

## **Forest restoration: How ready is India?**

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Forest landscapes play a critical role in tackling climate change - M Murali

The United Nations Biodiversity Summit on October 1 saw Environment Minister Prakash Javadekar reiterating India's commitment to restoring 26 million hectares of land by 2030. With 2021-2030 declared as the UN Decade of Ecosystem Restoration and a Post-2020 Global Biodiversity Framework in preparation, the new decade calls for scaling up efforts for restoration of degraded terrestrial and freshwater ecosystems.

Forest landscapes play a critical role in tackling climate change and provide a broad range of ecosystem services. Article 5 in the 2015 Paris Agreement urges countries to act on deforestation and forest degradation for enhancing sinks and reservoirs of greenhouse gases. This reflects in the climate pledges of most countries, known as Nationally Determined Contributions (NDCs), which include those from the forestry sector to tackle climate change.

The Government of Germany and IUCN (International Union for Conservation of Nature) launched the voluntary Bonn Challenge in 2011 with the target of restoring 150 million hectares (mha) of degraded and deforested landscapes by 2020 and 350 mha by 2030. India joined the Bonn Challenge in 2015 with a pledge to restore 21 mha of degraded and deforested land. This was raised to target of 26 mha by 2030 during the United Nations Convention on Combating Desertification Conference held in Delhi in September 2019.

Moreover, India's NDC target mentions creation of an additional carbon sink of 2.5-3 billion tonnes of CO<sub>2</sub> equivalent from additional forest and tree cover until 2030. These national targets on restoration support implementation of national priorities on Sustainable Development Goals while contributing to the achievement of international commitments on climate change, biodiversity and land degradation.

Forest Landscape Restoration (FLR) is a long-term process to regain ecological functionality, enhance human well-being in deforested or degraded landscapes and deliver a broad range of goods and services for a wide range of stakeholders and across different land-uses. Given this global and national momentum there are several ongoing and planned initiatives by various actors on FLR in India.

Coordinated implementation

However, effective implementation of these FLR initiatives calls for establishing common understanding and coordinated implementation approaches on FLR in India. Key aspects of FLR in India — such as defining and identifying landscapes for FLR, establishing baseline, monitoring, as well as stakeholders and institutional arrangements — need to be arrived at if India is to meet its international and national commitments.

Currently, there are several definitions and figures regarding FLR potential which demonstrates a need to identify or develop standard documents with common definitions and methods on FLR in India. The Desertification and Land Degradation Atlas (2016) by Space Applications Centre (SAC), ISRO, identifies 96.4 m ha as undergoing the process of desertification/land degradation. This is almost 30 per cent of India's geographical area.

Forest Survey of India's reports identify 63 m ha of potential areas for restoration across different categories, namely, open forest, recently impaired forests, cultural wastelands, agro-forestry plantations, and potential for plantations along roads and railway tracks. However, remote sensing-based area delineation can only point towards potential areas for FLR. It's the situation on ground which will determine what can be done for landscape restoration.

The Ministry of Environment, Forest and Climate Change and IUCN India have constituted a Bonn Challenge Consultative Committee with a view to guide the progress and achievements in respect of commitments under the Bonn Challenge. This committee could steer the process of providing guidance and aligning the vast amount of literature available on definitional aspects on landscapes and restoration activities, thereby reducing ambiguity for FLR implementation in India.

Another concern is around establishing a baseline for FLR to demonstrate transformational change and assess progress against business as usual scenario. Baseline year could be considered as 2011, the year when the Bonn Challenge was launched, or 2015 when India made the Bonn Challenge pledge. It may also be considered appropriate to consider the year when an individual FLR initiative starts implementation of activities as the baseline year. In the absence of this clarity, achievement of various initiatives on FLR will be interpreted differently.

#### Choice of indicators

Monitoring and reporting are important to understand what worked and what did not, to better support adaptive management and see how local communities benefit from restoration. Choice of indicators and their measurement depend on many variables including technical capabilities, financial resources and specific goals, among others. Proceeding with monitoring in a low data environment might be the key challenge.

Instead of reinventing the wheel, it would be wise to utilise and enrich existing national monitoring frameworks on which significant amount of capacity has already been developed. The Green India Mission (GIM) monitoring framework with its simple and broad indicators could be one such starting point.

The question also arises on stakeholders and institutional arrangements required at the landscape level for FLR. Social benefits under FLR would differ from place to place and are best decided by stakeholders affected by such initiatives. Adequate institutions have been developed over the past three decades under the Joint Forest Management, the Forest Protection Committee, Van Panchayats and Gram Sabhas for bringing stakeholders together at the ground level, in addition to district and State level coordination committees. To ensure permanence of restoration, efforts need to be made towards forces driving stakeholder participation and sharing of responsibilities.

Present day forest management in India has a three-fold objective, which should guide FLR in India as well. The first is managing forest for water, which includes enhancing groundwater recharge as

well as maintaining surface flows and sub-surface flow in rivers and springs. This also leads to other co-benefits such as reduction in forest fires.

The second is managing forests as a carbon sink. And, third, managing forests for ensuring livelihood and sustenance of millions of people dependent on forests. Clarity on objectives and removing ambiguity on key aspects will be essential for India to achieve forest related national and international commitments.

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