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Forests and forest conservation for livelihood security

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ABSTRACT

Forests have a central role to play as the world confronts the challenges of climate change, food shortages, and improved livelihoods for a growing population. By 2050, if forecasts come true, there will be an additional two billion people who need to be housed, fed, clothed, and given access to livelihoods. This is an enormous problem, especially in light of recent World Bank study indicating that global temperatures may increase by 4 degrees Celsius this century, having an effect on water supply, agriculture, and extreme weather occurrences. Forests produce fruits, leaves, gum, nuts, lumber, and wood for fuel; they also operate as a form of natural safety net for people during times of famine or other occurrences that have an influence on agriculture and food output. When crops fail, forests provide food for people and the animals they could trade with much of the world's surviving forests are coming under growing danger, which has a severe impact on people's quality of life. The globe still loses around 14.5 million hectares of forests year, despite the fact that deforestation has halted in some areas. As a result, it is important to develop policies and initiatives that can aid in forest conservation. The purpose of this essay is to investigate how forests and human livelihoods are related. Reviewing the pattern and effects of forest degradation is attempted. The report also discusses several current governments of India initiatives and forest protection methods.

KEYWORDS

Livelihood, Deforestation, Forest Conservation

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Forests are important renewable natural resources generating livelihood requirements for more than 25 % of the world's population. More than 2.4 billion people depend on forest products and services globally for direct access to food, wood fuel, construction supplies, medical supplies, work and financial gain. Indigenous tribes, numbering around 200 million, rely nearly exclusively on forests. In addition, 350 million people who live close to thick woods rely on them for both a living and a source of revenue.

According to estimates, 20-25 % of rural people's income in developing nations comes from natural resources, which serve as safety nets during emergencies or periodic food shortages. In India, forestry is the second largest land use after agriculture, occupying 21.02 % of the nation's total land area. In India, more than 50 million people directly rely on forests for food and a healthy diet. Despite this, human activity and climate change are endangering more and more of the world's surviving forests. The globe still loses around 14.5 million hectares of forests year, despite the fact that deforestation has halted in some areas. Anthropogenic effects including climate change, land usage, and unsustainable management methods may make it difficult for forests to continue providing all of their advantages in the future.

Despite growing knowledge of the connection between deforestation and climate change, tropical deforestation rates are expanding substantially, necessitating innovative and adaptable regulatory solutions. Tropical deforestation is a multifaceted danger to the global climate change issue. Despite the pervasive destruction of the forest ecosystem and the public acknowledgement of deforestation, there is a severe lack of quantitative data to advise sustainable use of the forest resources. The purpose of this essay is to examine the contribution of local forest resources to livelihoods and the impact of forest degradation on both climate change and human well-being. This essay offers various solutions for the issue of enhancing livelihoods related to forest preservation.

Importance of Forests in Livelihood Generation

India has the single largest concentration of rural poor than any other country with just 2.40 % of total geographical area, and 1.85 % of the total forest area of the world is burdened with 17.0 % of world's human and 18.10 % of world's livestock population. Around 72.20 % of India's overall population is located in rural regions and inhabits places near forests. In India, 30 crore people live below the poverty line, and two-thirds of them rely entirely or in part on the forest for their livelihoods. The World Bank estimates that 275 million impoverished people or 27 % of the entire population rely on forests in rural India in one form or another for their livelihood and means of life.

Islam *et al*. (2016) claim that a variety of livelihoods, including direct work, self-employment, and secondary employment, may be found in forests. The forest department and allied departments (rural development, agriculture and cooperatives) offer management, technical, research, planning and executive positions that directly employ people. By the selling of fuel wood and fodder, lopping and grass cutting, the production of handicrafts and cottage industries based on the forest, etc., self-employment in forestry supports the livelihoods of the local population. People have secondary job and livelihood prospects thanks to the use of regional expertise and village-level technologies in wood-based and small-scale forest-based industries.

In addition to gathering forest items for their own use, the villages on the edge of the forest also sell them for a profit. For households living in and near forests, sales of forest products account for 40 % to 60 % of their overall income. According to research on the use of non-timber forest products (NTFPs) in North-Eastern India, tribal tribes employ 343 NTFPs for a variety of uses, including medicine (163 species), edible fruits and vegetables (75 species) and vegetables (65 species). The villages under investigation relied 100 % on NTFPs for their supply of firewood and building supplies and NTFPs provided 19% to 32% of all family income. 70% of export profits and more than 50% of forest earnings are collected from non-timber forest produces. Forests are not only a source of subsistence income for millions of poor households but also provide employment to poor in these hinterlands.

As a result, forests play a significant role in the rural economy of the nation's wooded regions. These individuals frequently turn to overusing forest resources due to the pervasive poverty and lack of alternative chances to generate revenue. While it is against the law, the gathering of firewood for market sale is widespread across the nation's wooded regions and provides a living for 11% of the population. However, for many years, local people have gathered a variety of additional forest products in a sustainable manner, providing a reliable source of income for households. According to a study, "A study on forest based resources for livelihood in lower Shivalik hills".

