



Conservation vs Greening

*This editorial is based on “[Conservation and Greening](#)” which was published in *Economics and Political Weekly* on 18/01/2025. The article brings into the picture the paradox of India’s forest growth, where a net increase of 16,630 sq km masks losses in critical ecosystems like the Northeast, high-altitude regions, and mangroves. It highlights the focus on quantity over quality, exacerbated by the Forest Conservation Rules 2022, posing a serious conservation challenge.*

For Prelims: [India State of Forest Report 2023](#), [Western Ghats](#), [Forest Conservation Rules 2022](#), [Paris Agreement](#), [Coastal mangroves](#), [Pradhan Mantri Van Dhan Yojana](#), [Sustainable Development Goals](#), [Scheduled Tribes and Other Traditional Forest Dwellers \(Recognition of Forest Rights\) Act, 2006](#), [1996 Godavarman judgment](#), [Baiga tribes](#), [Panchayats \(Extension to Scheduled Areas\) Act \(PESA\), 1996](#), [National Mission for a Green India](#), [Geographic Information Systems](#), [Eco-Sensitive Zone \(ESZ\) framework](#)

For Mains: Difference Between Conservation and Greening, Key Issues Associated with India’s Forest Conservation Efforts.

Over the past decade, **India recorded a net increase of 16,630 sq km in forest cover**, but this masks alarming losses in ecologically vital areas like the **Northeast, high-altitude regions, and mangroves**. While carbon stock has risen by **81.5 million tonnes**, the quality of forests, especially very dense ones, continues to decline. The [Forest Conservation Rules 2022](#) exacerbate concerns by **prioritizing commercial forestry over tribal rights and genuine conservation**. This highlights a troubling dichotomy between quantitative expansion and **qualitative degradation in India’s forests**. Balancing greening efforts with true conservation remains a key policy challenge.

What is the Difference Between Conservation and Greening?

Aspect	Conservation	Greening
Definition	Conservation refers to the protection, restoration, and sustainable management of natural forests, ecosystems, and biodiversity.	Greening refers to increasing green cover, often through plantations or afforestation programs , which may include monoculture plantations.
Focus	Focuses on maintaining ecosystem balance, biodiversity, and natural forest integrity .	Focuses on expanding tree or vegetation cover , sometimes without considering ecological impacts.
Biodiversity Impact	Promotes biodiversity by preserving native forests, wildlife habitats, and	Often reduces biodiversity due to monoculture plantations (e.g., eucalyptus or acacia) .

	ecosystems.	
Soil and Water Impact	Improves soil fertility and water retention by restoring natural forests.	May degrade soil and local ecosystems in the long run, especially in monoculture or non-native species plantations.
Carbon Sequestration	Natural forests are more effective carbon sinks due to dense biomass and carbon stored in soil.	Commercial plantations sequester less carbon and often fail to replicate the ecological role of natural forests.
Example	Protecting natural forests in the Western Ghats or Sundarbans to preserve ecosystems and biodiversity.	Eucalyptus plantations under compensatory afforestation programs

Why Forest Conservation Is Vital for India's Future?

- **Climate Change Mitigation and Carbon Sequestration:** Forests play a critical role in **absorbing greenhouse gases**, helping India meet its climate commitments under the **Paris Agreement** and **COP26 targets**.
 - They act as carbon sinks, reducing atmospheric CO2 levels and combating global warming.
 - The **India State of Forest Report 2023** estimates India's carbon stock at **7,285.5 million tonnes**, with an annual increase of 40.75 million tonnes.
 - Additionally, India has achieved **2.29 billion tonnes of additional carbon sink**, progressing towards its target of 2.5–3 billion tonnes by 2030.
- **Biodiversity Conservation and Ecosystem Services:** India, a megadiverse country, hosts **7-8% of all recorded species**, and forests are critical for preserving this biodiversity.
 - They support **pollination, natural pest control, and genetic diversity** crucial for agriculture and food security.
 - For example, the **Western Ghats**, a **UNESCO World Heritage site**, harbors endemic species and provides genetic resources crucial for **developing climate-resilient crops**.
- **Disaster Resilience and Climate Regulation:** Forests protect against **natural disasters like floods, landslides, and cyclones** by stabilizing soils and acting as buffers.
 - **Coastal mangroves**, for example, reduce the impact of cyclones and tsunamis, saving lives and property.
 - Also, recent studies suggest that **mangroves and coastal wetlands annually sequester carbon at a rate 10 times greater** than mature tropical forests
- **Water Security and Watershed Management:** Forests are vital for maintaining the **hydrological cycle**, ensuring water availability in rivers and aquifers, and regulating rainfall patterns.
 - They prevent **soil erosion and help recharge groundwater**, benefiting agriculture and drinking water supply.
 - For instance, **dense forests in the Western Ghats** act as watersheds for rivers like the **Godavari and Krishna** sustaining millions of people and agricultural activities across peninsular India.
- **Socioeconomic Benefits for Tribal and Rural Communities:** Forests provide **livelihoods to over 200 million people in India**, especially tribal and rural communities, through minor forest produce like **bamboo, honey, and medicinal plants**.
 - For instance, the **Pradhan Mantri Van Dhan Yojana** aims to set up 50,000 **Van Dhan Vikas Kendras**, benefiting 10 lakh tribal entrepreneurs nationwide.
- **Combating Urban Heat Islands and Pollution:** Urban forests help **mitigate the urban heat island effect**, reduce air pollution, and provide recreational spaces, improving public health and quality of life.
 - For example, the **Aravali range functions as a check on the movement of sand from the Thar Desert** to Delhi-NCR.
- **Sustainable Economic Growth Through Ecotourism:** Forests drive sustainable economic growth by promoting **ecotourism and creating green jobs** while preserving biodiversity and culture.

