

BEFORE NATIONAL GREEN TRIBUNAL**PRINCIPAL BENCH, NEW DELHI****Original Application No. 555/2024**

**News item titled "India lost 2.33 million hectares of tree cover since 2000
Global Forest Watch" appearing in The Indian Express date 13.04.2024.**

WITH**Original Application No. 20/2025**

**News Item titled "Assam's forests shrink by 83.92 sq km in just two years
Report" appearing in the Assamtribune.com dated 22.12.2024**

INDEX**NDOH-17/09/2025**

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Through

Date: 11/09/2025



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SUMMARY OF THE MENTIONED ARTICLES

'India lost 2.33 million hectares of tree cover since 2000 – Global Forest Watch' (The Indian Express dated 13.04.2024)

“India has lost 2.33 million hectares of tree cover since 2000, equivalent to a six per cent decrease in tree cover during this period, according to the latest data from the Global Forest Watch monitoring project.”

“An average of 51.0 million tons of carbon dioxide equivalent per year was released into the atmosphere as a result of tree cover loss in India. In total, 1.12 gigatons of carbon dioxide equivalent was emitted during this period.”

“Assam had the maximum tree cover loss at 324,000 hectares compared to an average of 66,600 hectares. Mizoram lost 312,000 hectares of tree cover, Arunachal Pradesh 262,000 hectares, Nagaland 259,000 hectares, and Manipur 240,000 hectares.”

“The Global Forest Watch refers to tree cover which talks about forest extent, loss and gain. Tree cover is a convenient metric for monitoring forest change because it is easily measurable from space using freely available, medium-resolution satellite imagery. This means that tree cover can be monitored frequently, at low cost, and over large geographic scales. However, the existence of tree cover does not always make a forest, tree cover loss does not always imply forest loss or deforestation, and tree cover gain does not always imply forest gain or restoration

'Assam's forests shrink by 83.92 sq km in just two years' (Assamtribune.com dated 22.12.2024).

“In Assam, canopy density inside "recorded forest area" has degraded in 1,699 sq km area. Overall, compared to the year 2021, there is an increase of 1,445 sq km in the total forest and tree cover of the country in 2023, according to the report.”

“The Indian State of Forest Report 2023 has highlighted significant concerns about the environmental impact of rubber cultivation in Tripura. It states that the large-scale conversion of natural forests into monoculture rubber plantations has disrupted the ecological balance and posed a threat to biodiversity.”

STATUS OF STATES ACCORDING TO GLOBAL FOREST WATCH

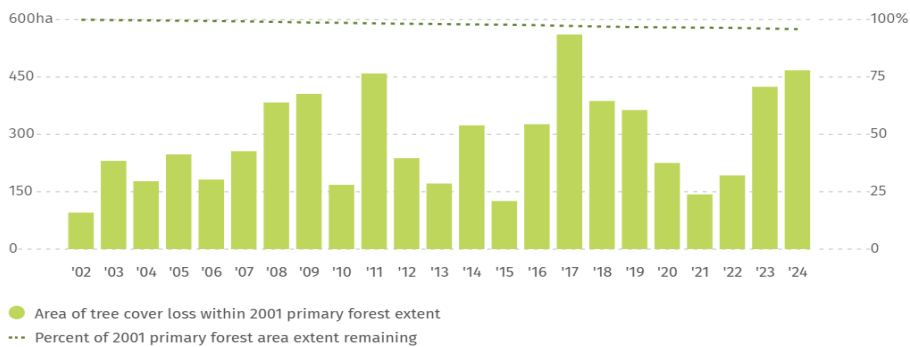
| STATE | PRIMARY FOREST LOSS | | TREE COVER LOSS | |
|-------------------|---------------------|----------|-----------------|----------|
| | 2014 | 2024 | 2014 | 2024 |
| Andhra Pradesh | 323 ha | 468 ha | 1.91 kha | 2.87 kha |
| Arunachal Pradesh | 2.60 kha | 2.93 kha | 6.01 kha | 5.09 kha |
| Assam | 3.93 kha | 3.24 kha | 22.6 kha | 16 kha |
| Bihar | <1 ha | <1 ha | 12 ha | 38 ha |
| Chhattisgarh | 7 ha | 24 ha | 1.73 kha | 3.54 kha |
| Goa | 3 ha | 1 ha | 24 ha | 35 ha |
| Gujarat | | | 6 ha | <1 ha |
| Haryana | | | 2 ha | 12 ha |
| Himachal Pradesh | | | 55 ha | 444 ha |
| Jharkhand | | | | |
| Karnataka | 193 ha | 229 ha | 2.23 kha | 3.25 kha |
| Kerala | 176 ha | 180 ha | 3.82 kha | 10.2 kha |
| Madhya Pradesh | | | 435 ha | 187 ha |
| Maharashtra | 49 ha | 15 ha | 828 ha | 1.33 kha |
| Manipur | 3.12 kha | 3.26 kha | 16.6 kha | 15.4 kha |
| Meghalaya | 2.93 kha | 2.81 kha | 19.1 kha | 11.5 kha |
| Mizoram | 791 ha | 1.07 kha | 17.8 kha | 21.8 kha |
| Nagaland | 2.11 kha | 1.43 kha | 19.6 kha | 8.37 kha |
| Odisha | 1.18 kha | 1.31 kha | 7.49 kha | 8.40 kha |
| Punjab | | | 29 ha | 80 ha |
| Rajasthan | | | <1 ha | <1 ha |
| Sikkim | 3 | 60 | 21 ha | 241 ha |
| Tamil Nadu | 138 ha | 1.09 kha | 1.02 kha | |

| | | | | |
|-----------------------------|-----|----|----------|----------|
| Telangana | 3 | 3 | 2.60 kha | 987 ha |
| Tripura | 4 | 12 | 5.39 kha | 10.6 kha |
| Uttar Pradesh | 0 | 0 | 104 ha | 99 ha |
| Uttarakhand | 0 | 2 | 607 ha | 1.82 kha |
| West Bengal | 62 | 19 | 653 ha | 394 ha |
| Andaman and Nicobar Islands | 661 | 37 | 1.36 kha | 133 ha |
| Chandigarh | | | | |
| Dadra & Nagar Haveli | | | 0 | 0 |
| Lakshadweep | | | | |
| Delhi | | | 0 | 0 |
| Puducherry | | | 4 ha | 22 ha |
| Ladakh | | | | |
| Jammu & Kashmir | | | | |

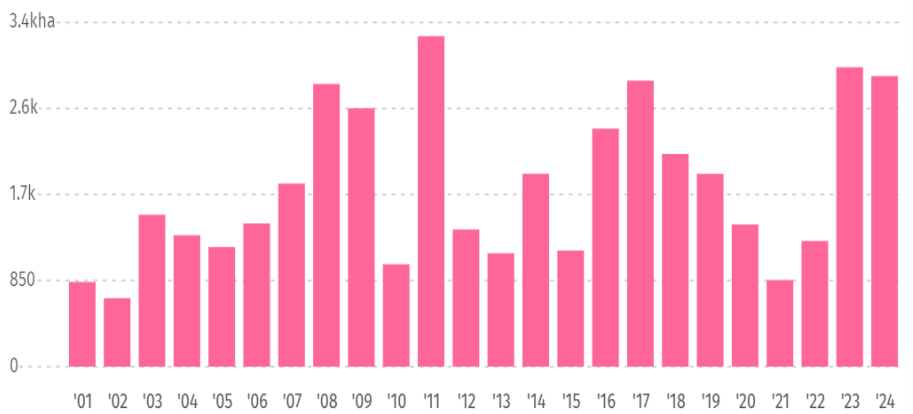
Source: Global Forest Watch

1. ANDHRA PRADESH (Res.5)

From 2002 to 2024, Andhra Pradesh lost 6.55 kha of humid primary forest, making up 16% of its total tree cover loss in the same time period. Total area of humid primary forest in Andhra Pradesh decreased by 4.2% in this time period.



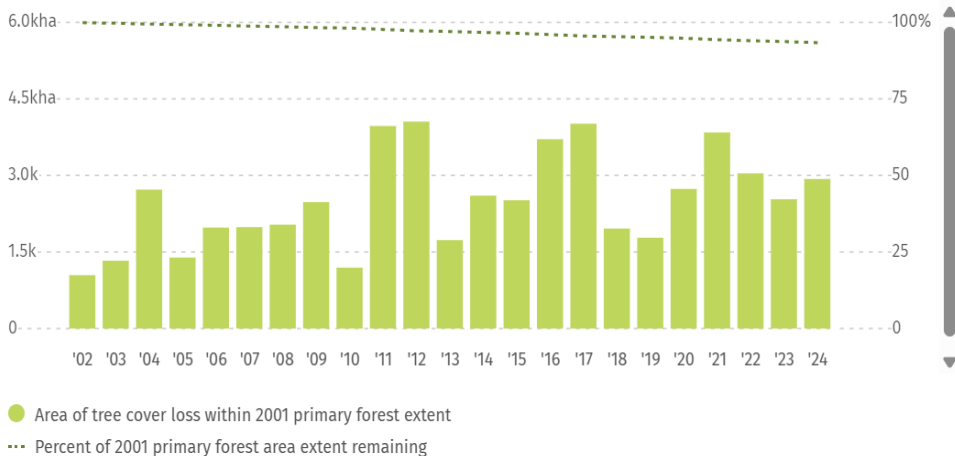
From **2001 to 2024, Andhra Pradesh** lost **42.4 kha** of tree cover, equivalent to a **3.8%** of the **2000** tree cover area, and **23.1 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



2. ARUNACHAL PRADESH (Res.6)

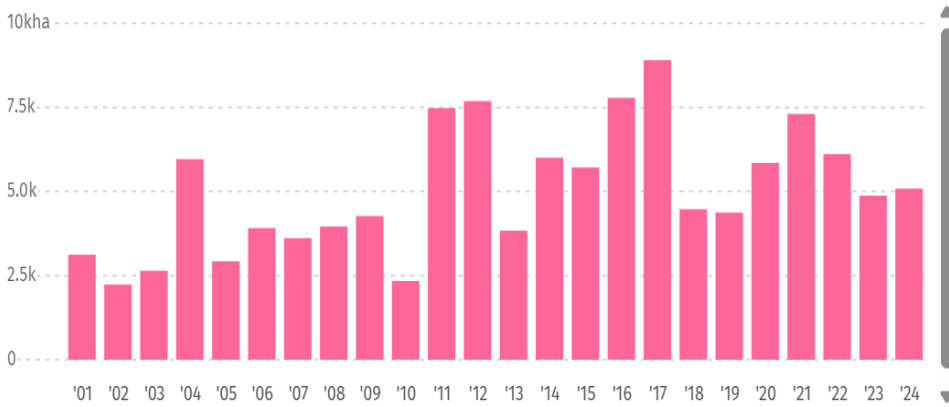
From **2002 to 2024, Arunachal Pradesh** lost **57.6 kha of humid primary forest**, making up **49%** of its total tree cover loss in the same time period.

Total area of humid primary forest in Arunachal Pradesh decreased by 6.6% in this time period.



