

3. India's Forest Conservation – Environment

India's forests hold the future. India has revised its Green India Mission (GIM) to restore 25 million hectares of degraded land and create a 3.39 billion tonne carbon sink by 2030. This mission, supported by CAMPA funds and complemented by new initiatives like MISHTI (mangroves) and the Aravalli Green Wall Project, comes as the 2025 Global Forest Report ranks India 9th globally in total forest area.

Revised Green India Mission (GIM)

Context – India is balancing economic growth with sustainability.

Priority – The recent Revised Green India Mission (GIM) prioritizes ecosystem restoration.

Key Goals – Restore 25 million hectares of degraded land. Create a 3.39 billion tonne carbon sink by 2030.

A Quick Glance on the Green India Mission (GIM)

Approval – The revised GIM was approved by the Union Cabinet.

Aim – To restore 25 million hectares of degraded land. To enhance forest cover and ecological health. To contribute to carbon sequestration.

Alignment – It aligns with India's climate pledge (NDC) to create an additional carbon sink of up to 3.39 billion tonnes of CO₂ equivalent by 2030.

Core Objectives

Restoration and Afforestation – Focus on biodiversity-rich landscapes like the Western Ghats, Aravalli Hills, Himalayan catchments, and mangroves.

Ecological Resilience – Prioritize native species and design projects that strengthen ecosystem stability and resilience to climate stress.

Sustainable Livelihoods – Engage local communities, particularly integrating tribal livelihoods with conservation efforts.

Institutional Framework

Governing Board – The Ministry of Environment, Forest and Climate Change (MoEFCC) oversees implementation and strategic guidance.

Executive Committees – State Forest Departments and local bodies handle on-ground implementation, monitoring, and adaptive management.

Funding and Resources – The scheme leverages funds from the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) and other sources.

Expected Impact

Carbon Sequestration – Significantly enhance India's carbon sink capacity, contributing to climate change mitigation goals.

Biodiversity Recovery – Foster biodiversity and forest resilience by focusing on native species.

Sustainable Livelihoods – Empower local communities, providing long-term economic and environmental benefits.

Global Competitiveness – Position India as a leader in ecological resilience and carbon management.

India's Forest Status & Recent Changes (ISFR 2023)

Total Forest Cover – Stands at 7,15,343 sq. km, accounting for 21.76% of the country's geographical area.

States with Largest Forest Area –

Madhya Pradesh – 77,073 sq. km

Arunachal Pradesh – 65,882 sq. km

Chhattisgarh – 55,812 sq. km

Mangrove Cover – Approximately 4,992 sq. km, primarily in the Andaman & Nicobar Islands, Gujarat, Maharashtra, and West Bengal.

Biodiversity & Protected Areas – India hosts 106 National Parks, 573 Wildlife Sanctuaries, 115 Conservation Reserves, and 220 Community Reserves.

Global Forest Report 2025 – India's Growing Green Footprint

About the Report – The Global Forest Resources Assessment (GFRA) 2025 (released every five years) was unveiled at the Global Forest Observations Initiative (GFOI) Plenary in Bali, Indonesia.

About GFOI – GFOI is a flagship programme of the Group on Earth Observations (GEO), promoting "Earth Intelligence" for sustainable forest monitoring.

About GEO – GEO is a global partnership (governments, academia, civil society, etc.) enhancing coordinated Earth observation for sustainability.

India's Role – India is an active member of GEO, reflecting its commitment to data-driven forest management.

Key Highlights of GFRA 2025

Global Forest Extent – Forests span 4.14 billion hectares (32% of the world's land area).

Distribution – Nearly half are in tropical regions, followed by boreal, temperate, and subtropical zones.

India's Forest Status – India has risen one rank to 9th globally, representing 2% of the world's total forest area. It also ranks 5th in rubber plantation area.

Deforestation Trends – Deforestation has declined globally, from 17.6 million ha/year (1990–2000) to 10.9 million ha/year (2015–2025).

Natural Regeneration – Over 90% of the world's forests are now regenerating naturally.

Carbon Stocks – Global forest carbon stocks increased to 714 gigatonnes. Soil retains the largest share, followed by living biomass, litter, and deadwood.

Forest Disturbances – Fires dominate in subtropical regions; insects, diseases, and extreme weather are the main threats in temperate and boreal zones.

Key Initiatives and Evolution of Afforestation in India

Early Phases of Afforestation

Colonial Approach – Forests were treated as economic assets for timber. The Indian Forest Acts of 1865 & 1927 focused on state control and exploitation, not regeneration.

Post-Independence Shift – Emphasis moved to conservation, though the early focus remained on timber and fuelwood needs.

National Forest Policy, 1952 – Foundation Phase – Aimed to increase forest cover for timber, fuelwood, and industrial needs. Promoted tree planting on degraded lands, social forestry, and integration with rural development.

National Forest Policy, 1988 – Ecological Turn – Marked a shift to ecological restoration and people's participation.