The majority of the respondents from Hoshiarpur and Kangra district used forest resources heavily and had positive attitudes about forestry. Yet, the respondent's level of financial security fell into the middle category. Food and Agriculture Organization claims that trees help people have access to food by creating jobs and generating cash revenue in the forest industry, which enables families or individuals to buy food and sustain their livelihood. For households who depend on the forest, income from the forest sector is the primary source of their financial access to food and other necessities.

Pattern of Forest Change and Reasons of Forest Deterioration

Rapid economic development since the 1850s has followed different paths in different parts of the world. Early societies comprising mostly hunting, industrial development resulted however in a shift in types of forest products demanded as also in the scale of the demand. In addition to providing the raw materials for building, furniture, paper and pulp, forests have also served as a source of industrial and commodity crops. A high rate of deforestation has resulted from the enormous and worldwide magnitude of the demand for these goods. The act of converting a forest into a permanent non-forest land use, such as agriculture, grazing or urban development is known as deforestation.

Tropical developing nations are particularly concerned about deforestation because it is reducing the size of tropical forests, reducing biodiversity, and amplifying the greenhouse impact. Important livelihood forest links of a large population depending on forests, an increase in farmland, the building of roads, and other human activities are the primary contributors to the degradation of forests. The imbalance between demand and supply for forest products leads to overexploitation, fuelwood harvesting, mining, urbanization, industrialization, and infrastructure, as well as overpopulation, poverty, corruption, and political causes. Forest fires, excessive grazing, illegal tree cutting and the conversion of forest land to non-forest uses (both legally and illegally) because of conflicting land use demands for construction and other purposes. Slash and burn agriculture are a significant contributor to forest degradation.

Slash and burn agriculture are a method of farming without fertilizer that involves burning down trees and plants to make room for new ones. It often led to the outbreak of forest fire, which caused severe damage. India showed an increasing trend in the forest and tree cover as against the global trend of decreasing forest cover during the last decade, but the five northeastern states saw their forest cover shrink. Delhi has lost around 112,169 trees since 2005, a data released by Delhi government showed. This means it lost a tree every hour. According to Nitti Ayog, India has a 21.23 % land under forest cover against recommended 33 % recommended in the national forest policy. A report submitted by Care Earth Trust to Greater Chennai Corporation to assess the green cover of the city said Chennai's green cover is reducing by 2 per cent every year. The top five tree species in Telangana for wood tree fall no longer include teak.

According to joint research by the Ministry of Environment and Forests and Climate Change (MoEFCC) and the World Bank, at least 60 % of India's districts experience forest fires each year, and the top 20 districts in terms of fire frequency are mostly in the northeast. Karnataka recorded 1,333 forest fires, a startling 350 % increase from three years prior. Efforts are being made to develop the value of forests. According to Land, there were up to 26 instances of the government acquiring forestland for development projects across 11 states in 2018. Reliance was given permission by the Maharashtra government to use 467.5 hectares of Yavatmal forest area for their cement factory. To build a 220 kV Srinagar-Leh transmission line, hundreds of trees from different forest regions in the Ganderbal district of central Kashmir have already been taken down, and another 1,000 will soon follow. Many of these have caused the forest to degrade, which has negative effects on the climate, the loss of soil and water supplies, floods, biodiversity, disputes over habitat and economic losses.

Strategies to Protect Forests

Landscape approach

Over the centuries, the world has experienced vast forest loss with the spread of agriculture and population growth.

To reverse deforestation trends requires a change in policies and laws, institutions and incentives, in and beyond the forestry sector. Incorporating trees on farms and ranches, improving agricultural productivity, realigning farm and forest incentives to prevent forests from being turned into farmland, involving local communities more directly in the planning and oversight of forest management are all included in this "landscape" approach. In order to diversify livelihoods, boost resilience to economic and climatic shocks and take advantage of natural synergies, such as in the water, carbon and nutrient cycles; the World Bank also emphasizes the advantages of integrating various farming approaches, such as crop production, livestock and tree farming, into one area.

Filling the Gap of Demand and Supply of Forest Products

India's huge population contributes to the large demand base of the forest products. Due to the lack of forest cover, there is a substantial imbalance between the supply and demand of forest products. The overexploitation of the forest is frequently caused by this gap. Estimates of the availability and demand for the main forest products have varied. The estimates to put the demand supply gap for fuel wood, fodder and timber at 100, 853 and 14 million tons respectively. Unsustainable harvesting and extraction of fuel wood can be substituted by promoting alternative livelihood and energy. Under the proposed REDD regime, subnational actors like States have a chance to deal with the complex problem of poverty in resource-rich areas like forests and tribally ruled states, sources, including biogas, solar energy (solar street lighting, for example) and upgraded cook stoves.

It will ease strain on trees and improve carbon stocks if more rural regions have access to cleaner cooking fuels like LPG. The burden on the trees would be lessened and fuel wood would be saved. The Government of India has suggested that 10 million families (in 0.1 million villages in forest conservation regions) be the aim for upgraded stoves that save more than 30 % wood. This would also result in the annual saving of 2 million tons of fuel wood, a reduction of 3.6 Mt of CO_2 emissions per year.