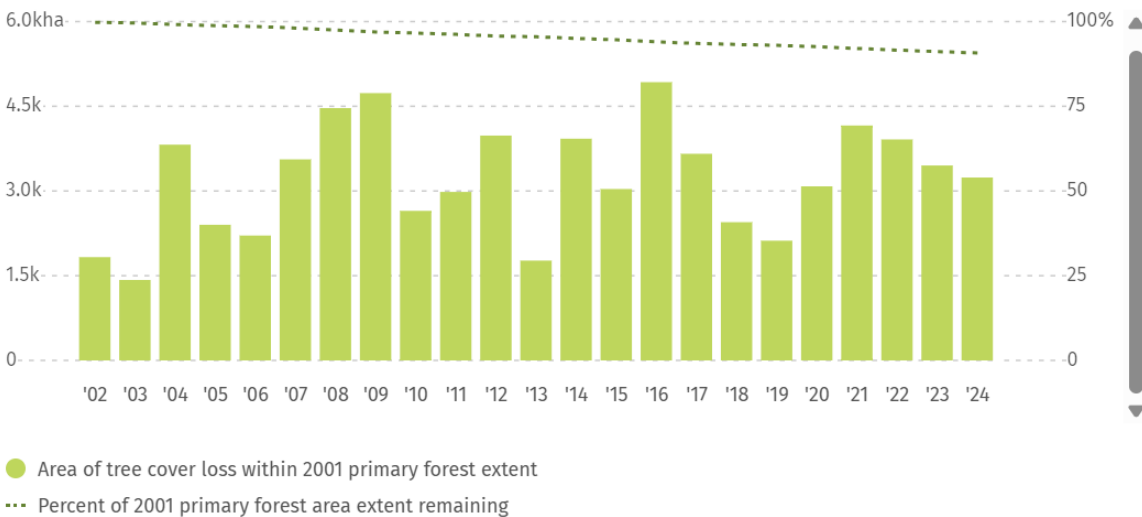
● Area of tree cover loss within 2001 primary forest extent
 ●●● Percent of 2001 primary forest area extent remaining

From **2001 to 2024, Arunachal Pradesh** lost **121 kha** of tree cover, equivalent to a **10%** of the **2000** tree cover area, and **66.0 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



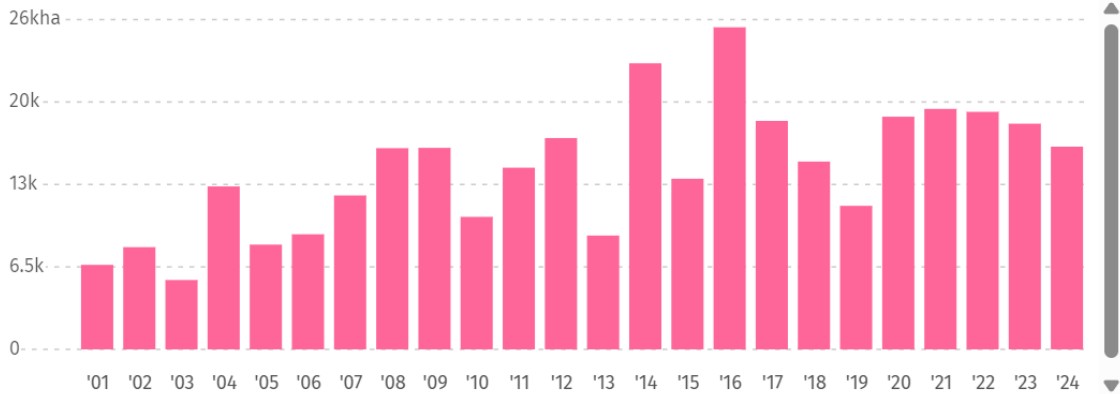
3. ASSAM(Res.7)

From **2002 to 2024, Assam** lost **73.8 kha** of humid primary forest, making up **22%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Assam decreased by 9.3%** in this time period.



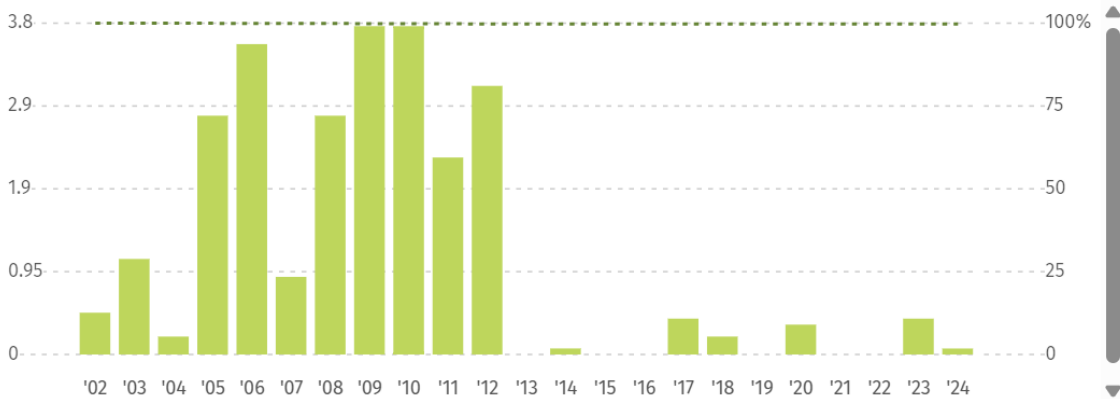
- Area of tree cover loss within 2001 primary forest extent
- Percent of 2001 primary forest area extent remaining

From **2001 to 2024, Assam lost 340 kha** of tree cover, equivalent to a **12%** of the **2000** tree cover area, and **174 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



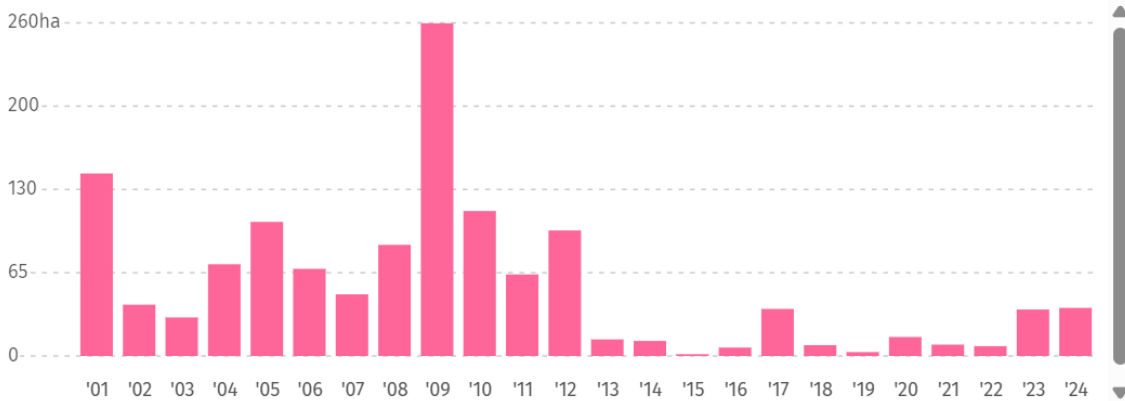
4. BIHAR (Res.8)

From **2002 to 2024, Bihar lost 26 ha of humid primary forest**, making up **2.2%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Bihar decreased by 0.23%** in this time period.



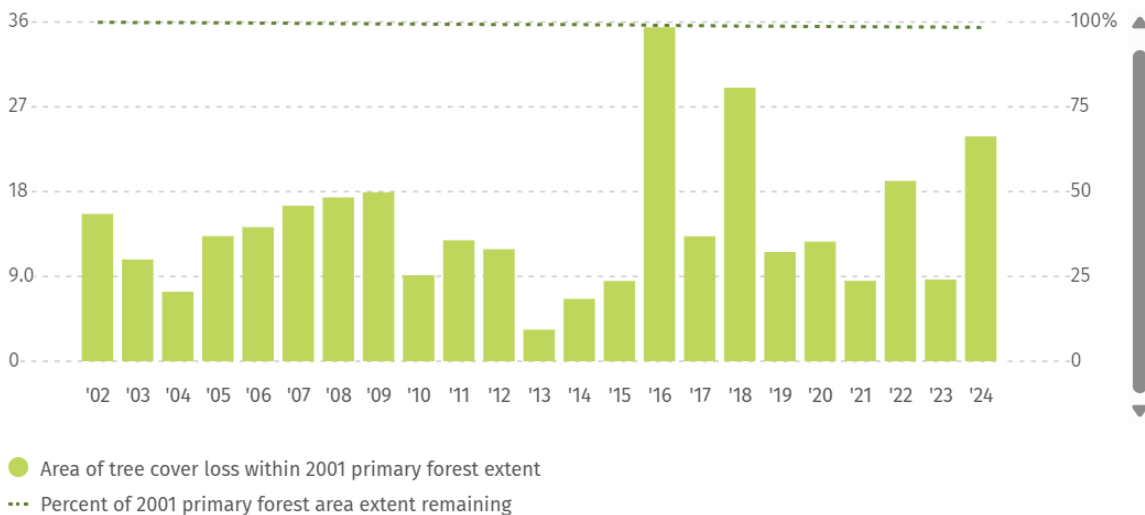
● Area of tree cover loss within 2001 primary forest extent
 --- Percent of 2001 primary forest area extent remaining

From **2001 to 2024, Bihar** lost **1.31 kha** of tree cover, equivalent to a **0.85%** of the **2000** tree cover area, and **646 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

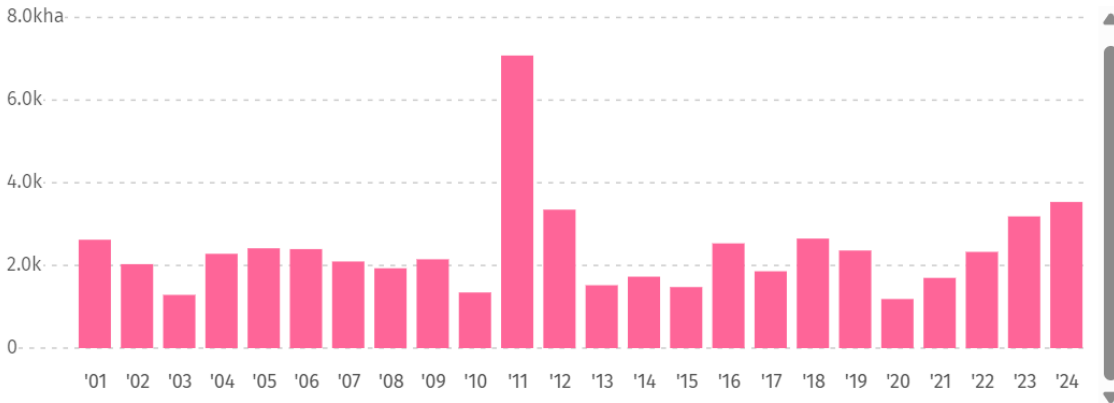


5. CHATTISGARH (Res.9)

From **2002 to 2024, Chhattisgarh** lost **328 ha** of humid primary forest, making up **0.60%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Chhattisgarh decreased by 1.6%** in this time period.

