



DEFORESTATION : A THREAT TO GLOBAL WARMING

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ABSTRACT

Over last few years we have been facing global warming and climate change. It is well known that global warming is being caused largely due to emissions of greenhouse gases like carbon dioxide into the atmosphere. Deforestation has a direct association with carbon dioxide emissions into the atmosphere. It can also be seen as removal of forests leading to several imbalances ecologically and environmentally and results in declines in habitat and biodiversity. Deforestation is a serious threat to the environment. If we do not this problem with the immediate concern it would destroy the entire environment. Deforestation will cause the imbalanced climate behavior in our earth. Forests have the potential to provide us with new crop varieties and medicines but the population pressures, profits, and internal social and political forces can all push up the rate of forest loss. This availability of fodder will be reduced and the age-old animal link in the hill eco-system would be broken. The destruction of forest covers in the ecologically sensitive. The paper examines the global patterns in deforestation, assess the human and ecological costs of forest loss, and discuss some of the steps that can help to rectify this alarming situation.

Key Words: *Global warming, Greenhouse gases, Climate Change ,Eco-system and deforestation.*

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OBJECTIVES OF THE STUDY:

1. To collect the impact of climate change on the deforestation
2. To investigate the Global Perspectives on Sustainable Forest Management.
3. To suggest measures to reduce deforestation.

INTRODUCTION:

There has also been excessive consumption of wood over the last few decades without being sensitive to dangers of shortage of trees. Trees are the main source of oxygen on which depend both human and animal lives. Trees also help in rains. Jungles are the best protectors of animals and other creatures. Due to depletion of forests the rains have been affected and there has been extinction of several birds and animals. Poor rains affect the fertility of soil on which depends about one-third of the population of the world. Deforestation is the one of the important issue of environmental change and degradation of soil. About 30% of earth's surface is covered by forests. South America, especially Brazil, West Central Africa and South East Asia, are home to regions of dense forests.

Climate Change:

According to NASA, the Earth average temperature has increased about 1 degree Fahrenheit during the 20th century (Global Climate Change: Effects). That might sound like it isn't a great change, but its effects on our environment have proven otherwise. The impacts of this small change in the temperature are many, from longer drought seasons and heat waves to more aggressive hurricanes (Global Climate Change: Effects). Furthermore, the increase in the earth's average temperature created a variety of problems that left a lasting scar on our environment (Global Climate Change: Effects).

Greenhouse Gases:

Greenhouse gases are thought to be the main contributor to climate change (The Greenhouse Effect). They are very efficient in trapping heat into the atmosphere; therefore, it results in the greenhouse effect. The solar energy is absorbed by the earth's surface and then reflected back to the atmosphere as heat. Then as the heat goes out to space, greenhouse gases absorb a part of the heat. After that, they radiate the heat back to the earth's surface, to another greenhouse gas molecule, or to space (The Greenhouse Effect). Daniela Burghila et al. stated in "Climate Change Effects- Where to Next?", the biggest concern scientists have is about the emission of CO₂ since it is about 75% of the total global emission of greenhouse gases (406).

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Methane and CO₂ According to L.A. Berbisi et al. in “Methane leakage from evolving petroleum systems: Masses, rates and inferences for climate feedback,” the present-day warming trend has been attributed to an annual increase in the atmospheric methane concentration and CO₂ (225). The Berbisi et al. study also investigated the potential of methane contribution to the atmosphere during the evolution of petroleum system in two different geological settings: The western Canada sedimentary basin and the Central Graben area of the North Sea. Numerical simulation and different types of mass balance (conversion of mass to the analysis of physical systems) as well as theoretical approaches were applied. In western Canada sedimentary basin case, maximum thermogenic methane leakage rates in the order of 10⁻² -10⁻³ and maximum biogenic Jamil 3 methane generation rates of 10⁻² Tg/yr were estimated. In the Central Graben case there was an estimate of maximum thermogenic methane leakage in order of 10⁻³ Tg/yr. Applying the results to a global scale shows that thermal gas generation in hydrocarbon, single process kitchen area would not influence climate (227). On the other hand, only the sudden release of surface methane accumulations, formed over geological time scales, petroleum systems can influence climate (219).

Human Contributions:

Scientists believe humans’ activities contribute to climate change because we depend on fossil fuels for our energy needs (Riebeek). Wuebbles said, “A large amount of climate change happens widely because we are burning fossil fuels and that increases gases such as CO₂, methane, and some other gases in the atmosphere” (phone interview). According to the Australian Greenhouse Office, the world depends on fossil fuels such as oil, coal, and natural gas for 80% of its energy needs. Therefore, that makes it very hard to switch from fossil fuels to any other forms of energy because we depend on fossil fuels to a large degree. The emission of greenhouse gases has increased dramatically from the industrial revolution, mostly from the burning of fossil fuels for energy, agriculture, industrial process, and transportation (Ecological Impacts of Climate Change). The graph on the next page shows how much CO₂ and methane increased in the last 250 years.

