INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact Factor: 6.078
(Volume 8, Issue 1 - V8I1-1166)
Available online at: https://www.ijariit.com

Understanding the impact of Biodiversity on human beings due to climatic changes.

Dr. Sandeep Shukla
sandeepshukla143@gmail.com
Dayanand Brajendra Swarup College, Kanpur, Uttar Pradesh

ABSTRACT

Our survival is largely dependent on the diversity of flora and fauna, any loss is no longer merely an environmental concern; it is also a financial one. Biodiversity loss affects not only our health but also the climate. Species and ecosystems are vanishing at an alarming rate. Biodiversity continues to dwindle at an alarming rate, putting the planet's ability to provide goods and services in jeopardy. The present extinction rate is predicted to be 1,000 times faster than the natural extinction rate. However, we may be approaching a new period marked by the sixth global mass extinction of species, the first caused by humans. If the present rate of loss continues,It is anticipated that this species will be the first to be created by humans. If present loss rates continue, by 2050, an area of 1.3 billion hectares – almost 1.5 times the size of the United States – would have lost all of its natural biodiversity. Climate change is exacerbating this unparalleled loss of biodiversity. Climate change may cause the extinction of more than 30% of all known species by the end of the century. The effect and repercussions of our planet's unparalleled loss of ability to continue delivering goods and services that we humans take for granted are unclear to the general public and policymakers.We must all take responsibility for our actions. We must confront the difficulties posed by the biodiversity loss catastrophe as a group. Fresh initiatives and a new perspective are required. Every country and every person of the world must band together to defend life on the planet. 2010 has been designated as the International Year of Biodiversity by the United Nations. The year 2010 is a celebration of life on Earth and the importance of biodiversity in our lives, with the goal of involving people from all over the globe in the struggle to safeguard life on Earth, and allowing us to take the necessary actions to stop the erosion of our natural foundations.

Keywords: *Extinction, Biodiversity, climate, Species, Genetic, Ecosystem, Survival, Habitats, Flora and Fauna, Grassl and, Deserts, Desertification.*

1. INTRODUCTION

The main goal of this paper on the importance of biological diversity is to raise public awareness about biodiversity, to communicate the human costs of its continued loss, and to engage people, particularly youth and children, in efforts to conserve and sustain our natural heritage, as well as to protect our lives and the lives of our children. "Biodiversity is life," the International Year's motto reminds us. "Biodiversity is vital to our survival."Some areas in the world, such as areas of Mexico, South Africa, Brazil, the southwestern United States, and Madagascar, have more biodiversity than others. Areas with extremely high levels of biodiversity are called hotspots. Endemic species—species that are only found in one particular location—are also found in hotspots. All of the Earth's species work together to survive and maintain their ecosystems. For example, the grass in pastures feeds cattle. Cattle then produce manure that returns nutrients to the soil, which helps to grow more grass. This manure can also be used to fertilize cropland. Many species provide important benefits to humans, including food, clothing, and medicine.

2. BIODIVERSITY MEANS WHAT, AND WHAT IS ITS SIGNIFICANCE ?

Biodiversity includes anything that has life and breathes. Amoeba is a kind of amoeba.

These species range from elephants to dinosaurs, from fossils to massive trees like Cyprus and Citrus.The term "biodiversity" or "biodiversity" can refer to a variety of things.

However, the most often accepted meaning is that Biodiversity refers to the variety of living forms found in a certain environment, biome, or across the globe. Biodiversity is typically defined by biologists as the "totality of genera, species, and ecosystems in a

place." Biodiversity improves ecosystem productivity by allowing each species, no matter how little, to play a vital role. A wider diversity of crops results from a higher number of plant species. Natural sustainability is ensured by greater species variety.