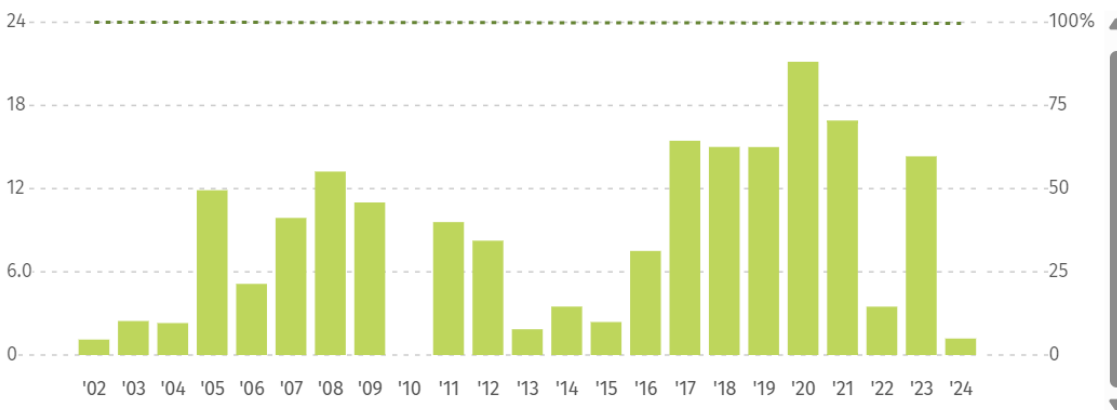


From **2001 to 2024, Chhattisgarh lost 57.0 kha** of tree cover, equivalent to a **2.1%** of the **2000** tree cover area, and **27.8 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



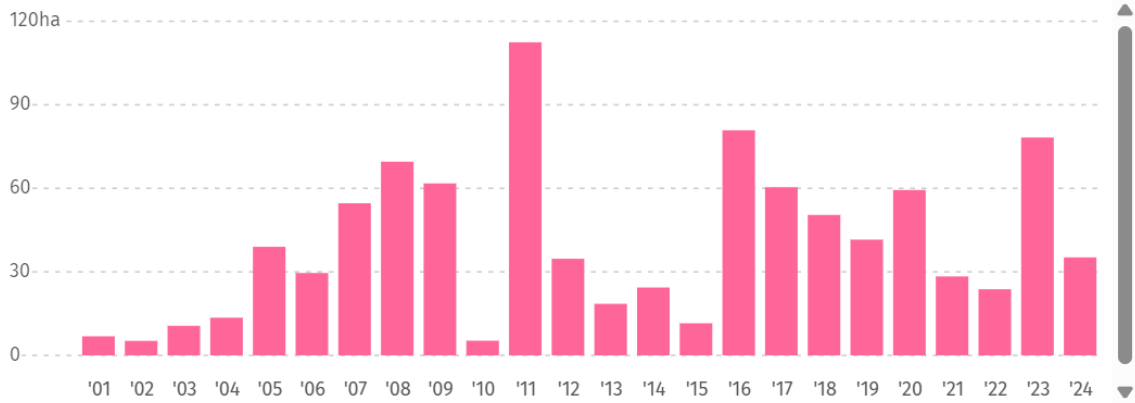
6. GOA (Res.10)

From **2002 to 2024, Goa lost 193 ha of humid primary forest**, making up **20%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Goa decreased by 0.31%** in this time period.



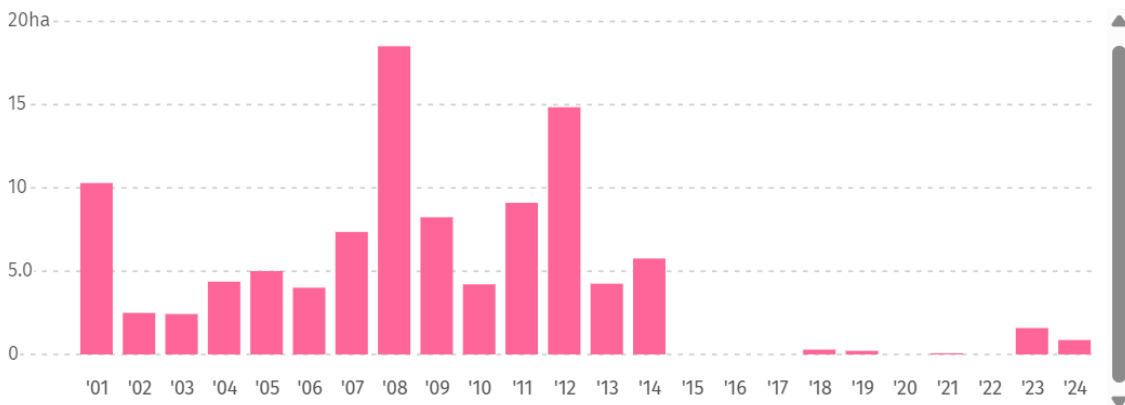
- Area of tree cover loss within 2001 primary forest extent
- Percent of 2001 primary forest area extent remaining

From **2001** to **2024**, **Goa** lost **956 ha** of tree cover, equivalent to a **0.65%** of the **2000** tree cover area, and **532 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



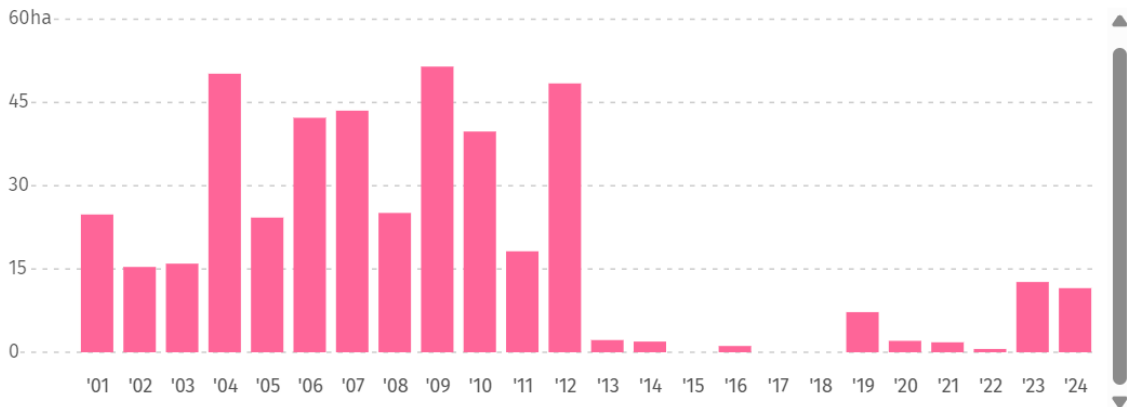
7. GUJARAT(Res.11)

From **2001** to **2024**, **Gujarat** lost **104 ha** of tree cover, equivalent to a **0.58%** of the **2000** tree cover area, and **90.3 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



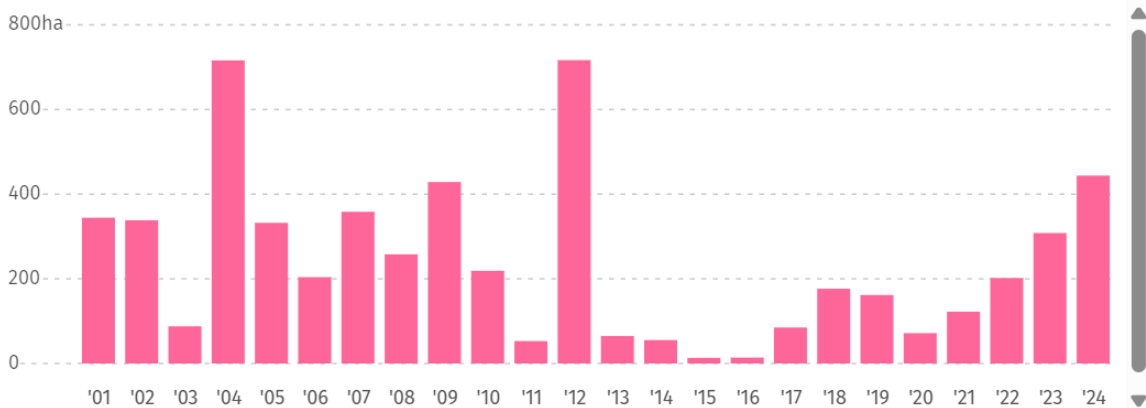
8. HARYANA(Res.12)

From **2001** to **2024**, **Haryana** lost **440 ha** of tree cover, equivalent to a **1.0%** of the **2000** tree cover area, and **202 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



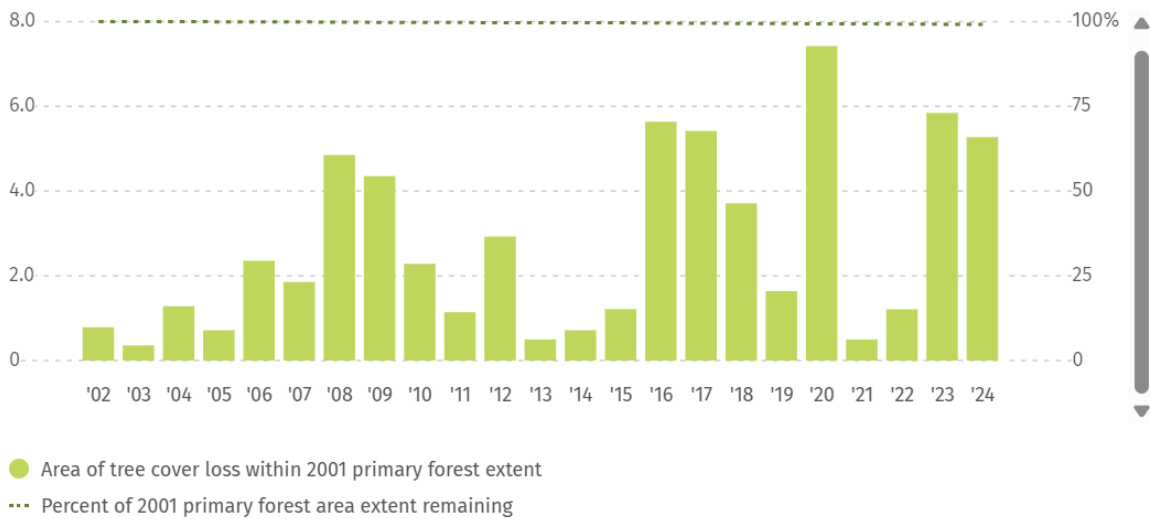
9. HIMACHAL PRADESH (Res. 13)

From **2001** to **2024**, **Himachal Pradesh** lost **5.78 kha** of tree cover, equivalent to a **0.42%** of the **2000** tree cover area, and **2.93 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

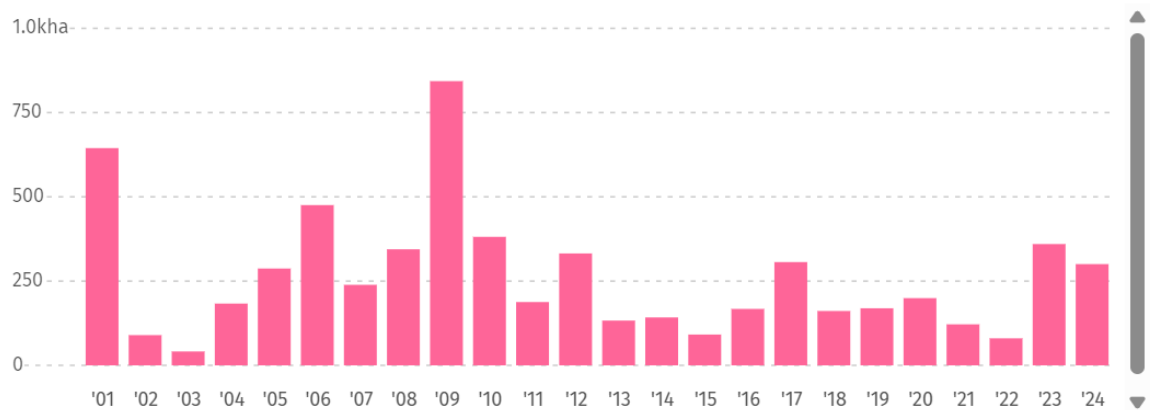


10. JHARKHAND (Res. 14)

From 2002 to 2024, Jharkhand lost 62 ha of humid primary forest, making up 1.1% of its total tree cover loss in the same time period. Total area of humid primary forest in Jharkhand decreased by 0.84% in this time period.

