

# The Impact of Global Warming on the Biodiversity

Athawale Bhagyashree K

Principal, New College of Education, Chunchale Shivar, Nashik.

Email: [tanubhagyashree@gmail.com](mailto:tanubhagyashree@gmail.com) | Mob. No. 7385600725

## Manuscript Details

Available online on <http://www.irjse.in>  
ISSN: 2322-0015

Editor: Dr. Arvind Chavhan

## Cite this article as:

Athawale Bhagyashree K. The Impact of Global Warming On the Biodiversity, *Int. Res. Journal of Science & Engineering*, January 2018, Special Issue A3 : 121-124.

© The Author(s). 2018 Open Access

This article is distributed under the terms of the Creative Commons Attribution 4.0 International License

(<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

## ABSTRACT

Environment means to the sum total of condition, which surrounds point in space and time. But the term 'Environment' is changing from place to place and time to time. Therefore, in the ancient period the term environment was used in limited sense. It was referred to only physical aspects of the earth's land, air and water as biological communities. With the passage of the time, the term environment was extended the environment through their social, economic and political activities. Therefore, today the term environment is used for climate change, global warming, natural disasters, and soil and land degradation, loss of biodiversity, air and water pollution etc. Moreover, it is, nevertheless, clear that humans are responsible to change the earth's climate in different ways. The production of carbon dioxide, cutting of forests and agriculture which produces methane, another greenhouse gas (GHG) etc. are responsible for global warming. It is scientifically supported global climate change (GCC) is an emerging issue which is proved as a peril to ecosystems, nonhuman species populations, and human populations etc. Moreover, It is responsible for reduced regional food yields, freshwater shortages, increased frequency of extreme weather events, coastal population displacement, changes in the ecology and geography of infectious agents, declines in farming community incomes, and biodiversity losses with accompanying disruption of ecosystem functions. It is nevertheless, true that these consequences are raised due to the global warming. Therefore, this research paper is an endeavor to illustrate the adverse impact of global warming on the biodiversity.

**Keywords:** Climate, Global warming, biodiversity, ecosystem, surplus, disease, disaster, penalty, freedom, control, impact, remedy, judiciary, fine, constraint, policy, public, constitution, right and legislation.

## INTRODUCTION

Global warming is the increasing of temperature of the earth. It is due to accumulation of greenhouse gases in the atmosphere. The climate change is the general term for any persistent change in climate, occurring over decades. The scientists are of the view that this global warming is resulted due to the enhanced greenhouse effect [1]. The projected increase in atmospheric concentrations of anthropogenic GHGs could have an adverse impact on the earth's temperatures [2]. It is proved scientifically beyond the reasonable doubt that global warming is one of the significant perils to the, biodiversity. The projected temperature increase of 1 to 3.6°C over the next 100 years could exceed rates of change for the last 10,000 years [3].

### Objectives

Following are the objectives of the research paper.

1. To study the impact of Global warming.
2. To understand the impact of Global warming on biodiversity.
3. To give suggestions to face the impact of Global warming on biodiversity.

### Nature and Scope of the study

The nature and scope of the study covers the comprehensive analysis of the current state of the impacts impact of Global warming in India and the way how its measures became more effective. The main points to be focused through the current research paper are the definition of Global warming, its background, review of literature, international aspect, judicial contribution, constitutional provisions, impact on biodiversity and suggestions to tackle it successfully. The Biological Diversity Act, 2002, Article 21, 48A, 51A[4] and the impact of Global warming on biodiversity is the scope of this research paper.

### Hypothesis

Following is the hypothesis to guide the study.

1. There is an adverse impact of Global warming on the biodiversity.

## METHODOLOGY

This is the conceptual research paper. Therefore, the secondary data like the books, newspapers, and websites, views of the authors expressed through the research papers, journals, case laws and commentary on the concept of the impact of the biodiversity are studied and necessarily used to complete the research paper.