Goal – Achieve 33% forest & tree cover.

Focus – Afforestation of degraded lands, watershed management, biodiversity plantations, and Joint Forest Management (JFM) for tribal participation.

National Afforestation Programme (NAP), 2000 – A Centrally Sponsored Scheme for afforestation and eco-restoration through people's participation. Implemented via a three-tier system – State Forest Development Agency (SFDA) (State level), Forest Development Agency (FDA) (Division level), and Joint Forest Management Committees (JFMCs) (Village level). Later merged with the Green India Mission (GIM).

Green India Mission (GIM), 2014 – One of the eight NAPCC Missions.

Targets – Add 5 mha of forest/tree cover & improve 5 mha of degraded land.

Benefits – Enhance carbon storage, biodiversity, water management, and 3 million livelihoods.

Revised GIM (2025) – Builds on 2015–21 efforts (which restored 11.22 mha). Linked with CAMPA, Agroforestry Policy, and watershed programmes. Focuses on Aravallis, Western Ghats, mangroves, and Himalayas.

National Agroforestry Policy, 2014 – Promotes tree-crop integration for farm income, soil fertility, and climate resilience. Ensures Quality Planting Material (QPM) via ICAR-CAFRI and state universities. Encourages private sector involvement and aligns with millet-based farming systems.

Compensatory Afforestation Fund Act (CAMPA), 2016 – Mandates compensatory planting for forest diversion. Created National & State CAMPA Authorities with a

Forest Fire Prevention & Management Scheme (FFPM), 2017 – A Centrally Sponsored Scheme using remote sensing and real-time alerts. Implements the National Action Plan on Forest Fire and promotes community involvement.

Van Dhan Yojana, 2018 – Empowers tribal communities through value addition of Minor Forest Produce (MFPs), skill training, and market linkages.

Nagar Van Scheme, 2020 – Targets the creation of 200 urban forests to enhance urban ecology, green cover, and air quality.

Mission LiFE (Lifestyle for Environment), 2022 – A UN-endorsed global initiative fostering sustainable lifestyles (reduce-reuse-recycle) under the Pro-Planet People (P3) model. Forms a core of India's G20 climate leadership (e.g., Meri LiFE Portal, Ek Ped Maa Ke Naam).

MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes, 2023–24) – Launched to restore 540 sq. km of mangroves across 9–11 coastal States/UTs over five years. Uses CAMPA–MGNREGS convergence and promotes community-led bio-shields.

Aravalli Green Wall Project (2023) – Initiated by MoEFCC to establish a 1,400-km-long and 5-km-wide green belt (Gujarat, Rajasthan, Haryana, Delhi). Aims to combat desertification, enhance biodiversity, and reduce dust pollution in the NCR.

Budgetary & Institutional Support (2025–26) – ₹3,412.82 crore allocated to MoEFCC (a 9% increase over 2024–25). ₹3,276.82 crore (96%) allocated for revenue expenditure to strengthen field operations.

Ecosystem Services Improvement Project (ESIP) – A World Bank collaboration, restoring 1.55 lakh ha in Chhattisgarh & Madhya Pradesh.

Other Supportive Missions – National Bamboo Mission, Sub-Mission on Agroforestry, and National Mission on Sustainable Agriculture.

International Day of Forests (March 21)

2025 theme – “Forests and Food”, underscoring forests' role in food security.

Notable State-Level Initiatives

Tamil Nadu – Achieved a near twofold increase in mangrove cover within three years, enhancing carbon sequestration and coastal resilience.

Himachal Pradesh – Introduced a biochar programme to generate carbon credits and simultaneously reduce forest fire risks.

Uttar Pradesh – Planted over 39 crore saplings in 2024–25. Exploring carbon market linkages for Gram Panchayats. Launched the Green Chaupal platform to foster community-led plantation drives through a Gram Harit Nidhi (Village Green Fund).

Odisha – Strengthened Joint Forest Management Committees (JFMCs) by integrating them into planning and revenue-sharing frameworks.

Chhattisgarh – Implementing biodiversity-sensitive plantations. Reviving barren cattle shelters by planting mahua trees, combining ecological restoration with tribal livelihood enhancement.

The Multi-Dimensional Significance of Forests

Ecological and Climate Resilience (The Survival Future)

Climate Change Mitigation – Forests act as natural carbon sinks, absorbing CO₂ and helping India meet its Nationally Determined Contribution (NDC) targets. India's Paris Agreement aim – Create an additional 2.5–3 billion tonnes of CO₂ equivalent carbon sink by 2030.

Biodiversity Conservation – Support iconic species like the Bengal tiger and one-horned rhinoceros (e.g., Project Tiger, elephant corridors).

Water Security – Regulate the water cycle, enhance groundwater recharge, and prevent soil erosion.

Air Quality – Act as the “lungs” of the environment, purifying air by absorbing pollutants like CO₂ and particulate matter (PM).