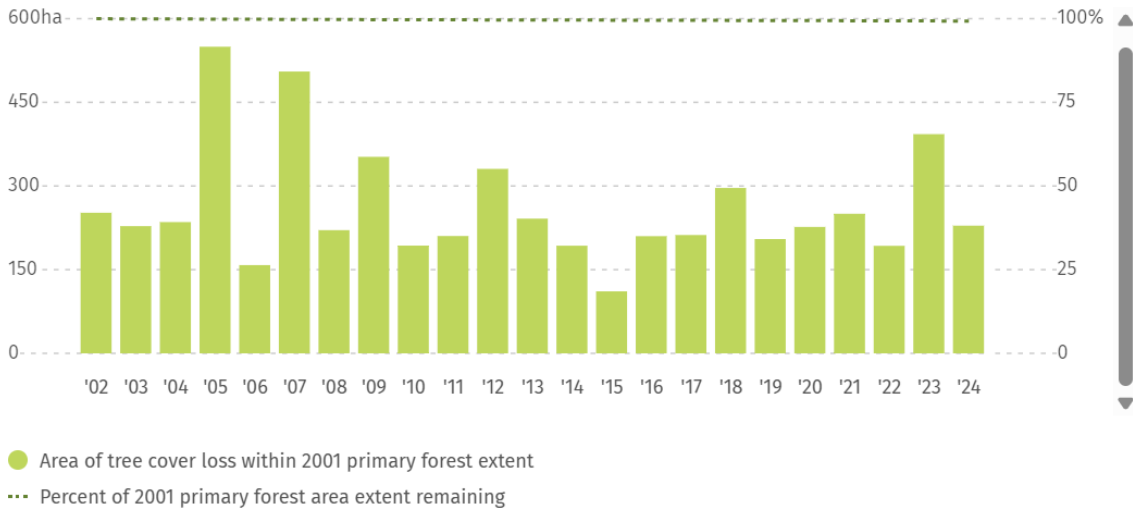


From 2001 to 2024, Jharkhand lost 6.28 kha of tree cover, equivalent to a 1.1% of the 2000 tree cover area, and 3.37 Mt of CO₂e emissions. This does not account for gains in tree cover over the same period.

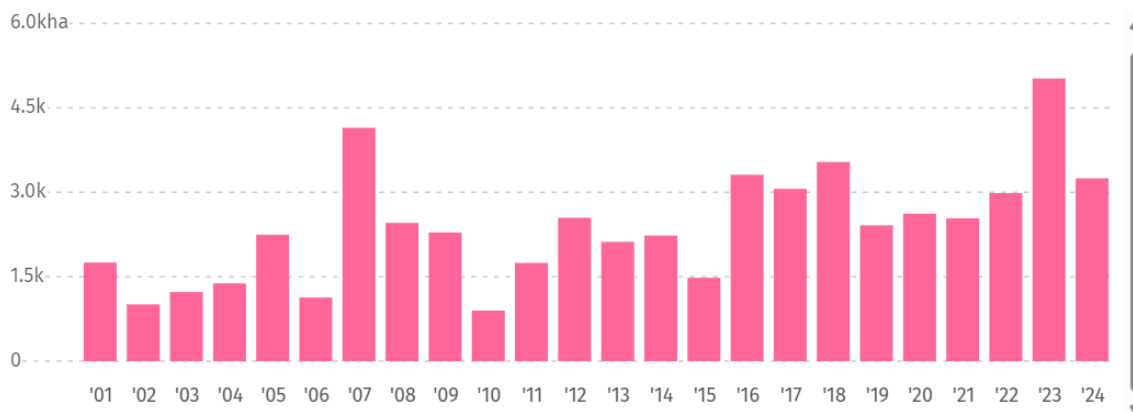


11. KARNATAKA (Res.15)

From **2002 to 2024**, Karnataka lost **6.00 kha** of humid primary forest, making up **11%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Karnataka decreased by 0.71%** in this time period.

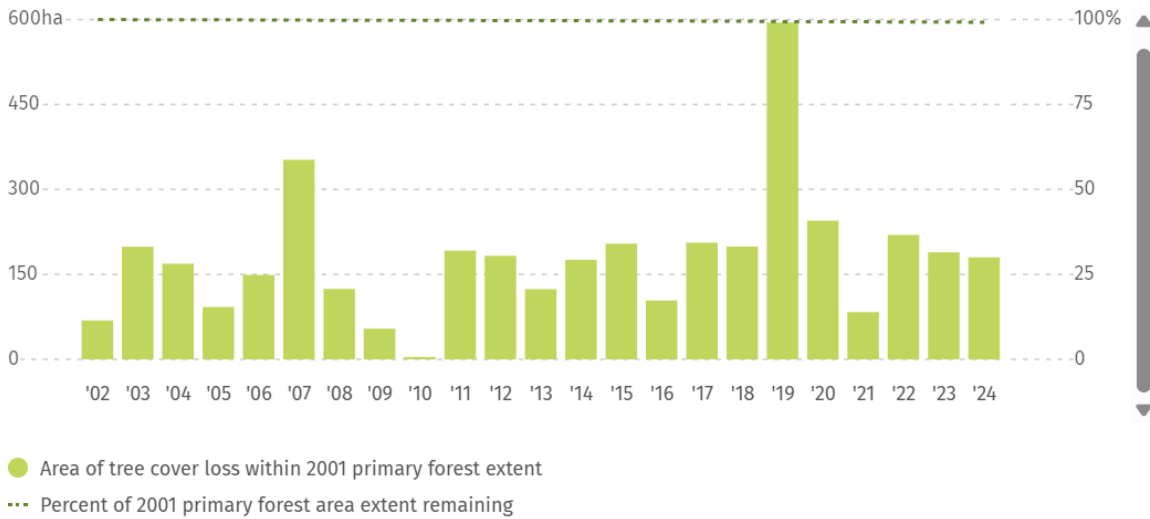


From **2001 to 2024**, Karnataka lost **57.4 kha** of tree cover, equivalent to a **2.5%** of the **2000** tree cover area, and **36.5 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

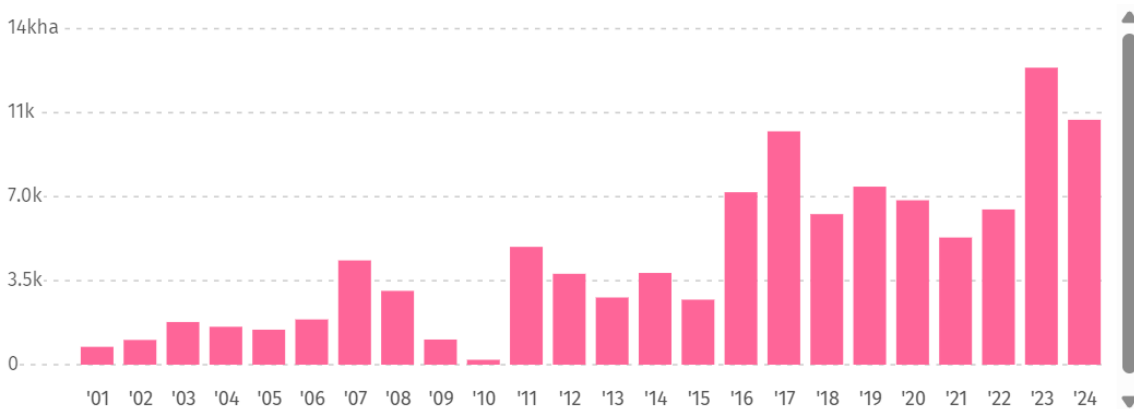


12. KERALA (Res. 16)

From **2002** to **2024**, Kerala lost **4.11 kha** of humid primary forest, making up **3.9%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Kerala decreased by 0.79%** in this time period.

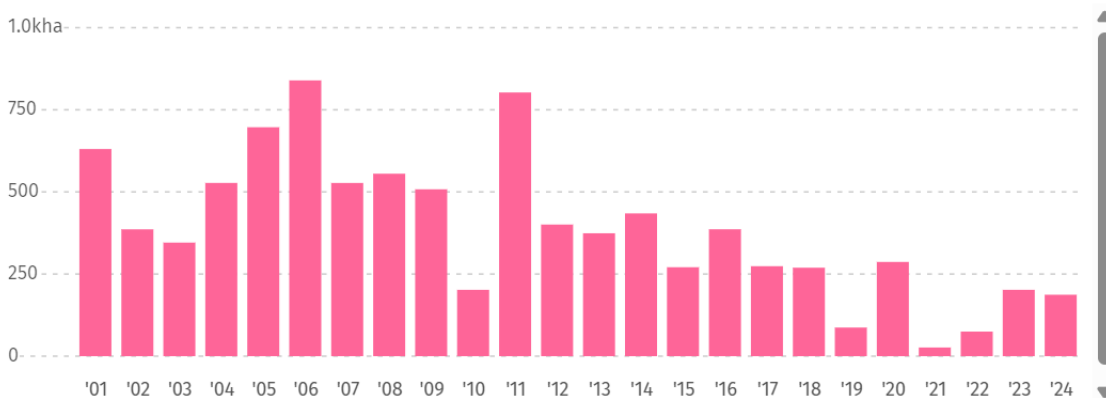


From **2001** to **2024**, Kerala lost **107 kha** of tree cover, equivalent to a **4.1%** of the **2000** tree cover area, and **67.6 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.



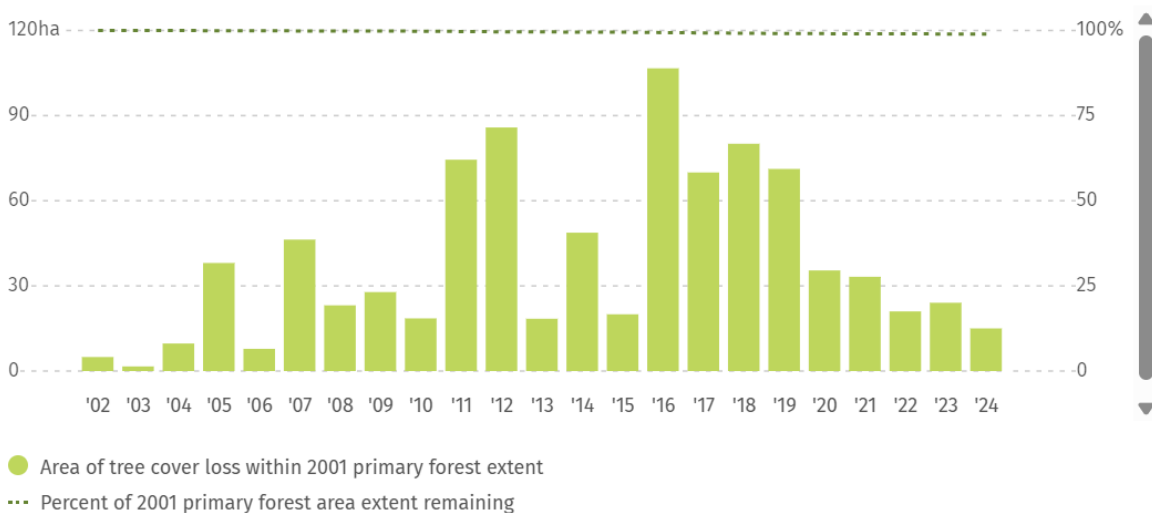
13. MADHYA PRADESH (Res. 17)

From **2001 to 2024, Madhya Pradesh** lost **9.29 kha** of tree cover, equivalent to a **0.86%** of the **2000** tree cover area, and **4.48 Mt** of CO_{2e} emissions. This does not account for gains in tree cover over the same period.

