-chemical composition of all living things depend on genes inherited from their parents. Some species, such as rice, contain thousands of distinct genetic varieties. Genetic diversity allows different animals and plants to flourish in different conditions. Absence of genetic diversity is very dangerous.

b. Biosphere reserve

Biosphere reserves are multi-purpose protected areas to preserve the genetic diversity in the representative ecosystem. The major objectives of biosphere reserves are:

1. To conserve diversity and integrity of plants, animals and microorganisms.
2. To promote research on ecological conservation and other environmental aspects.
3. To provide facilities for education, awareness and training.

c. Species diversity

A species is a group of organisms that are so genetically similar that they can interbreed and produce fertile offspring. Species diversity refers to the number and variety of species that occur within a geographical region or ecosystem.

d. Ecosystem diversity

The wide variety in physical features and climate situations has resulted in a diversity of ecological habitats like forests, wetlands, grasslands, coastal, marine and desert ecosystems which harbour and sustain immense biodiversity.

An ecosystem is made up of communities of plants, animals, microorganisms and the non-living elements of their environment (soil, water, minerals, etc.). Ecosystem diversity describes the number of species and their relative abundance

within a community. Low diversity means that there are few species or unequal abundance, while high diversity means that there are many species or balanced abundance.

B. The biodiversity has the following importance:

1. Productive values:

Biodiversity produces a number of products harvested from nature and sold in commercial markets. Indirectly it provides economic benefits to people which include water quality soil protection, equalization of climate, environmental monitoring, scientific research, recreation etc.

2. Consumptive value*:*

The consumptive value can be assigned to goods such as fuel woods, leaves, forest products etc. which may be consumed locally and do not figure in national and international market.

3. Social value:

The loss of biodiversity directly influences the social life of the country possibly through influencing ecosystem functions (energy flow and biogeochemical cycle). This be easily understood by observing detrimental effects of global warming and acid rain which cause an unfavorable alteration in logical processes.

4. Aesthetic value:

Aesthetic values such as refreshing fragrance of the flowers, taste of berries, softness of mossed, melodious songs of birds, etc. compel the human beings to preserve them. The earth's natural beauty with its color and hues, thick forest, and graceful beasts has inspired the human beings from their date of birth to take necessary steps for its maintenance. Similarly botanical and zoological gardens are the means of biodiversity conservation and are of aesthetic values.

5. Legal values*:*

Since earth is homeland of all living organisms, all have equal right to coexist on the surface of earth with all benefits. Unless some legal value is attached to biodiversity, it will not be possible to protect the rapid extinction of species.

6. Ethical value:

Biodiversity must be seen in the light of holding ethical value. Since man is the most intelligent amongst the living organisms, it should be prime responsibility and moral obligation of man to preserve and conserve other organisms which will directly or indirectly favour the existence of the man.

7. Ecological value:

Biodiversity holds great ecological value because it is indispensable to maintain the ecological balance. Any disturbance in the delicately fabricated ecological balance maintained by different organisms, will lead to severe problems, which may threaten the survival of human beings.

***8*. Economic value:**

Biodiversity has great economic value because economic development depends upon efficient and economic management of biotic resources.

In the day to day life, human beings are maintaining their lifestyle at the sacrifice of surrounding species which come from diversity of plants and animals struggling for their existence.

So, it is highly essential for the human beings to take care of their surrounding species and make optimum use of their service, for better economic development. Thus, it is rightly told, survival of the man depends upon the survival of the biosphere.

C. Reasons for the Loss of Biodiversity

The major reasons for the loss of biodiversity are:

1. Newly introduced species in the environment
2. Over - exploitation of natural resources
3. Pollution
4. Inappropriate agricultural practices
5. Global warming
6. Population explosion and poverty
7. Habitat destruction
8. Over-hunting /Commercial exploitation
9. Environmental degradation
10. Lack of knowledge
11. Poor management
12. Industrialization
13. Urbanization
14. Damage to farmlands

D. Why is biodiversity essential to people?

Biodiversity is essential because we depend on other species and the ecosystems they create. Biodiversity gives us:

1. Ecosystem services, such as the fresh air, clean water and productive soils that we need to survive.
2. Food**,** medicines and natural products that keep us healthy. ♦ Economic benefits that maintain a healthy economy.
3. Natural beauty that we enjoy improves our quality of life.
4. A community of life, with which we share planet Earth, and the opportunity to practice thoughtful stewardship.

E. Ways Biodiversity Affects Your Everyday Life

1. Biodiversity provides access to plentiful food sources

Perhaps most obviously, biodiversity is responsible for the availability of sufficient sources of food. Varied food sources allow us to continue to have plenty to eat; if one source should fail to deliver at some point in time, biodiversity allows us to draw from other sources in order to continue to eat.

