AMOGHVARTA

ISSN : 2583-3189

An Analytical Study of Impact and Causes of Deforestation in India

ORIGINAL ARTICLE

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Abstract

Forests cover about 30% of the earth's land area, yet humans are deforestation and exploitation of these critical habitats on a large scale. Deforestation refers to the reduction of forest area around the world and its loss to other uses such as agricultural land, urbanization and mining activities. Deforestation, greatly accelerated by human activities since the 1960s, has adversely affected natural ecosystems, biodiversity and climate. Deforestation has so many negative effects on the planet that it can lead to the end of life on earth. There are several causes of deforestation. This study is about the impacts, facts, causes and indicators of deforestation.

Key Words

Deforestation, Impact, causes, facts.

Introduction

Areas covered with trees are called forests. The Food and Agriculture Organization of the United Nations defines a forest as "an area of land exceeding 0.5 hectares with trees exceeding 5 meters in height and a canopy exceeding 10 per cent, or growing at these thresholds achievable in the circumstances." Land used primarily for agricultural or urban purposes is not included. Using this definition, the 8 Global Forest Resources Assessment 2020 concluded that total forest cover is approximately 4.06 million hectares or 10 million acres of land, representing 31% of the total area of the Earth's surface in 2020. Forest cover refers to the total geographical area declared by the Government. In 2021, the total forest cover in India is 713,789 km^2 or 4,444 21.71% of the total geographical area. The area of forest cover was , an increase of 1540 square kilometers from 2019. Madhya Pradesh has the highest forest cover area followed by Arunachal Pradesh with Mizoram has the highest forest cover in terms of percentage of total geographical area.

Forests are important for the survival of all living things. They are vital to our lives as they provide oxygen, food, shelter, fuel and sustenance to Indigenous people who live in and around forests. Forests hold 8-80% of the world's terrestrial biodiversity and are the source of all basic needs for nearby human settlements. Everything comes from forests, from the oxygen we breathe to the fuel and wood used in our buildings. This is an autotrophic system, harboring a variety of organisms. Forest ecosystem Contains biotic (living) and abiotic components. The 6 components of biology include kinds of plants, trees, shrubs, vines, grasses, mosses, algae, fungi, insects, mammals, birds, kinds of reptiles, amphibians and microorganisms.

The Indian State of Forests Report 2021 (ISFR 2021) overview is as follows: It is neither admirable nor noteworthy. Increases in forest cover occurred outside of registered forest areas or forest areas under the control of state Government forest departments. Again, this growth occurred mainly in forests classified as 'open', i.e. forests with 10-40% canopy cover. This is because of the enormous restrictions on tree planting and logging set forth in 16 the Indian Forest

Act, 1927, which prevent people from planting trees on their land and planting non-forest species so that forests do not grow. These forest areas therefore include rubber, coconut and eucalyptus, as well as tea and coffee plantations with more than 10% tree cover per hectare of land. The 'outside' areas of recorded forests now make up a significant portion of the country's green space. The forest area 'outside' the recorded forest area is 19.72 million hectares, or about 28% of the total forest area.Add to this 9.6 million hectares of trees for a total of 29.32 million hectares, or 36% of the country's green space.

According to Forest Survey of India, these lands outside the recorded forest also contribute between and 38% of the national forest sink. Tree cover (trees outside of the recorded forest areas) – spread over plots of land – is close to 10 million hectares, equivalent to the country's densely forested areas.

Mango, neem, mahua and tamarind are the main trees with supporting the livelihoods of growers. The forest is very dense, covering more than 70% of the tree canopy, and currently covers only 14% of the forest area (or 3% of the country's land area). Of these, more than 70 percent of 12 are located in areas classified as tribal areas. More importantly, most of the country's documented forests were not included in the report Its area reaches 25.87 million hectares, which is his third of the land under the jurisdiction of the State Forest Department. So the biggest lesson is that forests with forest offices don't grow. And a third of their countries don't even qualify for evaluation. Forest areas are growing in spite of Governments, not their fault.

Deforestation

Human deforestation, logging or thinning. Deforestation is one of the biggest land use problems in the world. Traditional estimates of deforestation are based on forest areas cleared for human use, including trees felled for wood products, and croplands and pastures. The clearcut removed all the trees from lot and completely destroyed the forest. But in some cases, even partial logging or accidental fires can be enough to thin the trees and dramatically change the structure of the forest. The destruction of forests is called deforestation. Deforestation has serious impacts on human livelihoods and the environment. According to a study by the Ministry of Forests, India has about 75 million hectares of which hectares are forest. Recently collected satellite imagery data shows that only about 17% of the areas are covered in forest.