- A study of 10 tiger reserves across India, including **Anamalai, Bandipur, and Similipal**, revealed they collectively provide annual benefits worth **₹5.96 lakh crore**.
- **Achieving Global Environmental Goals:** As a responsible global actor, India's forest conservation efforts contribute to **Sustainable Development Goals (SDGs)** like **SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 12 (Responsible Consumption)**.
 - According to the **Global Forest Resources Assessment 2020**, India ranks third globally in forest area gain, with a net positive change of **0.38%**.
 - This aligns with India's commitment to conserving **33% of its geographical area as forest** under the **National Forest Policy, 1988**.

What are the Key Issues Associated with India's Forest Conservation Efforts?

- **Deforestation Due to Development Projects:** India's ambitious development agenda has led to **large-scale deforestation for infrastructure, mining, and industrial projects**.
 - Linear projects like **highways, railways, and power transmission** lines often cut through dense forest areas, fragmenting ecosystems and endangering biodiversity.
 - The **push for "ease of doing business"** has also weakened environmental safeguards.
 - Over **3 lakh hectares of forest land** has been diverted for **non-forestry use** in India over the last 15 years under the Forest (Conservation) Act, 1980.
 - The **Forest (Conservation) Rules, 2022**, now **allow forest clearance before gram sabha consent**, worsening the displacement of tribal communities and forest destruction.
- **Degradation of Very Dense Forests and Loss of Quality:** While forest cover is increasing **quantitatively**, the quality of forests is declining.
 - Very dense forests, which are critical for carbon sequestration and biodiversity, are being replaced by plantations or moderately dense and open forests.
 - This **"greening" through afforestation** masks the degradation of natural forests.
 - As per State of Forest Report 2023, the **Western Ghats, known for dense forests, have reportedly lost 58.22 sq km of forest cover** over the past decade.
 - This shows that the net increase in forest area is misleading without considering **forest quality**.
- **Mangrove Degradation and Coastal Vulnerability:** Mangroves, which act as **natural buffers against cyclones and sea-level rise**, are under threat due to aquaculture, agriculture, and industrial expansion.
 - Mangrove loss increases the **vulnerability of coastal communities** to climate-induced disasters.
 - Their destruction has a disproportionate impact on marginalized fishing communities.
 - ISFR 2023 reported that in comparison to the 2021 assessment, there has been a net decrease of **7.43 sq km in the country's mangrove coverage**.
 - Between 2000 and 2016, **2,193.92 sq km of mangroves** were lost due to aquaculture and agriculture.
- **Inadequate Implementation of Forest Rights Act (FRA), 2006:** The implementation of the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**, has been slow and inconsistent.
 - Tribal communities and forest dwellers often face **eviction** in the name of conservation projects like wildlife sanctuaries and tiger reserves.
 - The top-down approach undermines community participation in forest governance. As per the **Ministry of Tribal Affairs**, only **50% of FRA claims** have been approved, and **over 38% of all claims over land were rejected** as of 2022.
 - The forced displacement of tribal groups in **Madhya Pradesh's Kanha Tiger Reserve** demonstrates the marginalization of forest-dependent communities.
- **Weakening of Environmental Regulations:** Recent policy changes, like the **Forest (Conservation) Rules, 2022**, prioritize **commercial and industrial use of forests over conservation**.
 - These policies dilute safeguards for forest-dependent communities.
 - The **Forest Conservation Amendment Act 2023** introduces additions and exemptions, removing certain types of land from the Act's scope.
 - However, the **Supreme Court** directed States and Union Territories to adhere to the **1996 Godavarman judgment's definition of 'forest'** for identifying and

preserving forest land, cautioning against reliance on the **2023 amendment to the Forest (Conservation) Act**.

