

Compensatory afforestation unlikely to make up for the loss of carbon stocks

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In a scene in *Sherni*, a recent Hindi film depicting the complicated politics of wildlife conservation in the tiger forests of Madhya Pradesh, when District Forest Officer Vidya Vincent confronts her superior Bansilal Bansal, that the natives of the village bordering the tiger forest have no choice but to venture into the forest for cattle grazing because the land where they used to take their cattle is now being used for teak plantations, he responds, “So? We get funds every year exclusively to plant trees. We have to plant them somewhere, and this particular land has the most fertile soil.” When she asks him where the village folks should go, he shrugs in response, “They can go anywhere. They are not our concern.” While the film is fictional, it depicts very real situations of India and its forests. The ‘funds for planting trees’ that the character Bansilal Bansal is referring to, is a part of a law in India that comes under the Compensatory Afforestation Fund Management And Planning Authority (CAMPA). The glaring issue of using commons land for plantations is a major bone of contention with this authority.

Afforestation, by definition, is the establishment of a forest in an area that previously had no tree cover. Around the world, it is a sought-after method to fight climate-change concerns. Trees absorb carbon, and if a forest can absorb more carbon than it releases, it becomes a carbon sink.

Afforestation is broadly of two types — naturally regenerated forests, which research shows are far more effective at absorbing carbon, and plantation forests, which are generally of the same age and the same species. According to the Global Forest Resource Assessment 2020 data, approximately three percent of the global forests of the world come under plantation forests.

In India, one of the major ways in which afforestation takes place is via compensatory afforestation, which, under the Forest Conservation Act (1980) is defined as “afforestation done in lieu of the diversion of forest land for non-forest use.”

India is continuously losing forest land to infrastructural and industrial projects. In its Intended Nationally Determined Contribution (INDC) submission made in October 2016 to the United Nations Framework Convention on Climate Change (Paris Agreement 2015), India has also pledged “to create an additional (cumulative) carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover by 2030.

Under compensatory afforestation, when forest land is diverted for non-forest use, the project proponents are required to provide funds to the state forest department to do afforestation in a non-forest land of equal size or improve a degraded forest land of double the size of the diverted land. To streamline the management of the funds, CAMPA has been set up at the state level to monitor, assist and evaluate compensatory afforestation activities in the respective states. The state-level CAMPAs are monitored by a National CAMPA Advisory Council.

Over time, CAMPA has accumulated a corpus of over 50,000 crores (Rs. 500 billion). In 2016, a Compensatory Afforestation Fund Management Bill was passed, wherein the central government would provide the corpus funds to the state governments so that they can carry out afforestation activity in their respective states. The bill and its rules have been met with several criticisms.

Does compensatory afforestation increase India's carbon sink?

According to the 2019 Forest Survey of India report, India's total forest cover is 24.56 percent of the country's total geographical area. It plans to increase this area to 33 percent by 2030, under the National Mission for Green India, one of eight Missions under the National Action Plan on Climate Change (NAPCC) that aims to increase tree cover on five million hectares of designated forest and non-forest designated lands and improve tree cover on an additional five million hectares.

But how does this work if forests continue to be diverted for non-forest use?

"We cut down an old-growth forest, and say that this thickly forested area can be adequately compensated by planting young saplings elsewhere," says Manan Bhan, forest researcher pursuing a doctorate in social ecology at the University of Natural Resources and Life Sciences, Vienna. "Looking at it purely from a carbon accounting perspective, the new plantation cannot compensate for the loss of carbon stocks and other ecosystem services provided by old-growth forests in any realistic timeframe," he explained in a telephonic conversation with Mongabay-India.

Every state in India, he explained, usually has a recommendation to plant certain types of species. For example, the Uttarakhand forest department's 2019-2020 annual report states that they had plantations of deodar, oak, bamboo and mulberry plantations. Each state has its set criteria for plantations. Experts say that usually bamboo, teak, and eucalyptus are popular choices.

"This comes with a few problems. For example, the choice of tree species for a new plantation often is chosen without due consideration of its wider ecological value," says Bhan. In a paper critiquing the Compensatory Afforestation Bill, he wrote, "Compensating forest cover by raising non-native and artificial plantations elsewhere may not translate to the compensation of the forest benefits lost and are likely to be hazardous to the existing ecosystem."

Sharachchandra Lele, forest governance researcher and Distinguished Fellow in Environmental Policy and Governance at the Ashoka Trust for Research in Ecology and Environment (ATREE) says that the socio-ecological trade-offs are well known. "Science will tell you that the fastest growing trees will sequester more carbon, and science will also tell you that these trees are often harmful to the hydrology and biodiversity of the forest. Research has shown that a monoculture plantation can never compensate for the complex biodiversity of a forest. Referring to everything under the umbrella term of 'forest' is the problem, because it hides, rather than revealing, these trade-offs," he told Mongabay-India.

Bhan adds, "While the ISFR 2019 reports an increase in the forest carbon stocks in India, which now stands at 7124 MtC, there exists little opportunity to scrutinise if this increase is coming from recently-established plantations or old-growth forests. Moreover, their own projections indicate that we might be falling short of our Nationally Determined Contribution targets. This is a cause for concern."

In the recently concluded monsoon session of the Parliament, the Indian Minister of Environment, Forests and Climate Change Bhupender Yadav told the Rajya Sabha that the term "forest" is yet to be defined by the central government. "The word 'forest' is not defined in any Central Forest Act, namely the Indian Forest Act (1927), or the Forest Conservation Act (1980). The Central government has not laid down any criterion to define forest," he said.

Where is the land to build a forest?

In Goa, forest land diverted for non-forest use is compensated by doing afforestation in other states, such as Karnataka and Madhya Pradesh. Activists have protested against this, stating their obvious confusion about how one can expect to offset razing down a forest by compensating it in a completely different state.

Land grab, in the name of compensatory afforestation, has also been well documented. Tribal communities and forest dwellers are the rightful guardians of Community Forest Resources, under the Forest Rights Act, 2006 say experts. "The Forest Rights Act recognises the rights of the forest-dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs," explained Sanghamitra Dubey, independent researcher and expert on Forest Rights Act.

The gram sabha (village council) is also an empowered body under the Act, enabling the tribal population to have a decisive say in the determination of local policies and schemes impacting them. "The Compensatory Afforestation Bill does not acknowledge the FRA or the gram sabhas in any way," she said. "They want to change the bottom-up approach to a top-down enforcement," she said.

"The government has essentially run out of land and is grabbing the land of the forest-dwelling communities. This is one of the biggest challenges of afforestation today," says Lele. "The implementation challenges cannot be resolved unless the forest rights issues are resolved. The Community Forest Resources gram sabhas should have the management authority for those lands, they should be the ones receiving the money for any afforestation programme," he said.

Evaluation and monitoring

Media reports have said that one of the top forest officials stated that 70 percent of the data received in the central ministry on afforestation is incorrect and incomplete. Crucial information is missing with non-uniformity of data in the online portal of the environment ministry, and digitisation is not complete. On condition of anonymity, a retired forest official told Mongabay-India that monitoring as an activity is not something that is still implemented very well. "Evaluation needs to be done after ten years, but it doesn't happen," he said.

"There are so many things that can go wrong during afforestation," says Bhan. "For example, the survival rate of saplings is often extremely variable in new plantations, but all that is recorded are the number of saplings planted. Monitoring year on year is the key. It is never a 100 percent success the way it is made out to be," he said.

Source:<https://www.moneycontrol.com/news/environment/india-proposes-new-green-energy-rules-to-promote-renewable-power-7376681.html>