There are 3 million hectares of forest every year. In the hilly country, deforestation is severe, severely affecting the local economy and ecosystem. The original vegetation of the Himalayas has been severely damaged and natural resources have been gradually lost. Overpopulation, industrialization, urbanization, road construction, mining and other development activities are destroying the natural habitats of flora and fauna and putting enormous pressure on biological resources. Many plant and animal species are threatened or threatened. Forest degradation can also be caused by negative impacts such as landslides, drought, floods, storms, earthquakes, disease, water and air pollution and human intervention. Other adverse factors, such as lack of stable soils, drought, wetlands, biotic impacts and commercial development, can also lead to depletion of forest cover.India's natural diversity is one of the richest in the world, but it is slowly disappearing due to the factors mentioned above.

The FAO reports that India has an annual deforestation rate of 0.6% (340,000 hectares between 1981 and 1990). According to Ravindra Nathand Hall (1944), million hectares are replanted each year. India's total forest area in 1990 was 70.6 million hectares, of which 27% was commercial plantations, mainly eucalyptus, teak and pine. According to Khoshod (1986), the global forest area in 1900 was about 7 billion hectares. Reduced in 1975. 89 billion hectares. By the end of the year 2000, if current trends of deforestation

continue, the total area of shrubs in the world will be reduced to about 2370 hectares. Deforestation in the ecologically sensitive Himalayan region has had negative impacts in the form of increased water scarcity, repeated landslides, floods, severe river sedimentation, fuel shortages and fodder and the loss of meadows. It began to affect deforestation by destroying life support systems. The water table is gradually decreasing. Much of the country has been affected by droughts and wells, wells, lakes and ponds. Dries faster than expected for in summer. The Himalayas of Kumaon and Garvwal, where oak forests support the overall environment, villagers depend heavily on these forests for fodder, fuel and other necessities. But now oak forests are being destroyed to meet the demands of a growing population. This has significantly changed the environmental conditions. The community associated with Oak is being destroyed. This can lead to the loss of medicinal herbs and oak shrubs. The availability of these foods will be reduced and ancient animal ties in mountain ecosystems will be severed. Deforestation was a major issue at the Rio Genero Earth Summit (1992). As stated in Agenda 2110 of the United Nations Conference on Environment and Development (UNCED): Lack of information and understanding of forest values.

The Data Behind Deforestation

Forests cover approximately 31% of the Earth's total land area.

- The rainforest is more than half of the world's terrestrial flora and fauna.
- Between 2000 and 2012, more than 568 million acres of forest were claimed by deforestation.
- Approximately 9 million acres of tropical jungle were cleared in 2018.
- The Amazon rainforest, which provides 20% 17 of the world's oxygen supply, is losing about 1.32 acres per minute to deforestation.

Environmental Effect of Deforestation

A. Impacts of Deforestation on Biodiversity

The best-known consequence of deforestation is the threat to biodiversity. Indeed, forests are real hotbeds of biodiversity. From mammals to birds, including insects,species of amphibians and plants, forests are home to many rare and vulnerable species. 80% of the species of land plants and animals on Earth live in forests. Through deforestation, human activities endanger entire ecosystems, disturb the natural balance and threaten life. The natural world is complex and interconnected, made up of thousands of interdependencies. For animals, not much trees, and plants that aren't always able to cope with excessive amounts that comes from bright sunshine, trees offer shade while decreasing temperatures.

Through deforestation, human activities endanger entire ecosystems, disturb the natural balance and threaten lives. The natural world is complex and interconnected, made up of thousands of interdependencies. Among other things, trees provide shade and cool temperatures for animals and small trees and plants that may not be able to withstand the heat of direct sunlight.

B. The Impact of Deforestation on Local People and their Livelihoods

Healthy forests support the livelihoods of 1.6 billion people worldwide, 1 billion of whom are among the world's poorest. This means that many people depend on the forest for their survival and use the forest to hunt and harvest raw materials for small-scale agricultural processes. Land tenure is weak in Brazil, Mexico and other developing countries. This disrupted the life of the local population, allowing big companies to acquire the land, to use it for other purposes.

C. Deforestation for Food may Lead to Future Food Insecurity

Today, 52% of all land used for food production is affected by moderate or severe soil erosion. A lack of healthy, nutritious soil can lead to low yields and food insecurity 13 in the long run.

D. Soil Erosion is One of the Consequences of Deforestation

Deforestation weakens and weakens the soil. In addition to being rich in organic matter, forest soils tend to be more resistant to erosion, weathering and extremes. This is mainly because the roots help anchor

the tree to the soil, and the sun-blocking tree cover helps the soil dry out more slowly. As a result of deforestation, soils are becoming increasingly fragile and more susceptible to natural hazards such as landslides and floods.

E. Deforestation Affects and Contributes to Climate Change

Deforestation is also a major Facilitator to climate change. why? Remember that a tree throughout its life he absorbs and stores CO_2. According to WWF, tropical forests contain over 210 gigatonnes of carbon. And the worrying thing is that destroying these trees has two major ramifications. First of all, cutting down trees means releasing the CO_2 trapped in the trees into the atmosphere. Second, fewer trees available means less global capacity to capture and store CO_2. Both impacts have a negative impact on the greenhouse effect and climate change. Deforestation is estimated to be responsible for 10-15% of all anthropogenic CO_2 emissions, while food and agriculture account for 24% of greenhouse gas emissions.

