



## Global Forest Watch (GFW)

**For Prelims:** [Deforestation](#), [Food and Agricultural Organization](#), [Carbon sequestration](#), [COP26 Glasgow 2021](#), [The Bonn Challenge](#), [Ministry of Environment, Forest & Climate Change](#), [India State of Forest Report 2021](#), [Forest Conservation Act, 1980](#), [National Afforestation Programme](#), [Environment Protection Act of 1986](#), [Scheduled Tribes and Other Traditional Forest Dwellers \(Recognition of Forest Rights\) Act, 2006](#)

**For Mains:** Significance of Forests, Status of Forests in India.

**Source:** IE

### Why in News?

Recently, the latest data from the **Global Forest Watch (GFW)** monitoring project has revealed that India has lost 2.33 million hectares of tree cover since the year 2000.

- This loss amounts to a 6% decrease in tree cover during this period.

### What are the Key Findings of Global Forest Watch (GFW)?

- **Total Loss:** The GFW data reveals that India lost a staggering 4,14,000 hectares of humid **primary forest** (approximately 4.1% of the total tree cover) between 2002 and 2023.
  - A **primary forest** is a forest that **hasn't been damaged by human activity**.
- **Carbon Impact:** Over the same period (from 2001 to 2022), Indian forests emitted 51 million tons of carbon dioxide equivalent annually while simultaneously removing 141 million tons of carbon dioxide equivalent each year.
  - This **net carbon balance represents** a carbon sink of approximately 89.9 million tons annually.
- **Natural Forests:** A striking 95% of the tree cover loss in India between 2013 and 2023 occurred within natural forests.
- **Peak Years:** Notably, the maximum tree cover loss of 189,000 hectares occurred in 2017, followed by 175,000 hectares in 2016, and 144,000 hectares in 2023—the highest in the last six years.
- **State-Level Impact:** Five states accounted for 60% of all tree cover loss between 2001 and 2023.
  - **Assam** experienced the highest tree cover loss at 324,000 hectares (compared to an average of 66,600 hectares).
  - Mizoram, Arunachal Pradesh, Nagaland, and Manipur also faced significant losses.
- **Impact of Forest Fire:** Fires were **responsible for 1.6% of tree cover loss in India** between 2001 and 2022.
  - The year **2008 recorded the maximum tree cover loss due to fires**, amounting to 3,000 hectares.
  - From 2001 to 2022, **Odisha** had the highest rate of tree cover loss due to fires with an average of 238 hectares lost per year.
- **Tree Cover Loss and Climate Change:** Forests play a dual role, **acting as a sink by absorbing carbon dioxide when standing or regrowing**, and as a source when cleared or

degraded.

- The loss of forests accelerates climate change by releasing stored carbon into the atmosphere.

## Status of Forest at the Global Level

- From 2002 to 2023, there was a total of 76.3 Mha (million hectares acre) **humid primary forest lost** globally, making up 16% of its total tree cover loss in the same time.
- From 2001 to 2023, there was a total of 488 Mha of **tree cover loss globally**, equivalent to a 12% decrease in tree cover since 2000.
- Globally from 2001 to 2022, 23% of tree cover loss occurred in areas where the dominant drivers of loss resulted in **deforestation**.
- Globally as of 2010, the **top 5 countries** represent 55% of all tree cover.
  - **Russia** had the most tree cover at 755 Mha compared to an average of 16.9 Mha followed by **Brazil, Canada, the US, Democratic Republic of Congo**.
- From 2001 to 2022, there was a total of 126 Mha **of tree cover lost from fires** globally and 333 Mha from all other drivers of loss.

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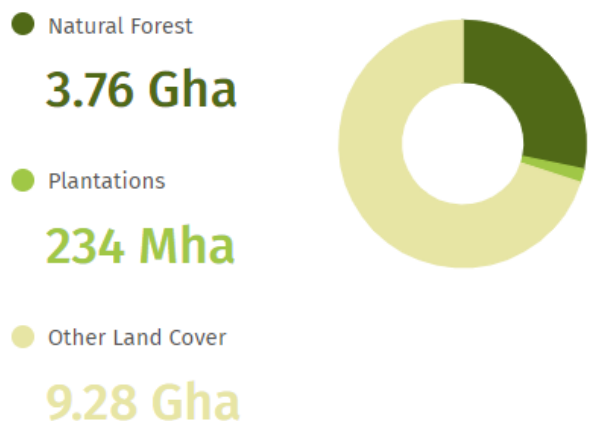
### GLOBAL TREE COVER GAIN

From 2000 to 2020, **131 Mha** of tree cover was gained **globally**.