Economic and Sustainable Development (The Prosperity Future)

Livelihoods and Employment – Over 250 million people rely on non-timber forest products (NTFPs) (fruits, herbs, fuelwood).

Forest-Based Industry – Support industries like paper, timber, and pharmaceuticals.

Ecotourism – Generates significant revenue and promotes local economic development (e.g., Jim Corbett National Park).

Green Accounting – Recognizing the monetary value of ecosystem services (carbon sequestration, water filtration) in GDP to drive sustainable investment.

Socio-Cultural and Tribal Rights (The Equity Future)

Tribal Rights – The Forest Rights Act (FRA) of 2006 secures tenure and self-governance for tribal communities, granting Community Forest Resource (CFR) rights.

Traditional Knowledge – Forest communities possess vital traditional knowledge for sustainable forest management.

Gender Equity – Women play a pivotal role in the collection and processing of NTFPs, contributing to socio-economic development.

Constitutional, SDGs & Global Provisions for Afforestation

Category	Provision
Constitutional Provisions	Article 48A (DPSP) – Mandates the state to protect and improve the environment, including forest conservation.
	Article 51A(g) (Fundamental Duties) – Encourages citizens to protect and improve the natural environment, including forests.
	Union and State List (Seventh Schedule) – Central and State governments can legislate and implement afforestation policies.
Sustainable Development Goals (SDGs)	SDG 13 (Climate Action) – Afforestation helps in carbon sequestration, contributing to India's NDCs.
	SDG 15 (Life on Land) – Focus on biodiversity conservation, restoring ecosystems, and expanding forest cover.
	SDG 6 (Clean Water and Sanitation) – Forests regulate water cycles and recharge groundwater.
	SDG 8 (Decent Work and Economic Growth) – Afforestation supports green jobs, NTFP livelihoods, and forest-based industries.
Global Provisions	UNFCCC – Paris Agreement – India's commitment to increase carbon sinks through afforestation.
	UN Decade on Ecosystem Restoration (2021–2030) – Promotes ecological restoration and afforestation of degraded lands.
	Convention on Biological Diversity (CBD) – Protects global biodiversity by promoting forest conservation.
	Global Forest Observations Initiative (GFOI) – Uses Earth observation to track forest cover changes.
	UNEP (United Nations Environment Programme) – Encourages afforestation to mitigate climate change and fight desertification.

Challenges to Afforestation and Ecosystem Restoration

Limited Community Participation – Afforestation programs often bypass stakeholders, reducing community ownership and effectiveness, despite the Forest Rights Act (2006).

Monoculture Plantations – Expansion often focuses on monoculture plantations, which lack biodiversity and ecological sustainability.

Deforestation and Land Conversion – Illegal logging, urbanization, and industrialization continue to degrade existing forests, undermining afforestation efforts.

Climate Vulnerability – Rising temperatures, wildfires, and extreme weather stress forests. A 2025 IIT Kharagpur study showed a 12% decline in photosynthetic efficiency due to climate change.

Implementation Gaps – Lack of institutional capacity and expertise in forest departments hinders effective implementation and monitoring.

Forest Fire Management – Fires continue to pose significant risks, resulting in biodiversity loss and ecosystem degradation.

Ecological Design – Previous efforts heavily relied on ecologically damaging monocultures like eucalyptus and acacia.

Financial Constraints – Inconsistent utilization of funds, despite the ₹95,000 crore CAMPA fund. (e.g., Delhi spent only 23% of its approved allocation between 2019 and 2024).

Way Forward

Ecologically Sensitive Afforestation – Shift from monoculture plantations to native species and biodiversity-based restoration for long-term sustainability.

Enhanced Community Engagement – Strengthen community-driven forest management by ensuring active participation of tribal and local communities in decision-making.

Improved Monitoring Systems – Implement real-time monitoring using remote sensing and satellite technology to track forest health, survival rates, and fund utilization, ensuring transparency.

Innovative Financing Models – Leverage carbon credits, private investments, and global partnerships to secure long-term funding.

Capacity Building and Skill Development – Train forest staff and local communities in ecological restoration, sustainable management, and climate-resilient practices.

Focus on Climate Resilience – Integrate climate change adaptation strategies into afforestation efforts to withstand extreme weather events.

Strengthening Policy Implementation – Ensure better utilization of funds, particularly CAMPA, through increased monitoring, accountability, and adaptive management.

Ecological Restoration – Prioritize the revised Green India Mission (GIM)'s focus on native species and site-specific restoration.

Conclusion

Forests are India's ecological capital and the cornerstone of Viksit Bharat @2047. The Green India Mission 2025, targeting 25 million hectares of restoration, embodies this vision. With community participation, native species, and innovative financing, India can pioneer a global model of climate resilience, biodiversity revival, and sustainable livelihoods.

Source – <https://www.thehindu.com/opinion/op-ed/indias-forests-hold-the-future/article70239892.ece>