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Shrinking Natural Resources and Societal Needs Amid Climate Change

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Abstract

The unsustained exploitation of natural resources intertwined with climate change has led to the shrinking of natural resources and many species are facing the threat of extinction. Present article is an attempt to reflect the consequences of climate change on natural resources, society and the potential of forests to mitigate climate issues. The article also reflects need to climate adaptability towards achieving zero carbon state by 2050.

Keywords: Climate Change, Forest, Natural resources, Zero carbon, Deforestation, Over exploitation, Global warming, Climate mitigation, Ecosystem, Extinction

Abbreviations: COP: Conclave of Parties, NDC: Nationally Determined Contributions, CSIS: Centre for Strategic and International Studies, IUCN: International Union for Conservation of Nature, IPCC: Inter-governmental Panel on Climate Change

Introduction

Nature nurtures living beings with all its tangible as well as intangible resources. But, over the years, particularly with the onset of the Industrial revolution, the unsustained use of natural resources has created an imbalance in the environment leading to depleted natural resources and compromised biodiversity. This has led to an increase in the earth's temperature, harming all life forms. The latest climate report of IPCC indicates the world is on the verge of multiple natural hazard scenarios in coming decades and calls for urgent initiatives to address climate change. The recently concluded COP26 at Glasgow, Stockholm, has urged the world to promote conventional energy sources and adopt policies to cut down the earth's carbon budget. The conclave calls on countries to develop stronger 2030 NDCs and roadmaps for net-zero carbon by 2050. It is expected that the strict adherence to these commitments shall contribute to limiting the temperature under 1.5 $^{\circ}$C as agreed in the Paris agreement.

Forests are an essential component of the earth and play a vital role in regulating the ecosystem. Over 25% of the world's population is dependent on forests for its livelihood resources (IUCN,2021). It provides a number of ecosystem services including habitat to diverse categories of wildlife, carbon sink, absorbs greenhouse gases like carbon dioxide, methane etc., from the atmosphere and also regulates water flow. The unsustained practices, changing land surface including forests and the other land uses affects the local, regional and global climate. Forest fires, population growth, urbanisation, industrialization, and overgrazing are some of the major causes of deforestation.

For decades the value of biodiversity has been declining due to the land use changes. Global warming has led to melting of glaciers in a rapid manner, causing changes in the biodiversity patterns in the glacial zones. The upward shift of natural tree lines [1-3] and the disappearing patches of the alpine [4] and subalpine [5] floral communities have always been a topic of discussion globally. Forests have multiple functions viz. productive function which are directly consumed by the human-kind like wood, timber, foods, seeds, fruits, fuels and the most valuable is oxygen; protective function and regulative function like it protects wildlife, maintain soil moisture, control floods and air pollution and also protect the soil from soil erosion, regulates different processes in the ecosystem and maintains the hydrological nutrient cycles. But, the unending greed for development has created a wide gap between humans and nature, and humans could not realise the damage they made and the consequences of these events. The bizarre consequences are always slow and grave, such that its awareness

is often realised too late. The rising global temperature, the swift melting of glaciers, the rapid vanishing of a number of fauna as well as floral species, etc. are the examples of such consequences.

Due to climate change and extreme weather events the natural resources are getting reduced and affecting the living communities. The outcomes are lately realised by the urban population but the quick stimulus is received by the humans living in forests i.e., the tribal community. The tribal population depends upon the forests for their living and also protects the forest resources from alien intrusion. The over exploitation of the forests, risk the tribal culture, existence and life globally. The extreme heat and polluted air and water has propelled the urban population to drag the concepts of urban green spaces, urban heat islands and green eco-parks at every interval in urban regions and still not being able to neutralise the heat effect. The natural process is always stronger than what people can create artificially for good. Recently due to bushfires in Australia, 18 million acres of forest land were burned, and at least 2000 homes have been destroyed due to the changing climatic conditions as per CSIS. The quicker and the easier the destruction, the slower and the difficult is the natural recovery of such a complex natural system. It is not justified to recover the intentionally demolished natural structures that took ages to form by just reforestation, roadside plantation, artificial recreation, etc. but the conservation from further destruction, awareness, environment friendly alternatives, sustainability, etc. should be the desperate measures for natural rebuilding of what we have disfigured. The onus will be on developed nations to support climate finance and help developing countries to come up with climate adaptability readiness.

This calls for an urgent and integrated approach for the proper management of forests not only to address climate change issues but also to harness the benefits of forest resources. The process must include protecting and maintaining the natural forest cover and other primary or intact ecosystems. The degraded forest land must be restored by introducing native based plantations. The young trees are the better carbon sinks than older ones since they consume more carbon dioxide during the process of photosynthesis to build a healthy and resilient ecosystem and sustainably manage the forest land for the people and the environment. At the urban landscapes, the worldwide initiatives are being taken by the Governments to mitigate the emission of carbon dioxide and commitment shown by the countries during the recently concluded COP 26 offers promise in the positive direction.

Conclusion

As human beings, we bear immense responsibility as the custodian of existing natural resources. Unfortunately, at the present state, these talks on climate change are still considered or limited to the discussion among elite or core groups. To address the climate issues besides all the government initiatives, the contribution from every individual is of paramount importance. Climate adaptability policy by the nations will be the key for the future. The support to climate finance in developing countries and adaptation of compulsive eco-friendly urban infrastructure initiatives shall support better cause of climate mitigation. The drive to mitigate the climate crisis and make the earth a better living place for generations to come cannot be achieved without wide-scale people participation, and countries need to act on mission mode to preserve the planet.

Conflict of Interest

Authors declare no conflict of interests.

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