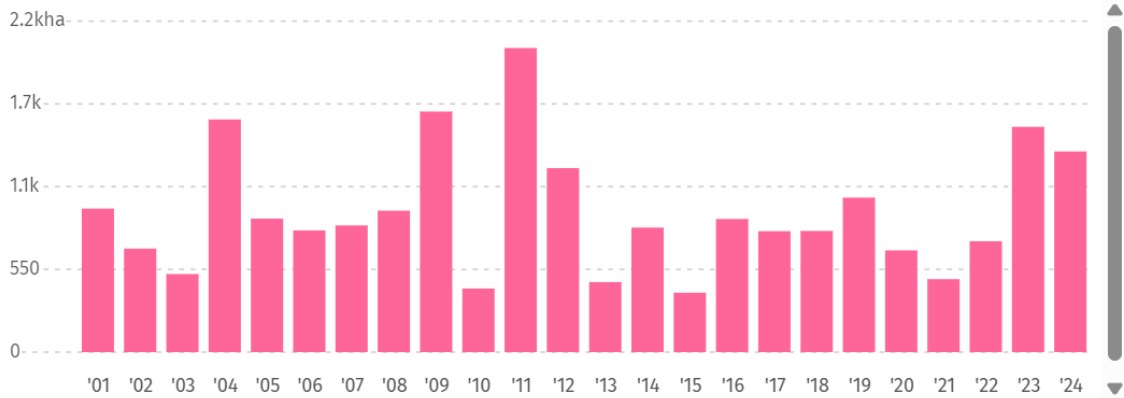


14. MAHARASHTRA (Res.18)

From **2002 to 2024, Maharashtra** lost **882 ha** of humid primary forest, making up **4.1%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Maharashtra decreased by 1.0%** in this time period.

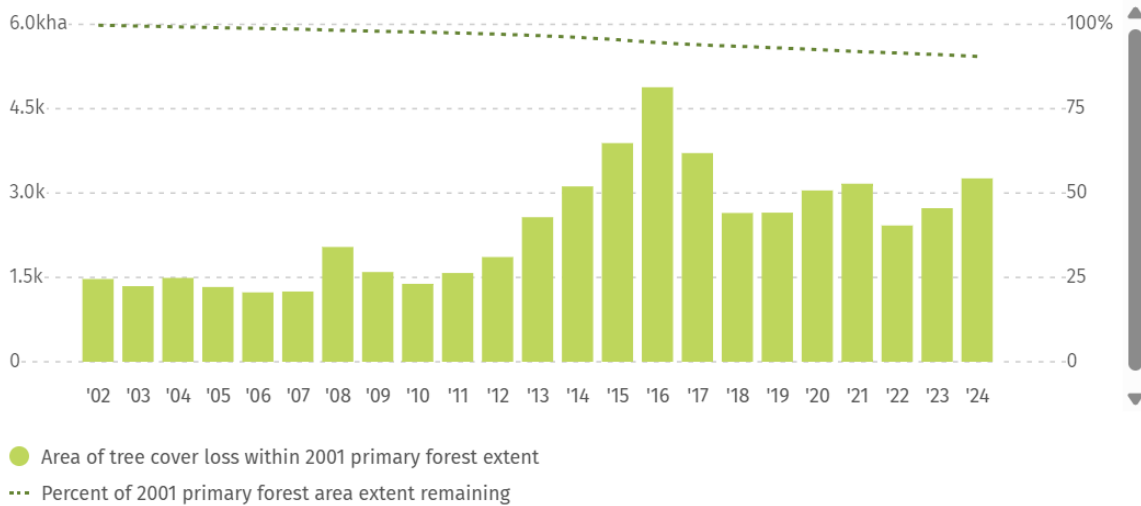


From **2001 to 2024, Maharashtra** lost **22.4 kha** of tree cover, equivalent to a **2.1%** of the **2000** tree cover area, and **10.8 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

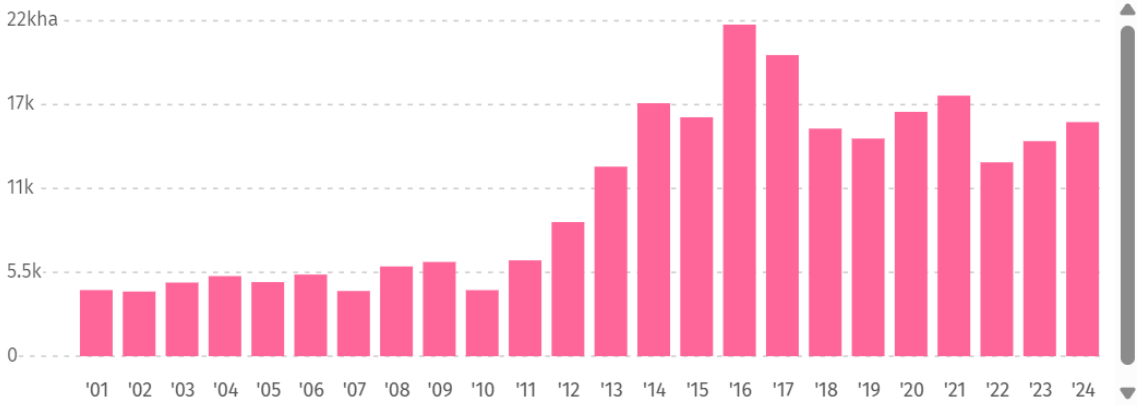


15. MANIPUR (Res.19)

From **2002 to 2024, Manipur** lost **54.7 kha of humid primary forest**, making up **22%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Manipur decreased by 9.5%** in this time period.

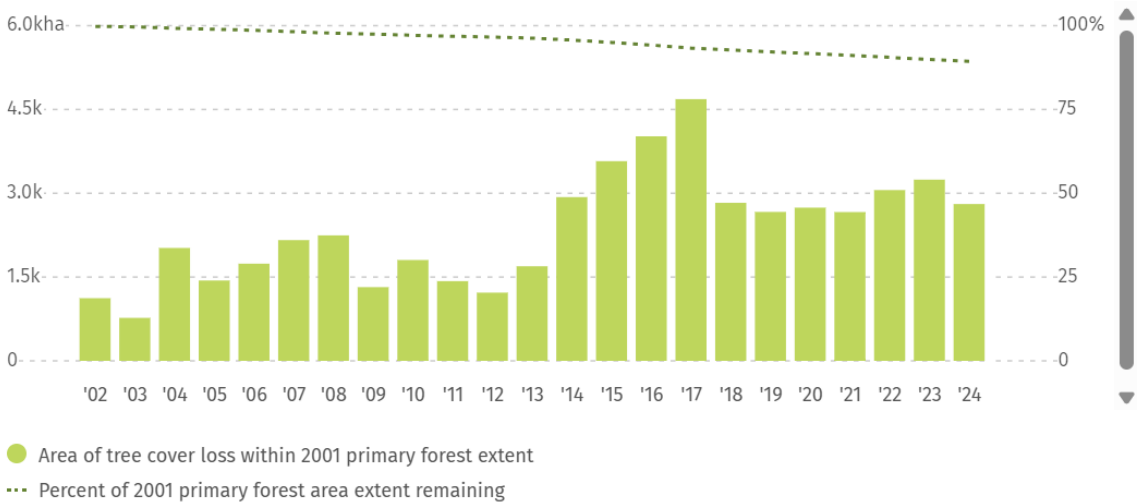


From **2001 to 2024**, **Manipur** lost **255 kha** of tree cover, equivalent to a **15%** of the **2000** tree cover area, and **150 Mt** of CO_{2e} emissions. This does not account for gains in tree cover over the same period.



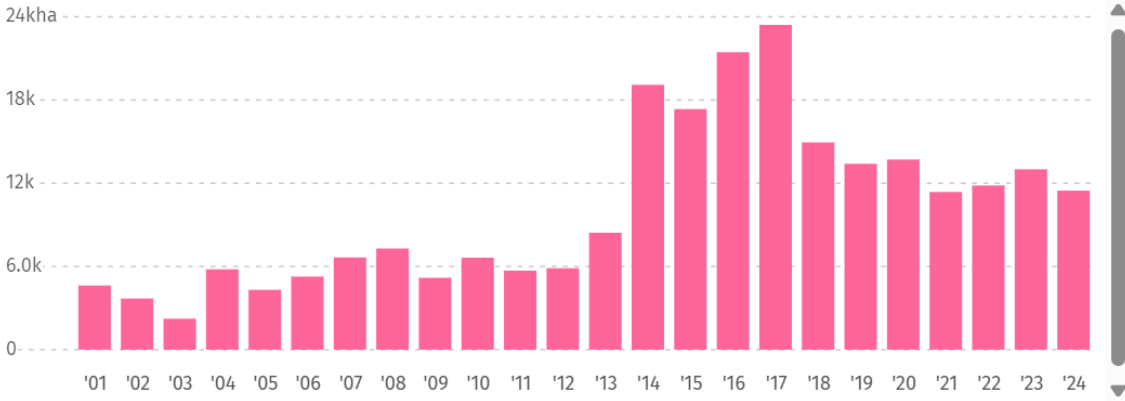
16. MEGHALYA (Res.20)

From **2002 to 2024**, **Meghalaya** lost **54.2 kha** of humid primary forest, making up **23%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Meghalaya decreased by 11%** in this time period.



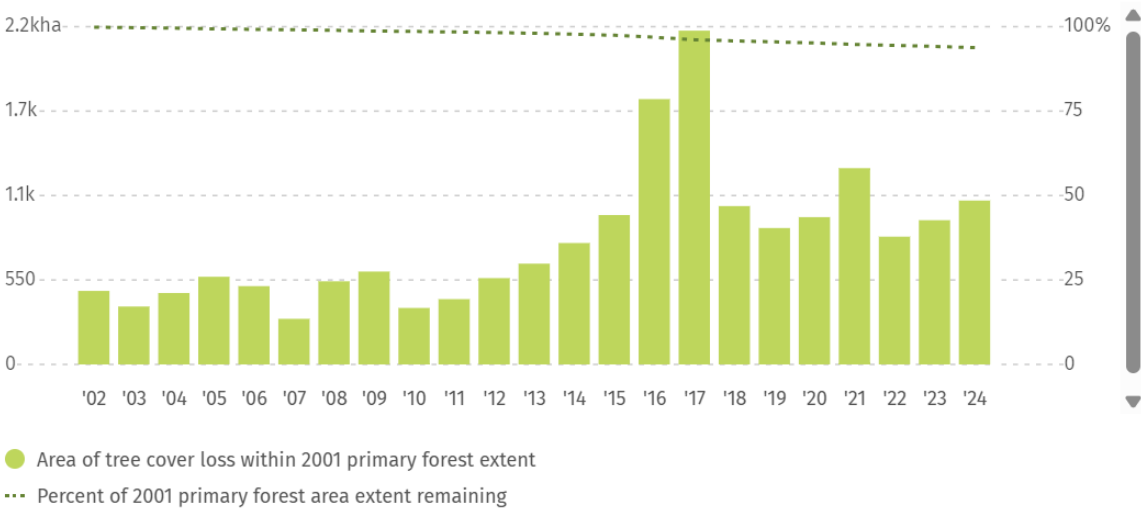
- Area of tree cover loss within 2001 primary forest extent
- ... Percent of 2001 primary forest area extent remaining

From **2001 to 2024, Meghalaya lost 243 kha** of tree cover, equivalent to a **14%** of the **2000** tree cover area, and **136 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

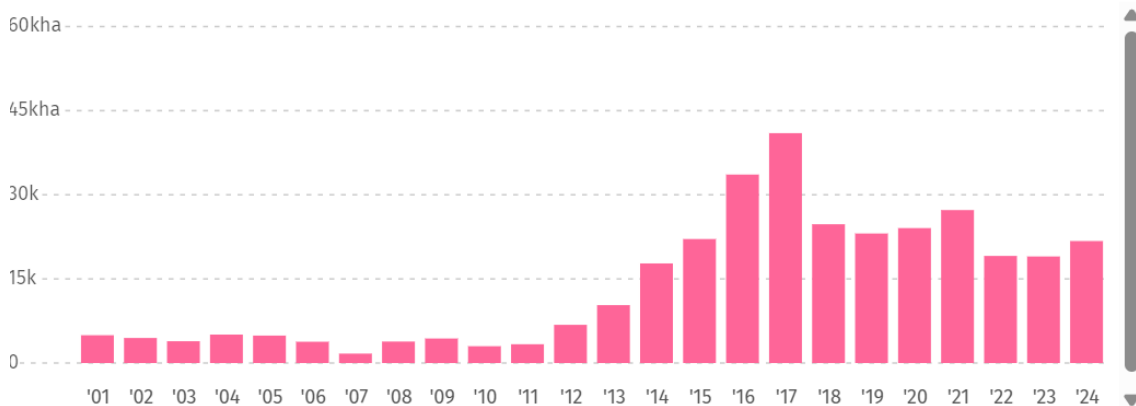


17. MIZORAM (Res. 21)

From **2002 to 2024, Mizoram lost 18.5 kha of humid primary forest**, making up **5.6%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Mizoram decreased by 6.2%** in this time period.



