



**- EDUCATIONAL NOTE**

**DEFORESTATION CAUSING GLOBAL WARMING AND  
CLIMATE CHANGE**

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**ABSTRACT**

Deforestation is the act of cutting down or burning the trees in an area. Soil erosion is being caused by widespread deforestation. Deforestation is contributor to global warming and is often cited as one of major causes for the enhancement of green house effect. It could account for one third of total anthropogenic carbon dioxide emission. Recent findings suggest that carbon dioxide emission due to deforestation contribute about 12% of anthropogenic carbon dioxide emission with a range from 6-17%.

Tress and other plants remove carbon in the form of carbon dioxide from the atmosphere during the process of photosynthesis and release oxygen back into the atmosphere. Both the decay and burning wood releases much of these stored carbon back to atmosphere. Deforestation may cause carbon stores held in soil to be released. In deforestation areas, the land heats up faster and reaches a high temperature leading to localized upward motions that enhance the forest of clouds and ultimately produce more rainfall. Producing emissions from the tropical deforestation. REDD, has emerged as new potential to complement ongoing climate policies.

Global warming refers the rising average temperature of earth's atmosphere and oceans. Climate model projections are summarized in 2007. Fourth Assessment Report (AR4) by IPCC indicates that during 21<sup>st</sup> century the global surface temperature is likely to rise a further 1.1 to 2.9°C (2 to 5.2°F) for their lowest emission scenario and 2.4 to 6.4°C (4.3 to 11.5°F) for their highest. The ranges of these estimates arise from the use of models with differing sensitivity to Green house gases (GHG) concentrations.

GHG can stay in the atmosphere for an amount of years ranging from decades to hundreds and thousands of years. Five deadliest effects of global warming are: (i) Polar ice cap melting, (ii) Economic consequences, (iii) Increased probability and intensity of droughts and heat eaves, (iv) Warmer waters and more hurricanes and (v) Spread diseases.

Government of India and Indian citizens have cautiously to take preventive measures otherwise

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places and famous towns of India like Mumbai, Goa, Kolkata, Puri, Vishakhapatnam, Chennai, Pondicherry etc., are, very soon, going to be under water due to the effects of global warming. Forest are able to extract carbon dioxide and pollutants from the air, thus, contributing to biospheres stability.

**Key words:** Deforestation, Global warming, Reducing Emission from Deforestation and Forest Degradation (REDD), Assessment Report (AR4), Intergovernmental Panel on Climate Change (IPCC), Green house gases (GHG).

## INTRODUCTION

Deforestation is the removal of a forest or stand of trees where the land is thereafter converted to a non-forest use. It is the act of cutting down or burning the trees in an area. Deforestation occurs for many reasons: trees or derived charcoal are used as, or sold, for fuel or as timber, while cleared land is used as pasture for livestock, plantations of commodities, and settlements. Deforested regions typically incur significant adverse soil erosion and frequently degrade into wasteland. Deforestation causes extinction, changes to climatic conditions desertification, and displacement of populations as observed by current conditions and in as observed by current conditions and in the past through the record<sup>1</sup>.

### **Deforestation and global warming**

Deforestation is contributor to global warming and is often cited as one of major causes for the enhancement of green house effect. It could account for upto one third of total anthropogenic carbon dioxide emission. Recent findings suggest that carbon dioxide emission due to deforestation contribute about 12% anthropogenic carbon dioxide emission with a range from 6-17%.<sup>2</sup>

Trees and other plants remove carbon in the form of carbon dioxide from the atmosphere during the process of photosynthesis and release oxygen back into atmosphere. Both the decay and burning wood release much of these stored carbon back to atmosphere.<sup>3</sup>

### **Deforestation in relation to climate change**

Deforestation may cause carbon stores held in soil to be released. In deforested areas, the land heats up faster and reaches a high temperature leading to localized upward motions that enhance the forest of clouds and ultimately produce rainfall. Producing emissions from the tropical deforestation, REDD has emerged as new potential to complement ongoing climate policies.<sup>4</sup>

Climate model projections have been summarized in 2007. AR4 by IPCC indicates that during 21<sup>st</sup> century the global surface temperature is likely to rise a further 1.1 to 2.9°C (2 to 5.2°F) for their lowest emission scenario and 2.4 to 6.4°C (4.3 to 11.5°F) for their highest. The ranges of these estimates arise from the use of models with differing sensitivity to GHG concentrations.<sup>5</sup>

GHG can stay in the atmosphere for an amount of years ranging from decades to hundreds and thousands of years. Global warming shows some effects like (i) Polar ice cap melting, (ii) Economic consequences, (iii) Increased probability and intensity of droughts and heat waves, (iv) Warmer waters and more hurricanes and (v) Spread diseases.<sup>6</sup>

## **CONCLUSION**

Deforestation causes global warming, which shows effects on the Indian Subcontinent. This effect varies from submergence of low-lying islands and coastal lands to the melting of glaciers in the Indian Himalayas. Such effects are projected to millions of lives in India.

Deforestation meant for fuel consumption should be stopped. Alternative energy sources can be utilized in stead of wood. Algae fuel, biomass briquettes, biomass digestion etc. are some of relatively new concepts for alternative energy.

Government of India and Indian citizens have cautiously to take preventive measures, in regards to, deforestation causing global warming and climate change, otherwise some of the places and famous towns of India like Mumbai, Goa, Kolkata, Puri, Vishakhapatnam, Chennai, Pondicherry etc., are no longer, going to be covered under water. Forests are able to extract carbon dioxide and pollutants from the air, thus, contributing to biospheres stability.

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