

This Van Mahotsav, India should stop missing the trees for the woods

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Every year India celebrates Van Mahotsav, the “festival of trees”, in the first week of July.

Younger people may not be aware that this annual festival was started by K.M. Munshi, the minister for food and agriculture in 1950, to spread mass awareness about the contribution of tree plantation and conservation of forests for maintaining ecological balance, and also to augment provision of food, fodder and fuel wood.

Happily, this tradition has survived regime changes and has continued uninterrupted since then. Of late, states and districts even compete to break records in terms of saplings planted during the Van Mahotsav week. Reportedly, it was at the rate of one tree for each of its citizens, to “save mother earth” during the monsoon of 2019.

Planting trees for increasing forest cover has, of course, acquired greater urgency in recent times as a major instrumentality of combating climate change, arguably the most formidable global challenge mankind is facing in the 21st century.

Globally, the World Economic Forum launched ‘One Trillion Trees Initiative’ in January, 2020 and the United Nations ‘Bonn Challenge’ endeavours to restore 350 million hectares (mha) of the world’s degraded forest by 2030. That’s why India’s National Action Plan on Climate Change (NAPCC), 2008 (published ahead of the Copenhagen Climate Summit 2009) included National Mission for a “Green India” among the eight core missions which represented multi-pronged, long term and integrated strategy for achieving the key goals of mitigation.

The said mission, in principle, envisaged a target of increasing the country’s forest cover to 33%.

Though the mission was originally slated to be launched in 2011, it was delayed by three years.

It was formally set in motion in 2014 as the “Green India Mission” (GIM) with an approved budget of Rs 46,000 crore to:

- (a) increase forest cover by 5 mha, and
- (b) improve the quality of forest cover on another 5 mha of forest and non-forest lands.

In this context, it may be noted that according to the commitments made in the Conference of Parties (COP 21) in 2015, in the shape of “Nationally Determined Contributions” (NDC), India has adopted a target to sequester 2.523 billion tonnes of carbon during 2020-30. Achievement of this target requires additional forest cover over 30 mha, three times higher than what is sought to be accomplished through GIM.

Performance of the GIM was reviewed by the Committee on Estimates of the Parliament in 2018-19 and its Thirtieth Report (Sixteenth Lok Sabha). It was noted that during 2015-16 to 2017-18, the mission could spend only Rs 96.19 crore against the target of Rs 351 crore (only 27%).

In physical terms, GIM could achieve only 43,383.8 ha against the target of 67,651.4 ha (64%). At this rate, the targeted increase in forest cover is most likely to be missed by a huge margin. Possibly this realisation motivated the Government of India to augment financial support to GIM principally through convergence with MGNREGA and Compensatory Afforestation Fund Act (CAMPA) in March and May, 2015.



Narendra Modi, then Gujarat CM, plants a tree at a Van Mahotsav ceremony in 2013. Photo: Flickr/Narendra Modi (CC BY-SA 2.0)

Under MGNREGA, about Rs 14,440 crore is reported to have been spent on plantations during 2015-16 to 2019-20, which constitutes around 5% of the total programme expenditure (as per information available on the programme's website).

However, physical achievements in terms of area covered, density of plantation is not reported for performance evaluation. Similarly, out of CAMPA funds, Rs 47,436.18 crore has been released to the states so far and 1.15 million ha has been covered under plantation.

Though the Ministry of Environment, Forests and Climate Change has operationalised e-Green Watch – an integrated portal for concurrent evaluation and monitoring of plantation works, it is hard to obtain state wise data of physical progress out of CAMPA funds. Several major states have simply not posted these details on the portal. Furthermore, despite a provision in the GIM guidelines to use satellite based monitoring of plantations raised, no comprehensive report is available in the public domain to assess the survival rate, the extent and the quality of forest cover created.

Predictably, in the context of vast sums of money being spent on afforestation/plantation as also of the urgency of increasing the extent and quality of forest cover for meeting our NDC commitment, from the citizens' perspectives, several questions arise.

First, how well the trees planted and degraded forest regenerated are being looked after in the subsequent years to maximise their survival rate?

Second, would the new forest/tree cover created outside the forest area be perfect or proper substitute for the natural forest depleted due to fire, other biotic depredation, and diversion of forest land for non-forest uses (mostly mining, industrial and irrigation/power projects) in terms of carbon sequestering?

Third, are the new plantations largely monoculture of fast growing species or are mixed species that enrich biodiversity given preference?

Fourth, are appropriate new technologies like satellite imaging, drones and other autonomous systems being used for accelerated execution as well as for qualitative real time monitoring that can supplement the usual field inspections by the forestry officials?

Let us begin with the survival rate. Unfortunately, we hear mostly anecdotal stories about low survival of plantations undertaken by the official agencies and hard empirical evidence is mostly scarce. We could lay our hands on only one official report in the public domain that reports survival rates under government afforestation schemes – the Mid-term Evaluation Report by the Indian Council of Forestry Research & Education (ICFRE) to evaluate the National Afforestation programme in 2008.

According to this report, though it is more than a decade old, survival rate of trees varies from 82% in the favourable geography of North East and Trans Himalayan region, to 68-71% in the harsh edaphic conditions of desert and semi-arid regions.

Further, analysis of age-specific survival rate showed gradual increase in mortality from around 20% in the first year to 40% in the fifth year in case of Assisted Regeneration (AR), Assisted Natural Regeneration (ANR) and Mixed Plantations. If this survival rate is still being achieved in the recent years we, as the concerned citizens, should feel more reassured.

The second and third questions are more significant from the climate change perspective. A recent study published in Nature Sustainability raises a serious concern in this regard. The study, based on Chile's plantation programme, provides robust empirical evidence that plantations of monoculture or even a limited number of species have significantly less potential to act as a carbon sink, more so, if the plantations replace natural forests.

The policy implication is clear – we need to eschew monoculture plantation on denuded forest or non-forest area and focus more on regeneration and achieving higher density of degraded natural forest areas.

Finally, as regards usage of appropriate new technologies, we have already noted that MoEF is yet to perhaps mainstream use of high resolution, high frequency satellite imageries for concurrent monitoring that would definitely strengthen oversight. In addition, of late feasibility of using drones for selection of most favourable sites, aerial seeding as well as for pre and post monitoring of large scale tree plantation is being piloted world over, including in India.

According to an FAO estimate, it seems that a drone can help plant more than a lakh trees a day and 60 drones could plant a billion trees annually. With our technological prowess we can surely harness these new technologies to achieve the goal of a Green India, well ahead of the schedule and be an example in re-greening our Mother Earth. In this year's Van Mahotsav let this be our collective pledge.

The government will do well to periodically release progress of GIM in the public domain so that the general public is sensitised to the importance of afforestation and more importantly, to protection of existing forests.

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