- **Forest Fires and Climate Change:** Forest fires are becoming more frequent and intense due to **climate change and human-induced activities** like slash-and-burn agriculture.
 - **Fires not only destroy biodiversity** but also release stored carbon, exacerbating global warming. India's preparedness to combat large-scale forest fires remains inadequate.
 - According to the Forest Survey of India, **54.40% of forests in India are exposed to occasional fires, 7.49% to moderately frequent fires** and 2.40% to high incidence levels.
 - According to State of Forest Report 2023, **forest fires surged by 1,339% in Himachal Pradesh** and **2,822% in Jammu & Kashmir**, highlighting the urgency for better forest fire management.
- **Conversion of Natural Forests to Commercial Plantations:** Afforestation drives often prioritize commercial plantations over restoring natural forests.
 - Monoculture plantations of species like **eucalyptus and acacia** degrade soil quality, reduce biodiversity, and are less effective at carbon sequestration compared to native forests.
- **Encroachment and Illegal Activities:** Encroachment by agriculture, real estate, and illegal logging remains a major challenge.
 - **Poaching and illegal mining** further degrade forest ecosystems and disrupt biodiversity. Encroachments also spark conflicts between forest authorities and local communities.
 - For instance, **over 308 hectares of the ecologically sensitive Delhi Ridge** area have been encroached and another 183 hectares **“diverted” for “non-forestry purposes”**.
 - **Illegal timber smuggling** in the **Northeast** are glaring examples of unchecked forest exploitation.
- **Conflicts Between Conservation and Livelihoods:** The **conservation-versus-livelihood** dilemma often pits environmental goals against the needs of local communities.
 - Protected areas, such as **tiger reserves**, displace forest-dependent communities, while promoting ecotourism often excludes local participation.
 - This leads to social unrest and non-cooperation in conservation efforts.
 - The recent displacement of **Baiga tribes in Achanakmar Tiger Reserve (Chhattisgarh)** illustrate how conservation efforts can marginalize indigenous communities without sustainable planning and consultation.

What Measures India Can Take to Strengthen Its Conservation Efforts?

- **Strengthen Forest Governance with Community Participation:** Empowering local communities, **especially tribal and forest-dwelling groups**, in forest conservation through participatory governance can significantly improve outcomes.
 - Effective implementation of the **Forest Rights Act (FRA), 2006**, along with integrating gram sabhas in decision-making under the **Panchayats (Extension to Scheduled Areas) Act (PESA), 1996**, can protect community rights while ensuring sustainable conservation.
 - Co-management models like **Joint Forest Management (JFM)** can foster accountability.
- **Focus on Restoration Over Greening:** India must prioritize the **restoration of natural forests** rather than **expanding monoculture plantations** under afforestation schemes.
 - Restoring degraded ecosystems with **native species** will enhance biodiversity, improve soil quality, and increase the ecological resilience of forests.
 - Afforestation schemes like **National Mission for a Green India (GIM)** can be modified to ensure ecosystem restoration is a priority.
- **Leverage Technology for Monitoring and Conservation:** India can deploy advanced technologies like **satellite imagery, Geographic Information Systems (GIS)**, and drones to monitor forest cover, prevent illegal activities, and assess deforestation trends.
 - **Real-time forest monitoring systems** can improve enforcement of forest laws and protect critical biodiversity hotspots.
 - Linking these technologies with citizen engagement apps will also enhance accountability.