2. Biodiversity provides sources of varied nutrition

In addition to simply providing enough food, biodiversity ensures that we have access to an array of foods with widely varying nutritional content. Species diversity on both the local and global levels makes it possible to maintain a sufficient intake of all the various nutrients needed to support human health.

3. Biodiversity helps to remove harmful substances from drinking water

Certain ecosystems—especially wetlands, some of which significantly lower nitrate levels—are helpful in providing clean drinking water and rely on biodiversity to do so. We can build water filtration systems to accomplish the same result, but their construction and upkeep naturally result in a much greater drain on economic resources, not to mention being far less visually appealing.

4. Biodiversity keeps our air breathable

A wide variety of plant life is responsible for reducing carbon dioxide and producing oxygen. Some ecosystems also provide

a level of filtration, removing harmful pollutants from the atmosphere. The loss of forest ecosystems contributes to rising pollution levels (which, in turn, threaten the biodiversity in other ecosystems).

5. Biodiversity provides raw materials for industry

Human society relies on the diversity of the natural environment as a source for food, but also for wood, paper, cloth, fuel, and many other industrial materials. You have biodiversity to thank, not only for the fact that you can choose a wooden table over a metal one, but that you can choose a table made of maple, oak, or cherry.

6. Biodiversity is a key source of our medicines

While there are many synthetic drugs available for the treatment of a variety of illnesses, there are also a wide range of plants with very effective medicinal properties (consider aloevera). In addition, biomedical research involving a wide variety of plants and animals helps us to improve our understanding of health and medicine, and is important in developing new treatments for our maladies.

7. Biodiversity helps provide protection against disease

Biodiversity allows species to adapt to viruses and bacteria that threaten their health. Of course, these pathogens themselves are a part of a diverse ecosystem, but a greater variety of species (and genetic diversity within species) allows for the adaptation of defenses against illness, as well as the opportunity for medical science to consider how these defenses work and how humans can benefit from them.

8. Biodiversity can provide protection against the elements

In certain cases, biodiversity helps protect us from harmful environmental forces. This can be most clearly seen in the case of coral reefs, which protect coastal regions from the violent temper of the ocean. A recent study found that coral reefs drastically reduce the effect of waves on coastal areas, claiming that "coral reefs dissipate 97% of the wave energy that would otherwise impact shorelines." Coral reefs are notoriously fragile ecosystems completely dependent on biodiversity for their existence, and their decline could have serious impact on the lifestyle and safety of those living in coastal regions.

9. Biodiversity can enhance social relationships

If you think about it, there are social benefits to biodiversity. To some of us, this may be as simple as bonding over the shared experience of a hike or a walk through the zoo. In other cultures, a local tree can become a community symbol, or even a religious one. Don't think that this sentiment is limited to developing countries. Americans should stop and reflect on the bald eagle, and ask whether they feel even the smallest sense of national pride. On a more individual level, consider the unfathomable variety that exists within the human species. You have biodiversity to thank for having the choice to enter into a relationship with any one of the many kinds of people in the world.

10. Biodiversity can inspire our sense of Wonder

Finally, biodiversity can affect our everyday lives simply by enriching our sense of wonder. From the more unusual rhinoceros and platypus to the ordinary sparrows and pigeons we likely see every day, biodiversity provides us with endless opportunities to reflect on the remarkable nature of the world we live in. Biodiversity has long provided an inexhaustible source of inspiration to poets, artists, musicians and philosophers, and to all the rest of us who love to wonder at the beauty and diversity of the natural world.

CONCLUSION

It is the time to work together, participate and pay special attention to see that use of biological resources is sustainable now and in the longer run, for the benefit of all life on Earth. It is our duty to foster an integrated approach in all the uses of biological resources. We should educate and actively promote actions to reduce pollution and conserve biological resources. The gap between the demand and supply can only be met through sincere efforts, proper managerial skills and implementation of policy decisions in letter and spirits; we will have to put on more resources for it, which will lead us to a sustainable development. Efficient and effective environmentally benign productive technologies that can serve and enhance the resource base of crops, animal husbandary, forestry and inland and marine fisheries deserve much importance. Biological resources management is very essential because man depends on plants, animals and other natural resources for his survival. Conservation of biodiversity can no longer be regarded as an exoteric exercise, on which the very existence of all life depends. The interaction of microorganisms small insects, birds, reptiles and animals with that of the surrounding environment plays a very important role in preserving the ecological balance. Thus, we realise the need for biodiversity where different organisms and plants depend on each other for survival.

Earth is where we all live; so if any part of the planet is harmed, it affects all of us. Every minute there are forces at work that threaten the earth's health. So all of us should take care of it.

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