1	Russia	37.2 Mha
2	Canada	17.0 Mha
3	United States	14.0 Mha
4	Brazil	8.06 Mha
5	China	6.69 Mha

### GLOBAL TREE COVER BY TYPE

As of 2000, **28%** of **global** land cover was **>30%** tree cover.



- **Initial Tree Cover:**
  - In 2010, the world's tree cover spanned approximately 3.92 billion hectares (Gha), which translates to **roughly 30% of the Earth's land area**.
  - This **extensive** tree cover included various types of forests, woodlands, and other vegetated areas with trees.
- **Tree Cover Loss:**
  - Between 2010 and 2023, the world witnessed a significant loss of tree cover.
  - The total global tree cover loss during this period amounted to 28.3 million hectares (Mha).
  - This loss occurred **due to various factors**, including deforestation, land-use changes, and natural disturbances.

## What are the Major Forest Conservation Initiatives in India?

- **Forest Cover in India:**
  - The Forest Survey of India (FSI) has been conducting biennial (once every two years) assessments of forest cover since 1987, and the findings are published in the [India State of Forest Report \(ISFR\)](#).
  - As per the latest assessment in [ISFR 2021](#), India's total forest and tree cover stands at 8,09,537 square kilometres, which **accounts for 24.62% of the country's geographical area**.
  - Notably, this represents an **increase of 2261 square kilometres** compared to the [ISFR 2019](#) assessment, indicating positive strides in forest conservation efforts.
- **Government Initiatives to Boost Forest Cover:**
  - [National Action Plan on Climate Change \(NAPCC\)](#): It was launched in 2008 and aimed at creating awareness among the representatives of the public, different agencies of government, scientists, industry, and communities on the threat posed by climate change and the steps to counter it.
    - [National Mission for Green India](#): It is one of the **eight Missions** outlined **under the NAPCC**.
      - It aims at protecting; restoring and enhancing India's diminishing forest cover and responding to climate change by a combination of adaptation and mitigation measures.
  - **Nagar Van Yojana (NVY)**: Launched in 2020, NVY aims to create 600 Nagar Vans and 400 Nagar Vatika in urban and peri-urban areas by 2024-25.
    - **The initiative intends to enhance the green cover**, preserve biological diversity, and improve the quality of life for urban dwellers.
  - [Compensatory Afforestation Fund \(CAMPA\)](#): Utilised by States/UTs for compensatory afforestation to offset forest land diversion for developmental projects.
    - 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
  - **Multi-Departmental Efforts**: Apart from the central initiatives, afforestation activities are taken up under various programs and schemes of line Ministries, State Governments/UT Administrations, Non-Government Organizations, Civil Society, and Corporate bodies.
    - Some notable efforts include participation in the [Mahatma Gandhi National Rural Employment Guarantee Scheme](#), [National Bamboo Mission](#), and [Sub-Mission on Agroforestry](#).
  - **Draft National Forest Policy**: A draft National Forest Policy was released in 2019.
    - The basic thrust of the draft is the conservation, protection and management of forests along with safeguarding the interest of tribals and forest-dependent people.

## Note

- The **Ministry of Environment, Forest & Climate Change** defines **'forest cover' in India** as "all lands, more than one hectare in an area with a **tree canopy density of more than 10%**", and **'tree cover'** as "**tree patches outside recorded forest areas** exclusive of forest cover and less than the minimum mappable area of one hectare".
- However, the [Supreme Court](#) recently has directed governments to follow the "broad and all-encompassing" **definition of forest as laid down in its 1996 judgment in the [T N Godavarman](#)** case until a consolidated record of all kinds of forests across the country is prepared.

## What is the Status of Forests in India?

- According to the **India State of Forest Report 2021**, the total forest and tree cover in India is **24.62% of the geographical area** of the country. The total forest cover is 21.71% and the total tree cover is 2.91%.
- Area-wise **Madhya Pradesh has the largest forest cover** in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.
- In terms of forest cover as % of total geographical area, the top five States are Mizoram (84.53%), Arunachal Pradesh (79.33%), Meghalaya (76.00%), Manipur (74.34%) and Nagaland (73.90%).
- According to the [UN Food and Agriculture Organization \(FAO\)](#), there were 6.26M people employed in India's Forestry sector in 2010.
- According to the FAO, the **forestry sector** contributed a net -690 million USD to the economy in

2010, which is approximately **-0.037% of India's GDP**.

- In India, **wood fibre or timber** represents the **largest plantation area** by type, spanning 5.92 Mha and 1.9% of land area.
  - **Lakshadweep** has the **largest relative plantation** area in India at 76%, most of which is in fruit plantations.

**Drishti Mains Question:**

Q. Discuss the major challenges and conservation efforts related to Indian forests, highlighting the role of community participation and government policies. How can sustainable forest management practices be enhanced to address these issues effectively?

**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)**