From **2001 to 2024, Mizoram lost 334 kha** of tree cover, equivalent to a **17%** of the **2000** tree cover area, and **194 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

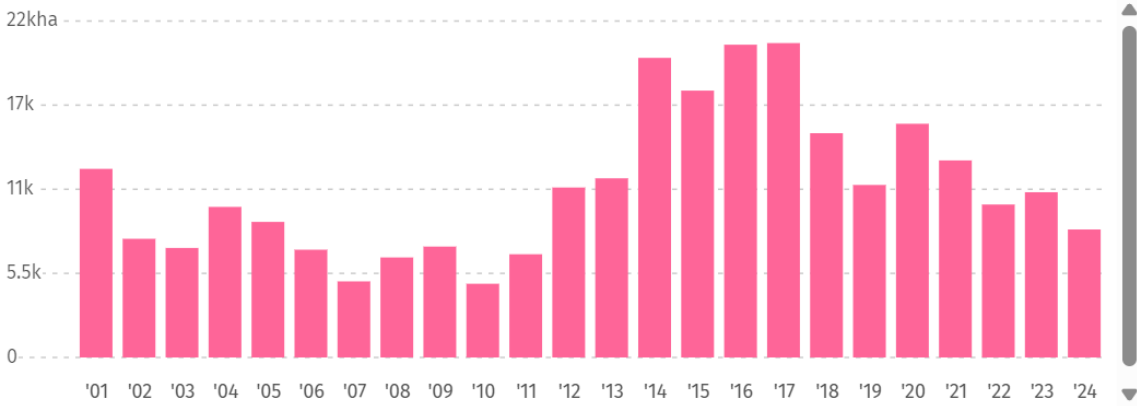


18. NAGALAND (Res.22)

From **2002 to 2024, Nagaland lost 35.4 kha of humid primary forest**, making up **14%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Nagaland decreased by 8.6%** in this time period.



From **2001 to 2024**, **Nagaland** lost **268 kha** of tree cover, equivalent to a **20%** of the **2000** tree cover area, and **161 Mt** of CO_{2e} emissions. This does not account for gains in tree cover over the same period.

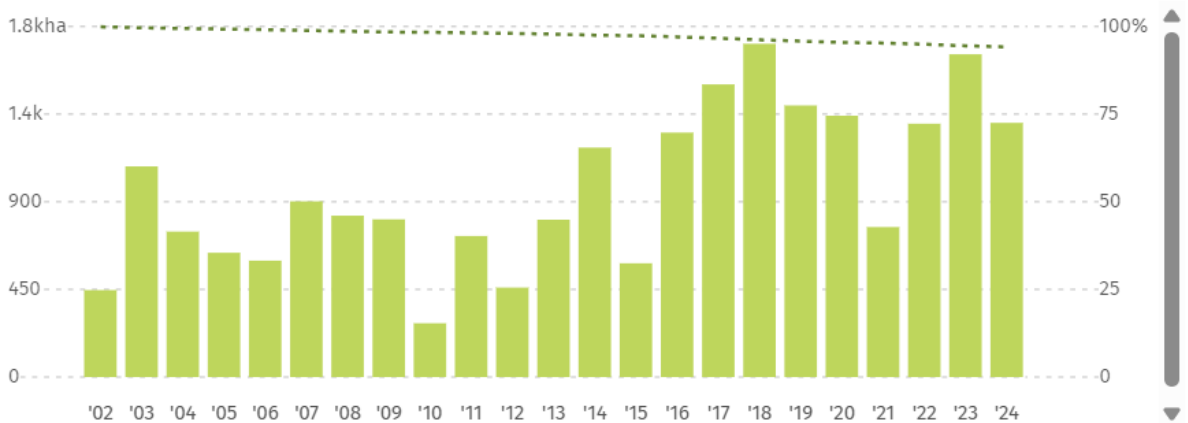


19. ODISHA (Res. 23)

PRIMARY FOREST LOSS IN ODISHA, INDIA



From **2002 to 2024**, **Odisha** lost **22.3 kha** of humid primary forest, making up **15%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Odisha decreased by 5.9%** in this time period.

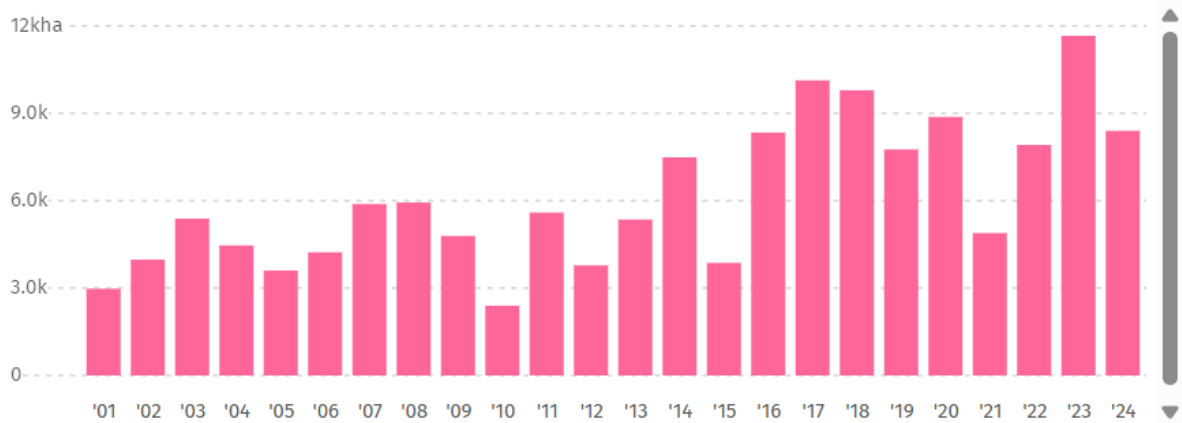


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN ODISHA, INDIA



From **2001** to **2024**, **Odisha** lost **147 kha** of tree cover, equivalent to a **5.5%** of the **2000** tree cover area, and **72.0 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

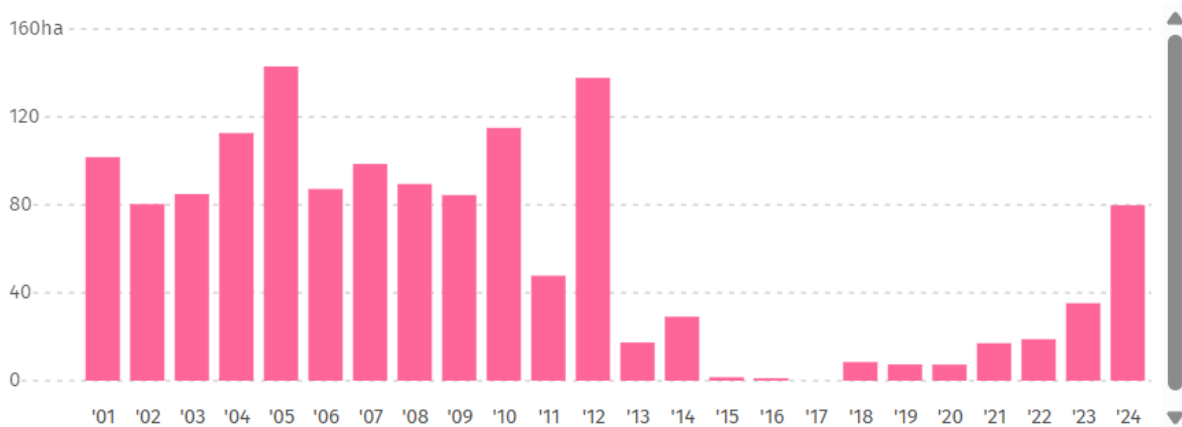


20. PUNJAB (Res.24)

TREE COVER LOSS IN PUNJAB, INDIA



From **2001** to **2024**, **Punjab** lost **1.41 kha** of tree cover, equivalent to a **1.9%** of the **2000** tree cover area, and **717 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

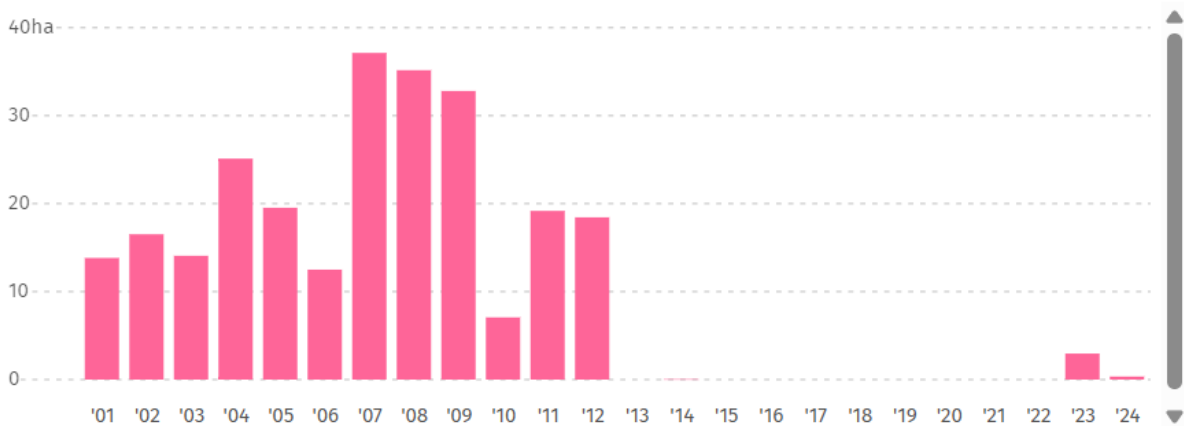


21. RAJASTHAN (Res. 25)

TREE COVER LOSS IN RAJASTHAN, INDIA



From **2001** to **2024**, **Rajasthan** lost **255 ha** of tree cover, equivalent to a **2.1%** of the **2000** tree cover area, and **107 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