Ecosystems that are healthy are better able to resist and recover from a range of calamities. There are three degrees of biological diversity that have been discovered in the past:

a) Genetic diversity

Each animal or plant species has its own unique characteristics. Because of the huge number of combinations available in the genes that give each human distinct features, it has a genetic makeup that is unique to them. As an example, every human person is distinct from the others. This genetic diversity is necessary for a species' reproductive population to be healthy.When the number of breeding individuals is limited, the genetic dissimilarity is lowered, and in-breeding develops. This may eventually result in the extinction of the species. Today, the diversity of nature's abundance is being further exploited by employing wild cousins of crop plants to develop new types of higher-yielding crops and better domestic animals. Modern biotechnology manipulates DNA to create more effective medications and a wide range of industrial items. Within a particular species, species variety maintains the "survival of the fittest," with each species relying on the services of other species to secure survival.When the number of breeding individuals is limited, the genetic dissimilarity is lowered, and in-breeding develops. This may eventually result in the extinction of the species. Today, the diversity of nature's abundance is being further exploited by employing wild cousins of crop plants to develop new types of higher-yielding crops and better domestic animals. Modern biotechnology manipulates DNA to create more effective medications and a wide range of industrial items. Within a particular species, species variety maintains the "survival of the fittest," with each species relying on the services of other species to secure survival.

b) Diversity in Species

Species diversity refers to the number of plant and animal species that exist in a given area. This diversity may be seen in both natural and agricultural habitats. Plantations have a substantially lower species diversity than natural, undisturbed typical forests. Fruit, fire wood, fodder, fiber, gum, resin, and medicines are just a few of the non-wood goods that local people rely on from a natural forest environment.

Timber plantations do not offer the wide range of items required for local use. In the long run, the economic benefits of non-wood forest products are likely to outweigh the benefits of cutting a forest for its timber. As a result, the value of a natural forest, with all of its species diversity, far outweighs that of a plant. Conservation biologists have currently been able to identify and categorize over 1.75 million species on the planet. India is one of the world's 15 countries with the greatest diversity of species.

c) Ecosystem diversity

On the planet, there are many separate ecosystems, each with its own complement of distinct interconnected species based on habitat characteristics. Ecosystem diversity can be defined for a geographical region or a political body such as a country, state, or taluka. Landscapes such as forests, grasslands, deserts, mountains, and others, as well as aquatic ecosystems such as rivers, lakes, and the sea, are examples of distinct ecosystems. Farmland and grazing pastures are examples of man-made environments in each region. When an ecosystem remains mostly unaffected by human activities, it is referred to as "natural," and when it is transformed to various purposes, such as agriculture or urban areas, it is referred to as "modified." Wilderness places have the most natural ecosystems. When natural ecosystems are abused or mistreated, their productivity declines, and they are described as degraded. India has a remarkable diversity of ecosystems. A diverse ecosystem provides a variety of natural services for everyone, such as water resource preservation, soil development, and protection.

Nutrient storage and recycling, pollution breakdown and absorption, climatic stability, ecosystem maintenance, and recovery from unanticipated occurrences are all important.

3. EXTINCTION AND BIODIVERSITY LOSS

Extinction is the term used to describe the extinction of a species. Extinction of any species is an irreversible loss of biological diversity on Earth, the only known site in the cosmos where living beings may exist. However, since humans became Earth's main big animal and the source of global environmental change, extinction rates have risen dramatically. Natural extinction has always happened. Almost every creature that has ever existed on the planet has gone extinct. Perhaps they were unable to adapt with changes in their environment, such as climate change, predation severity, or illness. Rural areas are home to 70% of the world's impoverished people.They rely on biological resources for up to 90% of their basic requirements, including food, fuel, medicine, housing, and transportation. More than 1.6 billion people rely on forests and non-timber forest products for their livelihoods, while billions more rely on marine and coastal biodiversity. The lives of over one billion people living in dry and sub-humid countries, primarily in Africa, are threatened by habitat degradation and biodiversity loss. Drought and desertification have wreaked havoc on this continent.