F. Topsoil Loss: It takes nature about 1,000 years to build up one inch of soil, which is virtually admirable as 12,000 Mt of Indian topsoil is washed down into rivers each year.

G. Loss of Food Grains: The country loses 300-500 tons of grain each year due to soil erosion.

H. Flood Losses: Areas affected by floods increased from an annual average of 64 in the 1950s to 9 in the 1980s. In the period from 1981 to 1986, floods alone cost him Rs.50,000.

I. Threatened the Himalayan Ecosystem: The entire Himalayan ecosystem is threatened by and is seriously unbalanced.

J. Forests Transformed into Greenhouses: In Andhra Pradesh, temperate forests transformed into greenhouses, hit by cyclones like tropical forests.

K. Drought Occurrences: Drought outbreaks are very common in Rajasthan. Most of his country turns into a wasteland. Chronic droughts have also begun in unknown areas such as Tamil Nadu and Himachal Pradesh.

Mainspring/Causes for Deforestation

a. Agriculture

Change of woodlands to agricultural land to meet the growing needs of the people. There are an estimated 300 million people who live as slash-and-burn farmers, and more than 5,000 hectares of forests are expected to be cleared annually for slash-and-burn farming. In India, the northeast and Andhra Pradesh, Bihar, M.P. contribute to almost half of annual deforestation.

b. Commercial Logging

Supplying the world market with timber such as Meranti, teak, mahogany and ebony) destroys trees and clears forests for agriculture. Cutting of trees for firewood and building materials, heavy cutting of leaves for fodder, intense grazing of seedlings by livestock such as gates.

c. Mining

This can lead to environmental impacts such as erosion, sinkhole formation, loss of biodiversity and pollution of soil, groundwater and surface water by chemicals in the process of mining. extraction. In some cases, additional logging near mines to free up additional spaces to store debris and soil.

d. Population Growth

In 1951 India's population was 3.6 billion. And last year it reached 1.22 billion. As the population grows, more land will be needed to live on. So they take advantage of their deforestation practices.

e. Urbanization and Industrialization

Industrialization and urbanization require land to grow, so large amounts of forest are being cleared to facilitate industrialization and urbanization. This has a negative impact on the environment and the ecological balance of forests.

f. Reservoir Construction

Construction of large dams will lead to large-scale deforestation and upset the natural ecological balance of the area. Floods, droughts and landslides are becoming increasingly common in such areas. Forests are treasure troves of natural and valuable biodiversity, and if forests are destroyed, species will be lost without our knowledge. These seeds can have great commercial or medicinal value.The reservoirs of these seeds that have grown over millions of years are lost to deforestation in one fell swoop.

g. Frequent Fires

Frequent fires are the main cause of deforestation in India. Some fires are accidental, but most are premeditated. According to Forest Survey of India (1996), an average of 63.1% of the forest cover was affected by fire. The data also shows that fires destroy about 500,000 hectares of forest each year.

Suggestion

Role of Governments and Other Management Bodies.

Governments can implement the following strategies to combat deforestation:

- Increase the number and extent of forests under Government protection.
- Carefully plan the construction of infrastructure (roads, dams, etc.) to minimize loss of forest cover.
- Investing in new technologies in the agricultural industry (e.g. hydroponics) and supporting farmers to implement environmentally friendly farming practices (e.g. circular agriculture).
- Optimizing forest management by prohibiting inefficient farming methods (such as slashand-burn).
- Promote the production and use of alternative wood to reduce demand for wood. For example, bamboo replaces firewood.
- Launch of new reforestation campaign to restore deforested areas.
- Investing in Forest Plantations– Forests planted with high-yielding trees can provide 5-10 times more yield (per hectare) than natural forests.

The Role of Individuals

All humans on Earth have a responsibility to protect their resources (for other humans, other species, and future generations). Deforestation can be prevented by an individual practicing her 3 Rs (Reduce, Reuse, Recycle) in her daily life.

Reduction: Use alternatives wherever possible to reduce paper consumption.

Reuse: Avoid consumer and disposable products to avoid waste.

Recycling: We carefully recycle all used wood and paper products.

Conclusion

Deforestation is a serious threat to the environment. If not addressed urgently, this issue will be detrimental to the existence of life on Earth. Decline and avoid deforestation by recycling paper instead of throwing it away. This means that another trees will be felled in the future.So if we continue to use paper, it will be more sustainable for the environment. The local impact on our environment is that trees absorb carbon dioxide and produce oxygen for organisms such as humans and wildlife and we breathe less oxygen. This is the source of Earth Climate in shooting mode. Deforestation contributes to uneven global climate change.

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