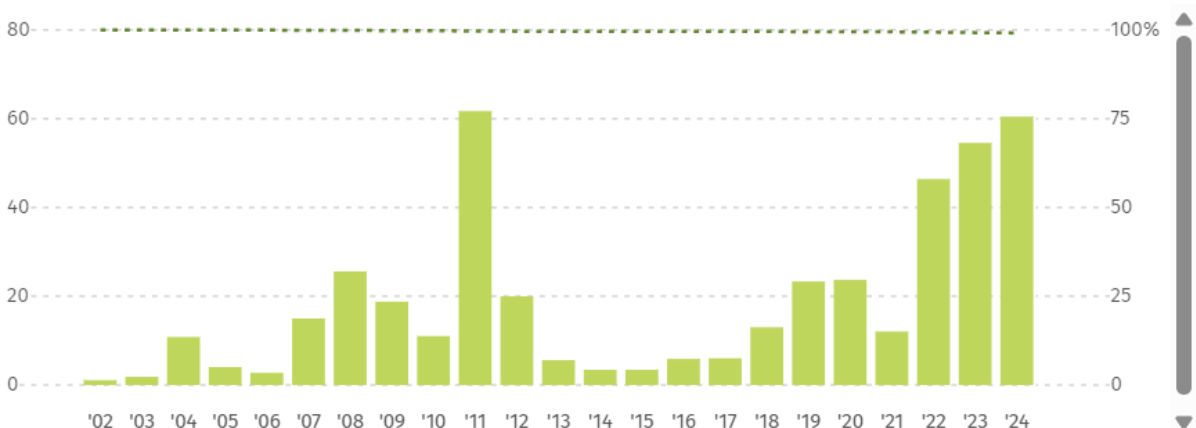


22. SIKKIM (Res. 26)

PRIMARY FOREST LOSS IN SIKKIM, INDIA



From **2002** to **2024**, **Sikkim** lost **431 ha** of humid primary forest, making up **20%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Sikkim decreased by 0.85%** in this time period.



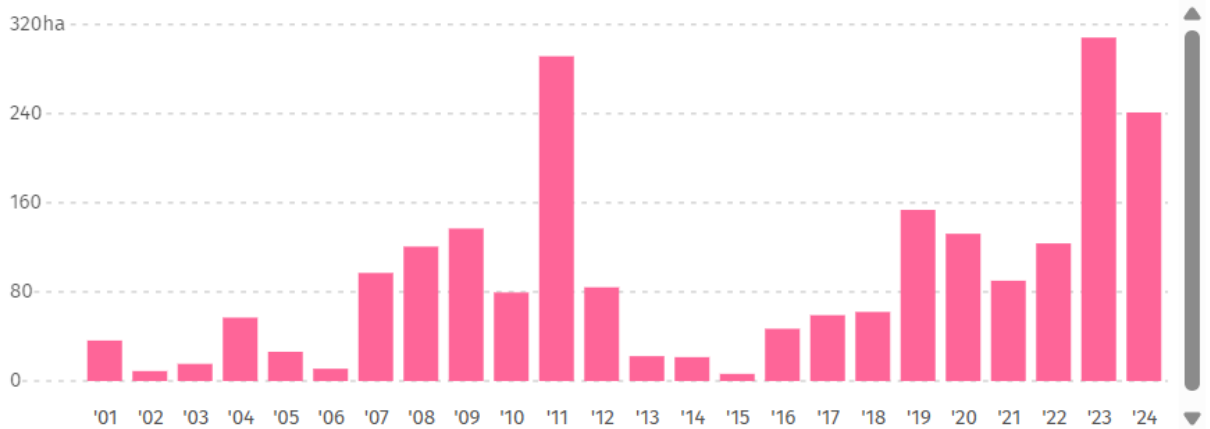
● Area of tree cover loss within 2001 primary forest extent

⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN SIKKIM, INDIA



From **2001 to 2024**, Sikkim lost **2.23 kha** of tree cover, equivalent to a **0.89%** of the **2000** tree cover area, and **1.20 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

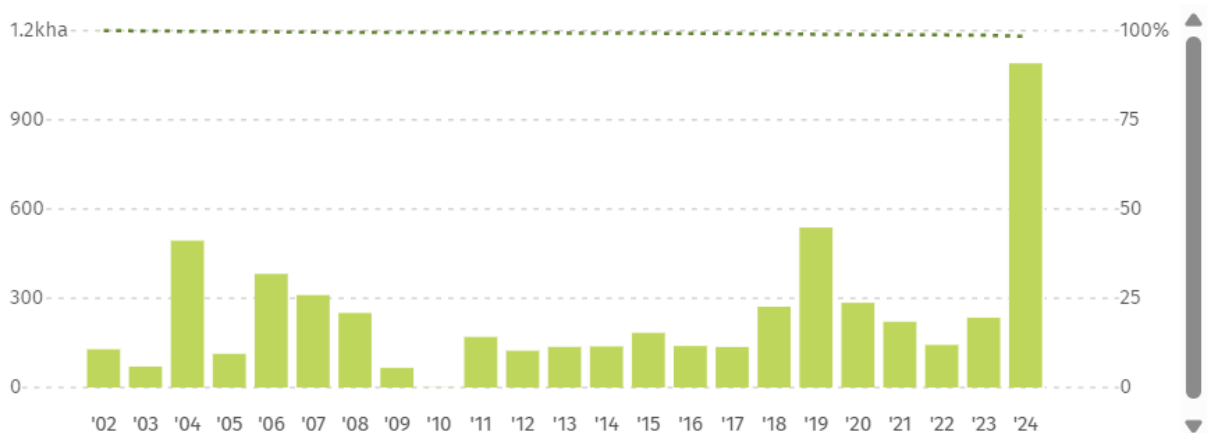


23. TAMIL NADU (Res. 27)

PRIMARY FOREST LOSS IN TAMIL NADU, INDIA



From **2002 to 2024**, Tamil Nadu lost **5.63 kha** of humid primary forest, making up **18%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Tamil Nadu decreased by 1.6%** in this time period.

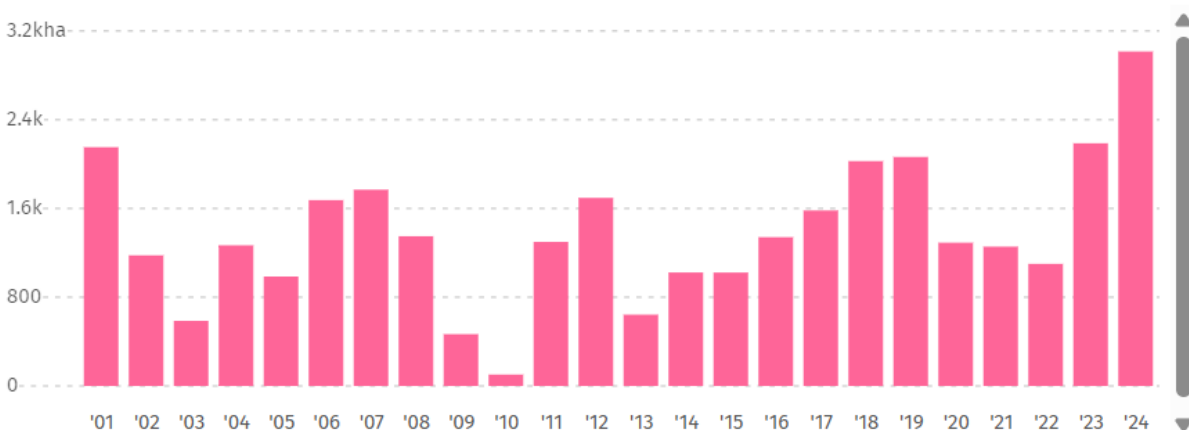


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN TAMIL NADU, INDIA



From **2001** to **2024**, **Tamil Nadu** lost **33.1 kha** of tree cover, equivalent to a **2.7%** of the **2000** tree cover area, and **18.6 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

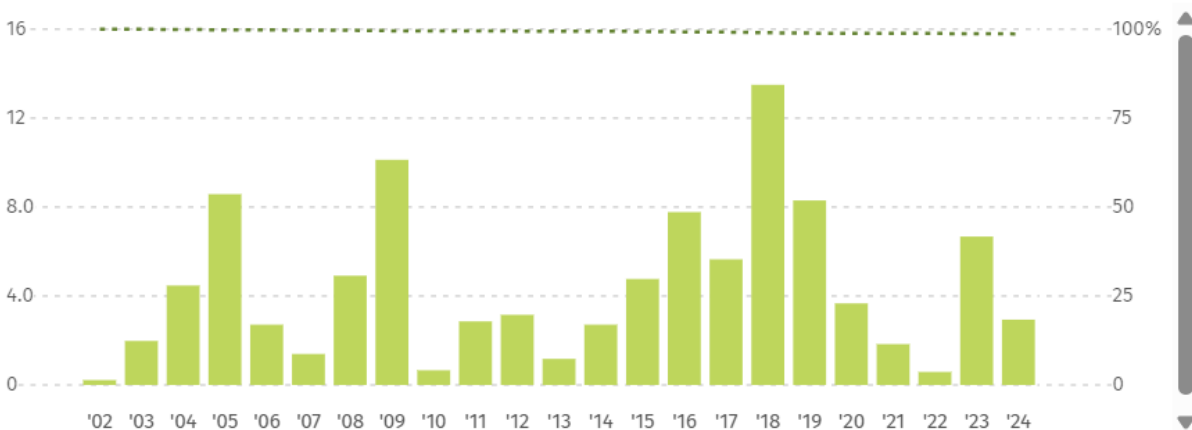


24. TELANGANA (Res. 28)

PRIMARY FOREST LOSS IN TELANGANA, INDIA



From **2002** to **2024**, **Telangana** lost **101 ha** of humid primary forest, making up **0.24%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Telangana decreased by 1.3%** in this time period.

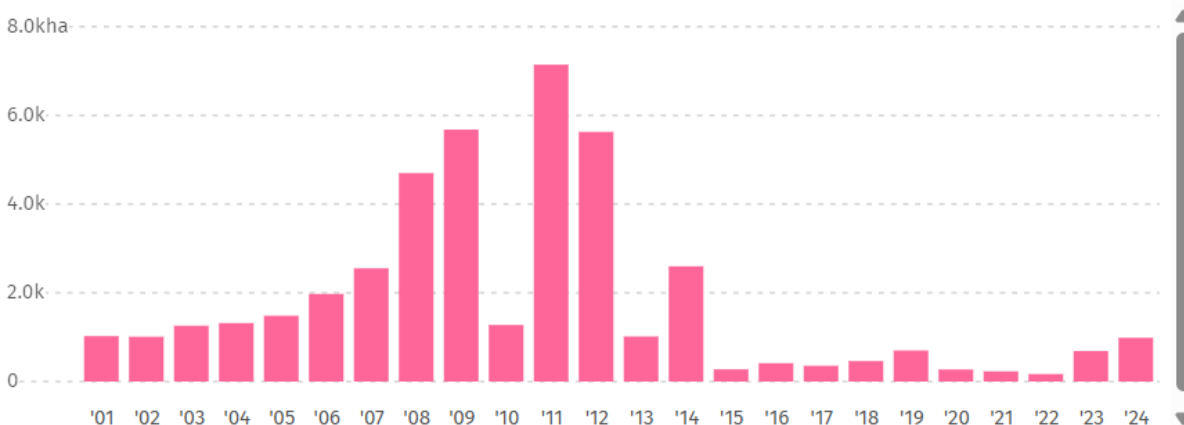


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN TELANGANA, INDIA



From **2001 to 2024**, **Telangana** lost **43.2 kha** of tree cover, equivalent to a **6.5%** of the **2000** tree cover area, and **16.9 Mt** of CO_{2e} emissions. This does not account for gains in tree cover over the same period.