### 1. Meaning and definition of Global Warming

Global Warming means a gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect caused by increased levels of carbon dioxide, CFCs, and other pollutants. The Global warming is defined as "an increase in the earth's average atmospheric temperature that causes corresponding changes in climate and that may result from the greenhouse effect." [5]

### 2. Meaning and definition of Biodiversity

Biodiversity means the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable for the survival of lives on the earth. There are three types of Biodiversity i.e. genetic diversity, species diversity, and ecosystem diversity. International Council for Bird preservation (1992) defines that Biodiversity is the total variety of life on earth. According to the Biological Diversity Act, 2002, Biological Diversity means the variability among living organisms from all sources and the ecological complexes of which they are part and includes diversity within species, between species, and of ecosystems [6].

## RIGHT TO LIFE

### 1. Article 21 reads as:

*"No person shall be deprived of his life or personal liberty except according to a procedure established by law."*

According to Bhagwati, J., Article 21 "embodies a constitutional value of supreme importance in a democratic society." Iyer, J., has characterized Article 21 as "the procedural *magna carta* protective of life and liberty.

## 2. Judicial interpretation for biodiversity protection

It is however, indisputable that the right to life as enshrined in the article 21, includes within its ambit something more than survival and not mere an animal existence. It therefore, nevertheless, includes all the aspects of life necessary to make a man's life meaningful, complete and worth living. The Supreme Court in Maneka Gandhi Vs. Union of India[7], the Board of Trustees Vs. Dilip [8] and in Ramasharan Vs. Union of India [9], held that the right to includes all that gives meaning to a man's life, for example, his tradition, culture, heritage and protection of that heritage in its full measure[10].

The Supreme Court in Sachidananda Pandey Vs. State of West Bengal & Ors[11] held that "Whenever a problem of ecology is brought before the Court, the Court is bound to bear in mind Article 48 A of the Constitution of India, which enjoins that the state shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country, and Article 51A (g), proclaims it to be the fundamental duty of every citizen of India to protect and improve the natural environment including forest, lakes, rivers and wild life, and to have compassion for living creatures"[12].

## THE IMPACT OF GLOBAL WARMING ON THE BIODIVERSITY

Biodiversity is defined as "the variety and variability among living organisms and the ecological complexes in which they occur[13]." The air we breathe, the soil we farm, the plants we harvest, and the water we drink all depend on ecosystem services. A significant portion of this value is generated by biological sources. The global warming is a significant determinant of vegetation patterns. It has a significant influence on forest distribution, species dominance, and plant productivity and, in general, ecology of forests. The biodiversity is closely associated with favorable climate on the earth. But change in climate will alter the biodiversity. Even if animals and species are valued solely by reference to human preferences, consideration of animal welfare dramatically increases

the argument for aggressive responses to climate change[14].

It is found that, plants and animals are very sensitive to global warming. Their range move when the climate patterns change-species die out in areas where they were once found and colonize new areas where the climate becomes newly suitable. Moreover, it is traced from the fossil records that some species have become completely extinct because they were unable to find suitable habitat when climate change made their old homes unlivable. For forestry, the climate change-induced modifications of frequency and intensity of forest wildfires, outbreaks of insects and pathogens, and extreme events such as high winds, may be more important than the direct impact of higher temperatures and elevated CO<sub>2</sub>[15].

According to IUCN Red List of Threatened Species, there are at least 1,141 of the 5,487 mammals on Earth are known to be threatened with extinction, and 836 are listed as Data Deficient. The main factor that causes endangered species is loss of habitat. Whenever we cut down a tree or destroy a forest to build a shopping mall we are destroying the homes of several species. It also means that a food source for another animal may be destroyed as well. In some areas certain species are hunted for sport faster than they can reproduce[16].

Ecosystems, with their specific flora and fauna, are especially vulnerable to negative impact from global warming. In India the major threat to such Biodiversity rich regions is due to disproportionate destruction of forest and even climate change negatively affects forests including biodiversity wiping out the species[17].

