



## INDIA STATE OF FOREST REPORT 2023: A COMPREHENSIVE REVIEW: GS - III



### Introduction

The 2023 India State of Forest Report (ISFR) highlights a nuanced picture of India's forest cover and its ecological dynamics. Released biennially, the ISFR provides a snapshot of the country's forest and tree resources, which are vital for combating climate change, preserving biodiversity, and supporting livelihoods. While there has been a modest increase in the net forest and tree cover since 2021, significant challenges persist, such as loss of old-growth forests, mangrove degradation, and changes in forest quality.



## Status of India's Forests Today

India's forest cover has witnessed a **net gain of 156.41 sq km** between 2021 and 2023. This marginal increase brings the geographical area under forest cover to **7,15,342.61 sq km**, or **21.76%** of the country's land area. When combined with tree cover, which increased by **1,285.4 sq km**, the total green cover now accounts for **25.17%** of India's geographical area.

However, this growth masks some concerning trends:

- A **loss of 3,656 sq km of dense forests** (both very dense and moderately dense forests).
- **Degradation in forest quality**, with open forests and moderately dense forests converting to non-forests or thinning out.
- **Shrinking mangrove ecosystems**, with a loss of **7.43 sq km** since 2021.

These findings highlight a mixed trajectory for India's forest resources, with gains primarily driven by plantations and agroforestry outside traditional forest areas.

## Classification of India's Forests

The ISFR classifies forests based on canopy density, offering a detailed assessment of forest quality:

- 1. Very Dense Forests (VDF):**
  - Canopy density  $\geq 70\%$ .
  - Represent the richest ecosystems with high biodiversity.
  - Increased by **3,455.12 sq km** since 2021, largely due to afforestation.
- 2. Moderately Dense Forests (MDF):**
  - Canopy density between 40% and 70%.
  - Critical for water conservation and wildlife habitats.
  - Declined by **1,234.95 sq km** since 2021.
- 3. Open Forests (OF):**
  - Canopy density between 10% and 40%.
  - Often degraded or fragmented ecosystems.
  - Declined by **1,189.27 sq km**.
- 4. Tree Cover:**
  - Includes tree patches less than 1 hectare, orchards, and agroforestry.
  - Increased by **1,285.4 sq km**, contributing to overall green cover.

## State-wise Trends in Forest Cover

The ISFR 2023 highlights stark regional variations in forest and tree cover changes:



## 1. Top Gainers:

- **Chhattisgarh:** Gained **683.62 sq km**, driven by afforestation and agroforestry.
- **Uttar Pradesh:** Increased by **559.19 sq km**, reflecting agroforestry and plantation initiatives.
- **Odisha:** Added **558.57 sq km**, with significant gains in very dense forests.
- **Rajasthan:** Increased by **394.46 sq km**, showcasing success in desert and dryland afforestation.

## 2. Major Losers:

- **Madhya Pradesh:** Lost **612.41 sq km**, primarily due to deforestation in moderately dense forests.
- **Karnataka:** Declined by **459.36 sq km**, attributed to development pressures and forest degradation.
- **Ladakh:** Reduced by **159.26 sq km**, reflecting the vulnerability of its fragile ecosystems.
- **Nagaland:** Lost **125.22 sq km**, continuing a worrying trend in the Northeast.

## 3. Mangrove Cover:

- Declined by **7.43 sq km**, with Gujarat recording the largest loss (**36.39 sq km**).
- Notable gains were observed in Andhra Pradesh (**13.01 sq km**) and Maharashtra (**12.39 sq km**).

## 4. Northeastern States:

- Continued a declining trend, losing **327.3 sq km** of forest cover, with the highest losses in Nagaland, Tripura, Meghalaya, and Assam. Mizoram stood out as an exception, gaining **178 sq km**.

## Changes in Forest Conditions in India

The ISFR reveals a concerning shift in forest conditions:

- **Dense Forest Loss:** A total of **3,656 sq km** of dense forests were converted to non-forest areas between 2021 and 2023. This includes **294.75 sq km of very dense forests** and **3,361.5 sq km of moderately dense forests**.
- **Degradation:** Open forests and moderately dense forests are increasingly thinning due to pressures from agriculture, infrastructure, and resource extraction.
- **Mangrove Shrinkage:** Mangroves, critical for coastal protection, continue to face degradation, particularly in Gujarat.