The current extinction rate is nearing 1,000 times the background rate, and if current trends continue, it might reach 10,000 times the background rate within the next century. At this rate, one-third to two-thirds of all plant, animal, and other living species will be extinct by the second part of the next century, an extinction rate that will easily surpass previous extinctions. A far bigger number of species are endangered and on the verge of extinction. More than 1,000 bird species, for example, are thought to be on the verge of extinction. Of this total, 46 percent exist alone on oceanic islands, putting species at risk of extinction as a result of stressors brought on by human activities.Around 75% of agricultural crop genetic variety has been lost, and 75% of the world's fisheries have been completely or overexploited. Up to 70% of the world's known species are at risk of extinction if global temperatures increase by more than 3.5 degrees Celsius, and 1/3 of the world's reef-building corals are endangered. A swath of jungle the size of a football field vanishes every second. Water shortage affects over 350 million people worldwide.

4. CONCLUSION

Plants and animals give us with the air we breathe, the water we drink, the food we eat, and the clothing we wear. To acquire what we want, we're harvesting on a regular basis. We've gone too far. We must practise long-term conservation in order to provide future generations with a rich, diverse biodiversity. Increased urbanization and the extension of human infrastructure, overexploitation of natural resources, pollution in all kinds, and the introduction of foreign species into our ecosystems are all detrimental to biodiversity. In a world of rising globalization and environmental deterioration, one of the most significant and serious concerns confronting humanity today is the management of its most valuable living resource, biological variety. Families, communities, nations, and future generations all rely on biological variety as a resource. It is the connection that connects organisms, tying them together in an interdependent community or ecosystem in which all living things have a place and a function. It's the network of lines themselves.

Despite occasional instances where groups, even civilizations, have disregarded this obligation and suffered significantly as a result, the thought that we may be approaching the boundaries of its endurance is beyond our experience and comprehension for the vast majority of us. Education is a critical step in addressing our exploitation of the ecosystem. Any effective approach for establishing a sustainable future must include an education that empowers and enables people to seek common solutions to existing damaging patterns. Stopping the loss of biodiversity requires public awareness and action. The 2010 International Year of Biodiversity presents a huge opportunity.

India is one of the world's twelve mega biodiversity countries. India is extremely rich in agricultural biodiversity and is one of the twelve key centers of origin for cultivated plants. A biodiversity law has been drafted in India. Its goal is to control who has access to biological resources. The Wild Life Conservation and Protection Act contains regulations and legislation that are both directly and indirectly related to biodiversity.

“Nature’s biodiversity is rich. Rather than keep it unused, we have to study it, understand and preserve it”

5. REFERENCES

[1] PARISARA SOBAGU, Protection of Biodiversity Essential
[2] Aswathanarayana, Uppugunduri (2012). Natural Resources – Technology, Economics & Policy. Leiden, Netherlands: CRC Press. P.370.ISBN 9780203123997
[3] Aswathanarayana, Uppugunduri (2012). Natural Resources – Technology, Economics & Policy. Leiden, Netherlands: CRC Press. P.370.ISBN 9780203123997
[4] World Health Organization and Secretariat of the Convention on Biological Diversity (2015) Connecting Global Priorities. Biodiversity and Human Health, a State of Knowledge Review. See also Websie of the Secretariat of the Convention on Biological Diversity on biodiversity and health. Other relevant resources include Reports of the 1 st and 2 nd International Conferences on Health and Biodiversity. See also: Website of the UN COHAB Initiative.
[5] Chivian, Eric, ed. (15 May 2008).
[6] Sahney, S.; Benton, M.J. & Falcon-Lang, H.J. (2010). “Rainforest collapse triggered Pennsylvanian tetrapod diversification in Euramerica” (PDF). Geology.
[7] (12)1079-1082 Bibcode:2010Geo….38.1079S. Doi:10.1130/G31182.1
[8] “BBC Nature- Cretaceous- Tertiary Mass Extinction Videos, news and facts” Retrieved 2017-06-05.
[9] “Vanishing fauna (Special issue)” Science.345 (6195):392-412.25 July 2014. Doi:10.1126/science.345.6195.392.
[10] Estimates of the proportion of intact habitat needed to avert biodiversity losses range from 30- 50% of global land areas (Wilson, 2016; Dinerstein et al., 2019, 2017; Watson et al., 2020).
[11] The adoption of risky (delayed) emissions-reduction pathways (Dooley & Kartha, 2018; Girardin et al., 2021; Arneth et al., 2019; Smith et al., 2020).