- The **Forest Survey of India's e-Green Watch portal** is a positive step, but it needs greater coverage and integration with forest fire alerts.
- **Adopt Landscape-Based Conservation Model:** A landscape approach integrates forest conservation with **agriculture, water management, and urban planning**.
 - Protecting contiguous ecosystems like the Western Ghats, Sundarbans, and the Himalayan biodiversity hotspots through landscape-level strategies can ensure both conservation and livelihood security.
 - Linking the **Eco-Sensitive Zone (ESZ) framework** with watershed development programs will make conservation more comprehensive.
 - A landscape approach can simultaneously **address biodiversity loss and sustainable development** in this ecologically fragile region.
- **Strengthen Mangrove and Coastal Forest Conservation:** Mangroves play a critical role in protecting coastal areas from **erosion and cyclones**, yet they remain under severe threat.
 - Programs like **Mangrove for the Future (MFF)** should be scaled up and linked with national initiatives like **Blue Economy policies** and the **Sagarmala Project** to ensure coastal conservation is a priority.
 - Additionally, empowering local fishing communities in mangrove restoration can improve outcomes.
 - Integrating mangrove restoration into coastal infrastructure development can ensure long-term protection.
- **Integrate Conservation with Climate Action:** India should link forest conservation efforts with its climate goals under the **Nationally Determined Contributions (NDCs)** of the Paris Agreement.
 - Programs like **National Afforestation Programme (NAP)** and **Green India Mission (GIM)** should focus on increasing the carbon stock of degraded forests.
 - Scaling afforestation efforts with **native species** can further enhance carbon sequestration while protecting biodiversity..
- **Promote Agroforestry and Sustainable Livelihoods:** Integrating agroforestry with rural development programs can reduce the dependency of local communities on forests for livelihood.
 - Agroforestry models like **Taungya systems** can ensure both agricultural productivity and conservation goals.
 - Linking agroforestry with the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** can generate jobs while promoting green cover.
 - The **Sub-Mission on Agroforestry (SMAF)** has been successful in promoting agroforestry practices, but its implementation needs to be scaled up in deforestation-prone areas like Madhya Pradesh and Chhattisgarh.
- **Protect Tribal and Indigenous Rights:** Ensuring that tribal and indigenous communities have secure rights over forest resources is critical for long-term conservation.
 - The **Forest Rights Act (FRA), 2006**, should be implemented with greater transparency and efficiency, and policies like the **Forest (Conservation) Rules, 2022** must be **revised to align with tribal welfare**.
 - Integrating tribal knowledge into forest management plans can strengthen conservation outcomes.
 - Tribal co-management models in areas like **Mendha Lekha village, Maharashtra**, have shown how empowering communities can enhance conservation.
- **Integrate Conservation with Urban Planning:** India needs to focus on increasing urban forests to mitigate pollution, reduce heat islands, and enhance urban biodiversity.
 - Initiatives like **Nagar Van Yojana** should be linked with the **Smart Cities Mission** to ensure green spaces are prioritized in urban development.
 - Urban conservation efforts must focus on **restoring degraded lands and protecting wetlands**.
- **Promote Community-Based Ecotourism:** Instead of mass tourism, India should promote **community-based ecotourism**, empowering local communities to manage tourism in forest areas.
 - This ensures income generation for forest-dependent populations while minimizing environmental damage.
 - Guidelines for sustainable tourism practices must be developed and strictly enforced.
 - In places like **Kaziranga National Park in Assam, community-managed**

tourism models have successfully reduced poaching and generated sustainable livelihoods.

- **Utilize Carbon Markets to Fund Forest Conservation:** India should leverage global and domestic carbon markets to fund forest conservation projects.
 - By monetizing carbon sequestration through afforestation and natural forest restoration, India can attract both private and international funding.
 - Carbon credits generated from forests can be sold in markets like the [Voluntary Carbon Market \(VCM\)](#).
 - Expanding forest carbon credit programs will make conservation economically viable while meeting climate goals.
- **Implement a National Forest Fire Mitigation Strategy:** India needs a **comprehensive forest fire mitigation strategy** that includes early warning systems, local fire brigades, and forest fire breaks.
 - **Controlled burns, community involvement, and real-time data from satellites** should be leveraged to prevent and control fires.
 - Special emphasis should be placed on **vulnerable zones like Uttarakhand and Himachal Pradesh**.

Conclusion:

While India has made progress in expanding forest cover, it must focus on **improving forest health and biodiversity**. The degradation of dense forests, mangrove loss, and tribal rights violations highlight the need for a balanced approach. Strengthening forest governance and community participation is essential. Effective restoration of ecosystems and conservation laws are key to achieving sustainable development. **True forest conservation in India requires aligning environmental, social, and economic goals for the benefit of both nature and its people.**

Drishti Mains Question:

“Despite significant efforts towards afforestation and greening initiatives, India continues to face challenges in conserving forests and protecting critical ecosystems”. Discuss

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q1. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006? (2021)

- (a) Ministry of Environment, Forest and Climate Change
- (b) Ministry of Panchayati Raj
- (c) Ministry of Rural Development
- (d) Ministry of Tribal Affairs

Ans: (d)

Q2. A particular State in India has the following characteristics: (2012)

1. It is located on the same latitude which passes through northern Rajasthan.
2. It has over 80% of its area under forest cover.
3. Over 12% of forest cover constitutes the Protected Area Network in this State.

Which one among the following States has all the above characteristics?

- (a) Arunachal Pradesh
- (b) Assam
- (c) Himachal Pradesh
- (d) Uttarakhand

Ans: (a)

Mains

Q. “The most significant achievement of modern law in India is the constitutionalization of environmental problems by the Supreme Court.” Discuss this statement with the help of relevant case laws. **(2022)**

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