## Reasons for Forest Changes

1. **Deforestation:** Expansion of agriculture, infrastructure development, and mining have contributed to forest loss.
2. **Degradation:** Unregulated grazing, logging, and forest fires have



degraded forest quality, especially in the Western Ghats and Northeastern states.

3. **Climate Change:** Erratic weather patterns and rising temperatures are affecting forest ecosystems, leading to shifts in forest density.
4. **Mangrove Loss:** Coastal erosion, industrial activities, and urbanization are the primary drivers of mangrove shrinkage.
5. **Afforestation Efforts:** Gains in very dense forests are largely due to plantations, which, while increasing green cover, lack the ecological richness of natural forests.

## Significance of Forest Cover in India

Forests play a crucial role in India's ecological and economic stability:

- **Climate Mitigation:** Forests act as carbon sinks, with a reported increase of **81.5 million tonnes** in carbon stock since 2021.
- **Biodiversity Conservation:** Dense forests are habitats for India's rich flora and fauna.
- **Livelihoods:** Millions depend on forests for timber, non-timber forest products, and agroforestry.
- **Water Regulation:** Forests aid in water retention and groundwater recharge.
- **Disaster Resilience:** Mangroves and forests protect against cyclones, floods, and landslides.

## Measures Taken by the Government

1. **Afforestation and Reforestation:**
  - Initiatives like the National Afforestation Programme and Green India Mission aim to restore degraded ecosystems.
2. **Forest Fire Management:**
  - Near real-time fire alerts and forest fire services have been implemented using advanced satellite technology.
3. **Agroforestry Promotion:**
  - Encouraging tree planting outside forests has led to gains in tree cover across states.
4. **Mangrove Conservation:**
  - The Mangrove for the Future (MFF) program supports community-based conservation efforts.
5. **Policy and Legal Measures:**
  - Strengthening the Forest Conservation Act to prevent deforestation.
  - Eco-sensitive zone regulations for biodiversity-rich areas like the Western Ghats.



## Conclusion

The ISFR 2023 underscores the delicate balance between India's green cover gains and the ongoing threats to its forest ecosystems. While incremental increases in forest and tree cover are encouraging, the loss of dense forests, mangroves, and biodiversity-rich areas highlights the urgency for sustainable forest management.

India must prioritize protecting natural forests, enhancing forest quality, and addressing the socio-economic drivers of deforestation. With its ambitious climate goals, India has the opportunity to lead the way in forest conservation, ensuring a greener, more resilient future.

## Main Practice Question

**The India State of Forest Report (ISFR) 2023 presents a mixed picture of India's forest cover. Discuss the current status of India's forest cover, including the key trends in forest density and state-wise changes. What are the reasons behind the changes observed, and why is forest cover significant for India? Highlight the measures taken by the government to address forest degradation and improve green cover. (250 words)**

## Answer Guidelines

### Structure:

#### 1. Introduction (30-40 words):

Briefly introduce the ISFR 2023 and its key highlights, including the increase in net forest and tree cover and the challenges related to forest degradation.

*Example:*

"The India State of Forest Report (ISFR) 2023 recorded a marginal increase of 156.41 sq km in forest cover, raising the total to 21.76% of India's geographical area. However, significant losses in dense forests and mangroves indicate persistent challenges."

#### 2. Current Status and Trends (80-100 words):

- Mention the total forest and tree cover (25.17% combined).
- Discuss the changes in forest density:
  - Increase in very dense forests (+3,455.12 sq km).
  - Decline in moderately dense (-1,234.95 sq km) and open forests (- 1,189.27 sq km).
- Highlight state-wise gains (e.g., Chhattisgarh, Odisha) and losses (e.g.,



Madhya Pradesh, Karnataka).

**3. Reasons for Changes (40-50 words):**

- Expansion of agriculture, infrastructure, and urbanization.
- Logging, forest fires, and unregulated activities.
- Climate change and mangrove degradation due to coastal development.

**4. Significance of Forest Cover (40-50 words):**

- Role in climate mitigation (carbon sinks).
- Biodiversity conservation.
- Support for water security, livelihoods, and disaster resilience.

**5. Government Measures (40-50 words):**

- Green India Mission and afforestation programs.
- Real-time forest fire alerts and agroforestry promotion.
- Mangrove conservation efforts.
- Strengthened laws like the Forest Conservation Act.

**6. Conclusion (20-30 words):**

Emphasize the importance of balanced growth, with sustainable forest management and conservation efforts being critical for ecological security and climate resilience.





## MIND MAP FOR THE ARTICLE

