Assessing Tree based programmes

What is the issue?

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- In 2015, India made a Bonn Challenge commitment to:
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i. restore 13 million hectares (Mha) of degraded land by 2020.
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ii. bring an additional 8 Mha by 2030.
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- India’s NDCs have also pledged to sequester 2.5 to 3 billion tonnes of CO2 equivalent additionally by 2030.
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- India needs to assess and design its tree-based environmental programmes to meet its climate goals.
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What is the shortfall?

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- Recently, Madhya Pradesh planted 66 million trees in 12 hours to enter the record books, overtaking earlier record of Uttar Pradesh.
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- As different States work to achieve the above commitments, it appears that there is an **over-reliance on plantations**.
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- Resultantly, large-scale plantation drives do not really achieve the goals because they **lack focus on**:
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i. species selection.
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ii. quality of planting materials.
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iii. survival rates of planting materials.
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iv. tenure and resource rights to ensure that the benefit flows to communities.
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What should the approach be?

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- Plantations are but one among a larger group of interventions.
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- Notably, neither the Bonn Challenge nor the NDCs are about large-scale plantations alone.
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- More emphasis is essential on **landscape approaches**, a model aimed at improving the ecology of a landscape as a whole.
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- Only this can contribute to the larger goal of climate change adaptation by **benefitting the local communities** dependent on forests and agriculture.
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- And ensure a **flow of multiple ecosystem services** such as food security, biodiversity conservation and water supplies.
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- Besides, **protecting the existing healthy forest** areas from deforestation, degradation and fragmentation is crucial.
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What are the options?

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- India has numerous models that are suited for different regions and farm household sizes whereby trees can creatively be integrated into different land uses.
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- **Agroforestry** - At least 35 types of agroforestry models are practised in India.

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- It involves planting different trees that provide timber, fruits, fodder, fuel and fertilizers along with food crops.
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- This diversifies income from farming as well as improves land productivity.
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- **Natural regeneration** - The Farmer-managed natural regeneration (FMNR) systems deliver a combined economic and ecosystem benefit.
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- Under this, farmers protect and manage the growth of trees and shrubs that regenerate naturally in their fields.
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- The regeneration could be from root stock or from seeds dispersed through animal manure.
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- The FMNR system can contribute to increased carbon sequestration as well as to annual agricultural production.
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- **Besides**, NABARD's 'Wadi' model and the Foundation for Ecological Security's re-greening of village commons project are good examples of tree-based interventions.
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- These are proving to be of great value in terms of cost-effectiveness as well as the range of benefits they deliver to communities.
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What are the preconditions?

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- **Land rights** - An important success factor in large-scale tree-based programmes is security of tenure and land rights.
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- In several parts of the world, securing tenure over forests has been established as a cost-effective way of achieving climate sequestration.
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- It is also critical to ensure that owners have the right to manage and use these trees.
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- **Monitoring system** - A performance monitoring system is essential to quantify tree survival rates and analyse the benefits to communities.
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- Remote sensing, crowd sourced, ground-level monitoring, etc are the

technological means to monitor.
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- These can better be combined with support from communities and civil society organisations to have a qualitative assessment of the programmes.
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- **Methods** - It is critical to determine the right type of tree-based interventions most suitable to a certain land use.
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- This is achieved by using scientific evidence-based methodology with a participatory approach.
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- A tool called the ROAM (Restoration Opportunities Assessment Methodology) is being used in 40 countries for this purpose.
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- The ROAM includes analysis of spatial, legal and socio-economic data and draws on consultations with key stakeholders to determine the right type of interventions.
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- In India, this tool is being piloted in Uttarakhand and Madhya Pradesh.
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Quick Fact

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'Wadi' model

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- This is a tribal development programme launched by the National Bank for Agriculture & Rural Development (Nabard)
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- It is a holistic model for tribal development aiming at economic uplift through sustainable agriculture, social empowerment and improvement in quality of life.
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- The financial assistance under Wadi is provided from Tribal Development Fund set up by Nabard out of its profit.
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Source: The Hindu

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