## CRITICISM

The Global warming is always criticized on certain grounds. The depletion of biodiversity also leads to extinguishment of certain species, so it has become an urgent issue necessary to be tackled. The most serious defect in the Global warming is the failure of the state to mitigate its hazardous impact on the biodiversity. The state is vulnerable so as to achieve the

technological mastery to face the unfavorable impacts of the global warming. The global warming impact is totally contrary to the upliftment of human status. Thus, the rich biodiversity of India is under severe threat owing to habitat destruction, degradation, fragmentation over-exploitation of resources and global warming. Increasing the speed of economic growth without exhausting the resources and at the same time fulfilling the basic needs of a large growing population is one of the great challenges facing India[18].

### Hypothesis

There is an adverse impact of Global warming on the biodiversity.

**It is verified and found true on the basis of the secondary data.**

## FINDINGS AND CONCLUSIONS

The Global warming has different hazards on the biodiversity. It is found that 50% of crop yield from the genetic resources of the plant. Moreover, the medicinal bio-compounds from the coral reefs are the sources of medicine for cancer and other diseases. It may be concluded that the biodiversity has the significant impact of global warming. It is found through this research paper that if state failed to take appropriate measures to deal with the effects of global warming on biodiversity, half of the common plants on earth and one third of animals will be extinct up to 2080. Therefore, this research paper has revealed the fact that the biodiversity is now at the mercy of the global warming. Since, the human survival in future merely depends upon the technological progress of the state so as to face the hazardous impacts of the global warming. Thus, however, it is undisputable that the poor in this regard may be more vulnerable and easy prey to global warming. Since, the conservation of biodiversity has gained worldwide momentum.

**Conflicts of interest:** The authors stated that no conflicts of interest.

## REFERENCES

1. Dr. Sukanta K. Nanda, *Environmental Law*, 1st edition, Allahabad: Central Law Publications, 2007, p. 324.
2. Ramachandran R. 'The Play of Environmental Politics', *the ICFAI Journal of Environment Law*, , Jan. 2003, Vol. 11.
3. Stuart E Eizenstat, "The Kyoto Protocol: A Framework for Action", *Focus, Global Issues Electronic Journal*, May, 1998, pp. 6-7.
4. Article 48 A and 51 A (g) have been inserted in the Constitution of India by 42nd amendment in 1976.
5. Global warming. (n.d.). Dictionary.com Unabridged. Retrieved January 5, 2018 from Dictionary.com website <http://www.dictionary.com/browse/global-warming>.
6. Clause (b) of section 2 of Biological Diversity Act, 2002
7. AIR 1978 SC 597
8. (1993) 1 SCC 124
9. (1989) Supp. (1) SCC 251
10. Ibid
11. AIR 1987 SC 1109; 1987 (2) SCR 223; 1987 (2) SCC 295; 1987 (1) JT 425.
12. Ibid
13. Dr. Sukanta K Nanda, "*Environmental Law*", Central Law Publications, I Edition, Allahabad , 2007, pp. 338-339
14. Hsiung Wayne and Sunstein Cass R. *Climate Change and Animals*, University of Pennsylvania Law Review, Vol. 155, No. 6, Symposium: Responses to Global Warming: The Law, Economics, and Science of Climate Change (Jun., 2007), pp. 1695-1740
15. Andrei P. Kirilenko and Roger A. Sedjo, *Climate Change Impacts on Forestry*, Proceedings of the National Academy of Sciences of the United States of America, Vol. 104, No. 50 (Dec. 11, 2007), pp. 19697-19702.
16. <http://www.ask.com/question/how-many-endangered-species-are-there> accessed on 10/01/2018
17. Mehdi, "Climate Change and Biodiversity: India's Perspective and Legal Framework", *JILL*, Vol. 52:3 & 4, p. 352
18. Rathore MS, *Environment and development: Areas of Conflict and Convergence*, Environment and development, Jaipur and New Delhi: M S Rathore, Rawat Publications, 1996, p. 20