STRATEGIES TO REDUCE DEFORESTATION :

Ways to reducing deforestation must go hand in hand with improving the welfare of cultivators at the forest frontier. Any policy that does without the other is unacceptable. There are no general solutions and strategies since these will vary with region and will change over time. All strategies require cooperation and goodwill. Effective implementation is essential including stakeholder participation, development of management plans, monitoring and enforcement. The strategies should be such that on one hand they should recognize the critical roles of national, state and municipal governments and on other hand empower the



civil society and the private sector to take a pro-active role in reducing deforestation, often working in conjunction with government.

Reduce population growth and increase per capita incomes :

Reduction of population growth is pivotal in reducing deforestation in the developing countries. Consequent of reduced population, increase in per capita income will occur as a consequence of increased incomes and literacy rates which will reduce pressure on the remaining forests for new human settlement and land use change.

Reducing emissions from deforestation and forest degradation :

Many international organizations including the United Nations and the World Bank have begun to develop programs to curb deforestation mainly through Reducing Emissions from Deforestation and Forest Degradation (REDD) which use direct monetary or other incentives to encourage developing countries to limit and/or roll back deforestation. Significant work is underway on tools for use in monitoring developing country adherence to their agreed REDDS targets (Chomitz et al., 2007).

Increase the area and standard of management of protected areas :

The provision of protected areas is fundamental in any attempt to conserve biodiversity (Myers, 1994; Myers and Mittermeier, 2000; Nepstad *et al.*, 2006). Protected areas alone, however, are not sufficient to conserve biodiversity. They should be considered alongside, and as part of, a wider strategy to conserve biodiversity. The minimum area of forest to be protected is generally considered to be 10 per cent of total forest area. It is reported that 12.4 per cent of the world's forest are located within protected areas. Tropical and temperate forests have the highest proportions of their forests in protected areas and arboreal forests have the least. The Americas have the greatest proportion while Europe the least proportion of protected areas (Anon., 2010)

Increase the area of forest permanently reserved for timber production :

The most serious impediment to sustainable forest management is the lack of dedicated forests specifically set aside for timber production. If the forest does not have a dedicated long-term tenure for timber production then there is no incentive to care for the long-term interests of the forest. FAO (2001) found that 89 per cent of forests in industrialized countries were under some form of management but only about six per cent were in developing countries. If 20 per cent could be set aside, not only could timber demand be sustainably met but buffer zones could be established to consolidate the protected areas. This would form a



conservation estate that would be one of the largest and most important in the world (Anon., 2001a).

Increase the perceived and actual value of forests :

There are several ways of achieving increasing the perceived and actual value of forests. Governments can impose realistic prices on stumpage and forest rent and can invest in improving the sustainable productivity of the forest. National and international beneficiaries of the environmental services of forests have to pay for such services (Chomitz *et al.*, 2007).

Promote sustainable management:

In order to promote sustainable forest management, it must be sustainable ecologically, economically and socially. Achieving ecological sustainability means that the ecological values of the forest must not be degraded and if possible they should be improved. This means that viticulture and management should not reduce biodiversity, soil erosion should be controlled, soil fertility should not be lost, water quality on and off site should be maintained and that forest health and vitality should be safeguarded. However, management for environmental services alone is not economically and socially sustainable. It will not happen until or unless the developing nations have a reached a stage of development and affluence that they can accommodate the costs of doing so.

CONCLUSION:

Life originated and exists on earth because of environment. Because environment provides all necessary conditions of existence. No living being can survive without its environment. All living organisms influence its environment and in turn get influenced by it. But man being the most intelligent creature interacts with the environment more vigorously than other organisms. With the rapid growth of population demand for materials increases rapidly. Industrialization and urbanization further worsens the situation. It forces man to exploit nature mercilessly. He devastated forests by cutting trees, killed animals, pollutes the air, water and soil and upset the ecological balance. Environmental crisis refers to a catastrophic situation in which the normal pattern of life or ecosystem has been disrupted which needs timely interventions to save and preserve environment. It may be due to manmade causes, accident or negligence and result in substantial damage to or deflection of environment. Environmental crisis causes natural disaster and seriously affects life, economy, and agriculture and food security. Hence it is one of the greatest concerns of the world community. The cost of environmental crisis is too heavy to bear.



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