Community Level Forest Management

Greater involvement of the local communities in the management of forest and devolution of power through access and ownership rights ensures greater tenurial security and improved forest management and conservation. Devolving control of forest resources and access rights to local people has recently grown in importance as a tool for policy in many developing nations. With governments at least partially transferring rights and duties over their forests to the users, there has been a significant shift in the management of forest resources during the past two decades. Institutions for community-based management are frequently seen as a necessary prerequisite for the equitable, effective and efficient implementation of REDD.

During the early 1990s, India has made substantial efforts to involve the local people in forest management through Joint Forest Management (JFM) organizations. However, these JFM institutions need to be further strengthened by empowering the local communities with adequate power and responsibilities. The recent decision to integrate JFM with the Gram Sabha of the Panchayati Raj Institutions aims at strengthening decentralized forest governance objective. This would encourage association of committees or groups such as JFMCs/ CFM/ VPs, etc. as well as livelihood promotion groups like SHGs/ CIGs to plan for forest protection, conservation and enhancing livelihood-based activities. Livelihood activities are best addressed at cluster level/sub landscape level/ federation of SHGs/ CIGs.

A better income for these low-income households was also suggested by the government through the provision of infrastructure and assistance for improved agriculture techniques and other resource-based industries like apiculture to give JFMCs legal support and increase local institutions' ability for efficient management, regeneration and protection of forests. Innovative management techniques backed by the community can stop the destruction of the forest even more. Other strategies that can be used are:

- Maintain order in forests and protected areas.
- Increase revenue returns from authorized activities.

- Prevent damage to forest resources resulting from unwanted resource violations.
- Meet sustainable yield targets.
- Involve the public through information and education programs to prevent violations and damage to forests and protected areas.
- Increase skill levels of forest technicians and forest managers in prevention, detection and monitoring programs.
- Reduce susceptibility or vulnerabilities that can create opportunities for unwanted activities to occur.

Recent Initiatives of Government Related to Forest Protection

Forest cover in the country has increased by about 1%, according to the biennial State of Forests Report 2017, but Nitti Aayog says 21.23 % of the land is under forest cover. In addition, there have been demonstrations against the government buying up forestland for construction projects. The government has taken the following actions to safeguard forests:

- The comprehensive revisions to the Indian Forest Act of 1927 were finalized by the Ministry of Environment, Forests and Climate Change in March 2019. Prior to now, the focus was on the legislation governing the taxation and transportation of forest products. Now, the amendment has increased the focus to conservation, enrichment and sustainable management of forest resources and matters connected there with to safeguard ecological stability to ensure provision of ecosystem services in perpetuity and to address the concerns related to climate change and international commitments.
- According to the Forest (Conservation) Act of 1980, afforestation must be done as compensation for forestland that has been converted for non-forestry use. The Compensatory Afforestation Fund Act 2016 was passed by the government to establish an appropriate institutional framework for concerns involving compensatory afforestation. Recently, the Forest Advisory Committee (FAC) made it clear that open forests (forests with a crown density below 40%) will be classified as degraded forests for the purposes of compensatory afforestation (CA).
- The National REDD Strategy was published by the Union Ministry for Environment, Forests and Climate Change (MoEFCC) in 2018. Reducing Emissions from Deforestation and Forest Degradation, conserving forest carbon stocks, sustainably managing forests and improving forest carbon stocks in developing countries are all parts of the acronym REDD. REDD seeks to mitigate climate change by rewarding forest preservation.
- A strategy for increasing green cover outside recorded forest areas is made in a report by an expert committee formed by India's Ministry of Environment, Forest and Climate Change. Leasing of wasteland to the corporate sector for re-greening is among the major recommendations of the report.
- The Tamil Nadu State Forest Policy 2018 widened the outlines of conservation area networks and provided larger ranges of habitat for wildlife in the state. Regional Transport Office of Bhubaneswar has started a new campaign entitled 'one vehicle one plant' during which each buyer was to be gifted a plant during delivery of a new vehicle by showrooms.
- Other than that, Ministry of Environment, Forest and Climate Change is implementing a number of schemes to increase forest resources in the country, under which financial assistance is provided to State/ UT Governments under Compensatory Afforestation Fund Management and Planning Authority (CAMPA). Some of major schemes of the Ministry are National Afforestation Programme (NAP), Green India Mission (GIM) Integrated Development of Wildlife Habitat (IDWH), Project Tiger and Project Elephant Intensification of Forest Management Scheme (IFMS) etc.

Conclusion

The significance of the forest and its connection to human livelihood has been covered in this essay. Reviewing the causes and effects of forest degradation has been attempted. The deforestation that has traditionally accompanied development in many countries could be slowed, making an important contribution to mitigating climate change. Various strategies and recent government initiatives to protect forests have been discussed.

If countries are able to pursue inclusive green growth strategies that overcome some of the more severe trade-offs between growth and forest protection, If the world is to confront the challenges of mitigating and adapting to climate change while meeting the demands of a rapidly-growing global population, it is vital that we find the balance between conserving and regenerating forest areas with economic growth for poverty reduction.

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