

Opinion: Forests facing a double whammy

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Forests are considered the best solution for sequestering carbon and also act as a stabilising force for the climate by regulating ecosystems, protecting biodiversity, maintaining the carbon cycle and supporting livelihood. Acting two-fold in climate change, forests act as a cause and also a solution for greenhouse gas emissions. Deforestation and forest degradation contribute to nearly half of the emission coming from the land sector and account for 25% of the global emissions.

Deforestation and degradation of forests are a serious environmental challenge and threat to our planet, especially in developing countries that need to tackle the problem of poverty. Every year, nearly 18.7 million hectares (mha) of forests are destructed globally for various anthropogenic considerations, including developmental needs. As per one estimate, 5.7 million hectares of forest land in India have been used for non-forestry purposes since independence.

Regenerative Capacity

While nearly 75% of the forests are affected by grazing, another 10 mha is affected by encroachment. These increase the degradation of forests besides affecting their productivity and regenerative capacity. State of the World's Forest Report 2020 estimates the loss of 420 million hectares of forest through conversion to other land uses since 1990, and 178 million hectares had decreased globally due to deforestation. The recently established origin of infectious zoonotic diseases like Covid-19 is also being linked to habitat loss due to degradation and deforestation.

The global recognition of forests as the most suitable and effective weapon to fight climate change was acknowledged during 2005 at the United Nations Framework Convention on Climate Change (UNFCCC), followed by the creation of REDD (Reducing Emissions from Deforestation and Forest Degradation), a collaborative programme of the Food and Agriculture Organization (FAO), United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), in 2008. The REDD programme was followed by the Bonn Challenge, launched by Germany and the International Union for Conservation of Nature (IUCN), in 2011 for restoring 150 million hectares of deforested and degraded land by 2020 and 350 million hectares by 2030.

The Paris Climate accord 2015 gave a big boost to forests when all countries' committed to offsetting their carbon emissions from fossil fuel use and other sources by planting or protecting forests. The recent decision of the United Nations to declare 2021-30 as the UN decade on Ecosystem Restoration and targeting restoration of nearly 350 million hectares of degraded land by 2030 is also a step ahead to acknowledge the importance and role of forests. Under the Paris agreement, India has pledged to increase its forests by 95 million hectares by 2030 and committed to restoring 26 million hectares degraded land by 2030.

Survival of Forests

The most intriguing part of forest degradation is that while on one side, forest degradation and deforestation are responsible for climate change, on the other, the consequences of climate change also impair the growth and survival of existing forests and contribute to their degradation. Global warming not only makes forests difficult to adapt to but also exposes them to other calamities like

floods, droughts, wildfires and insect damage. This gets further compounded by uncontrolled land-use changes, unsustainable exploitation, pollution and fragmentation of habitats. Further, 20-30% of plant and animal species will likely be at risk of extinction if there is an increase in global average temperature from 1.5 to 2.5 °C..

Forests also face the problem of depletion of water table due to unsustainable extraction of water and it gets aggravated by droughts and degraded conditions of the forest. Other repercussions of climate change are changes in the climatic, edaphic and environmental conditions, negatively affecting the survival and emergence of forests. Water scarcity not only encourages conditions to enhance the spread of fires but also decreases the resilience of groundwater-dependent ecosystems.

Many Problems

One of the notable approaches to address the problems of degradation and deforestation is the Nature-based Solutions (NBS) of IUCN. Defined as actions to protect, sustainably manage and restore natural or modified ecosystems, the NBS approach addresses societal challenges effectively and adaptively for human well-being and biodiversity benefits.

Another approach to reverse deforestation and degradation is FLRM (Forest and Landscape Restoration Mechanism). Established by FAO in 2014, the FLRM includes actions to strengthen the resilience and ecological integrity of landscapes with the participation of local communities. Current strategies and initiatives, both at global and national levels, strongly advocate these approaches to counter the challenge of degradation of forests.

Most of the initiatives to counter these challenges, especially climate change, have been so far limited to afforestation or tree planting as a mitigation alternative. However, a cursory evaluation of these programmes does not portray a very satisfactory picture mainly because of a lack of seriousness and enabling policy. There is also a shortage of financial support. Adequate provisions to take care of backward and forward linkages essential for the establishment or survival of these plantations too fall short.

Similar is the fate of approaches meant to counter degradation like NBS and FLRM. In the absence of an effective policy initiative, enabling atmosphere with the required institutional and legal framework with assured financing provisions, the action plans or policy declarations are unable to yield desirable results.

Though the mitigation measures for reducing emissions using forests are more economical than other mechanisms, one policy brief of the Centre for Science and Environment (CSE) estimates the cost to meet the REDD+ interventions between \$17 billion and \$28 billion per year to reduce global emissions from deforestation by 50% for developing countries. This makes it highly cost-sensitive and challenging to implement.

Integrated Approach

There is no denial in the fact that degradation, biodiversity loss, pollution and other climate change-induced problems are not only environmental, but they are also social and economic problems. Climate change and degradation being closely interlinked with poverty also contribute to making a

vicious circle for the environmental crisis, thereby posing a complex yet serious challenge, especially for developing countries, including India



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This call for integrated and inclusive solutions with strong political will having pro-poor and gender-sensitive priorities, commitment, strong policy support, enabling institutional and committed finances. Only initiation and implementation of such mechanisms can help break the nexus between degradation and climate change for achieving effective and sustainable environmental results.

In the absence of such timely initiatives and priorities, forests across the world will continue to face the double whammy of degradation and climate change and may reach a stage from where their restoration and rejuvenation may well become impossible.

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