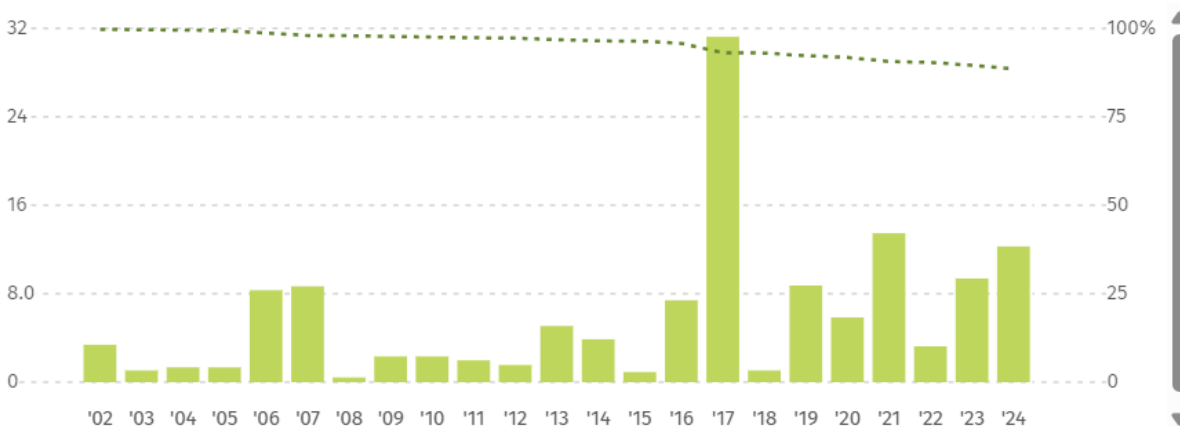


25. TRIPURA (Res. 29)

PRIMARY FOREST LOSS IN TRIPURA, INDIA



From **2002 to 2024**, **Tripura** lost **135 ha** of humid primary forest, making up **< 0.1%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Tripura decreased by 11%** in this time period.

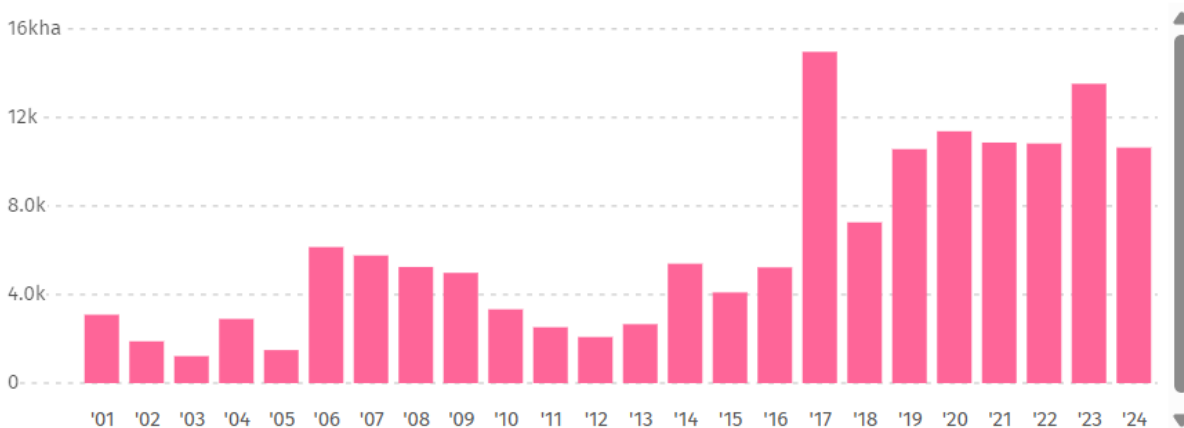


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN TRIPURA, INDIA



From **2001 to 2024**, Tripura lost **148 kha** of tree cover, equivalent to a **22%** of the **2000** tree cover area, and **81.9 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

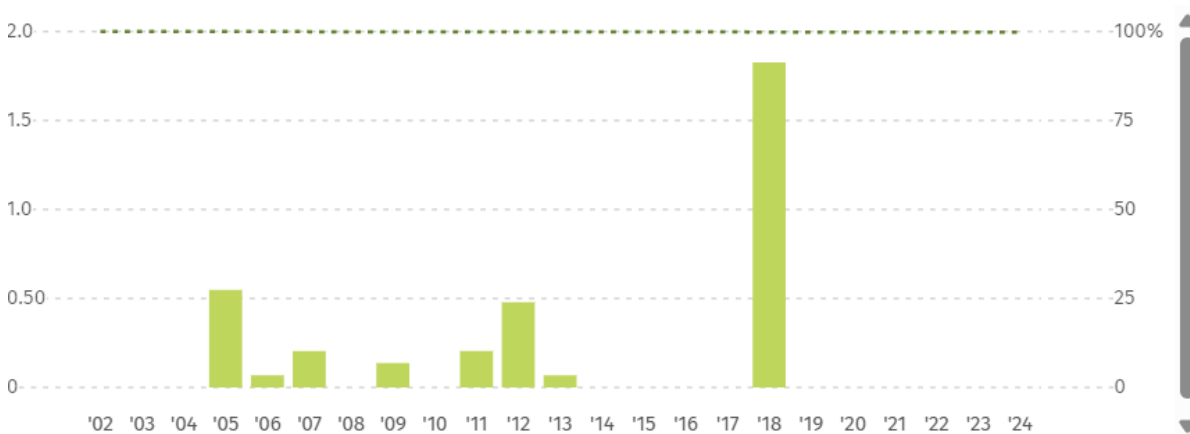


26. UTTAR PRADESH (Res.30)

PRIMARY FOREST LOSS IN UTTAR PRADESH, INDIA



From **2002 to 2024**, Uttar Pradesh lost **4 ha** of humid primary forest, making up **< 0.1%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Uttar Pradesh decreased by 0.21%** in this time period.

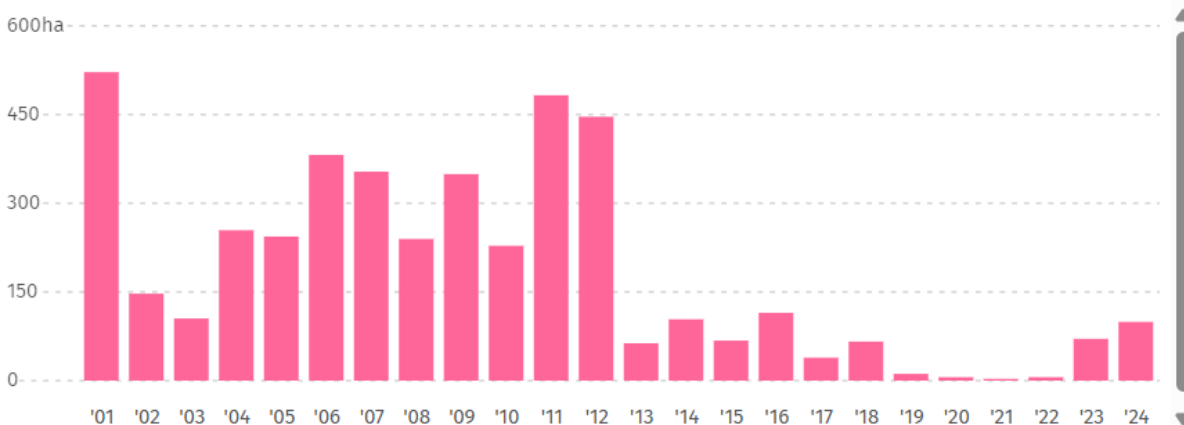


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN UTTAR PRADESH, INDIA



From **2001 to 2024**, **Uttar Pradesh** lost **4.40 kha** of tree cover, equivalent to a **1.2%** of the **2000** tree cover area, and **2.09 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

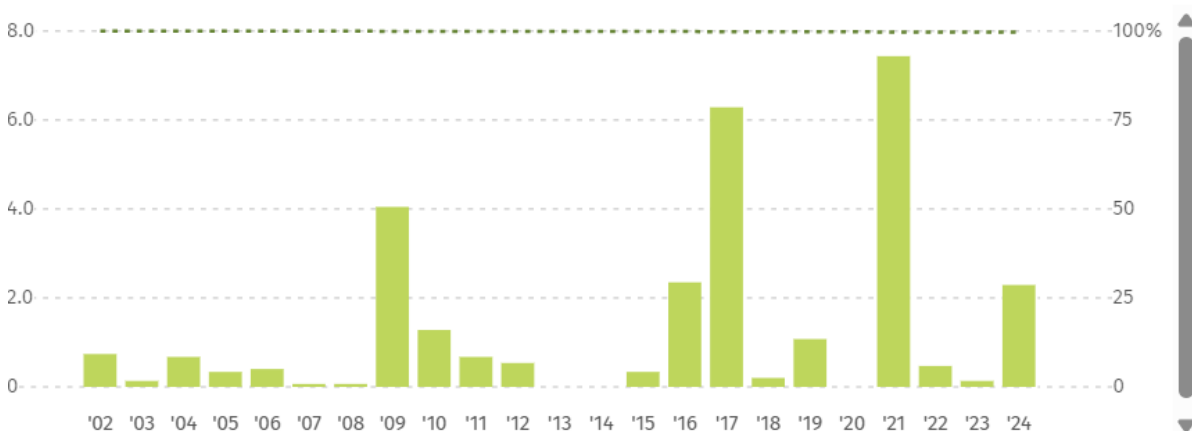


27. UTTARAKHAND (Res. 31)

PRIMARY FOREST LOSS IN UTTARAKHAND, INDIA



From **2002 to 2024**, **Uttarakhand** lost **30 ha** of humid primary forest, making up **0.13%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Uttarakhand decreased by 0.32%** in this time period.

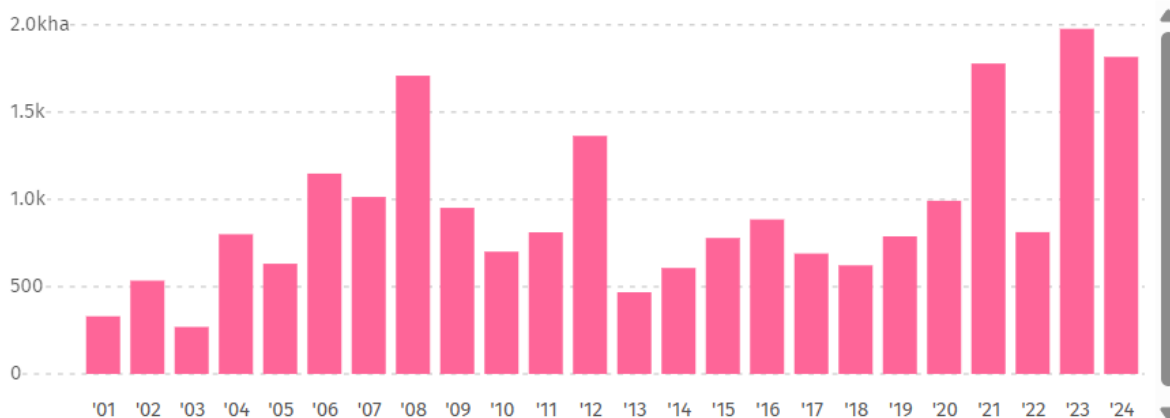


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN UTTARAKHAND, INDIA



From **2001 to 2024**, Uttarakhand lost **22.5 kha** of tree cover, equivalent to a **1.2%** of the **2000** tree cover area, and **13.9 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

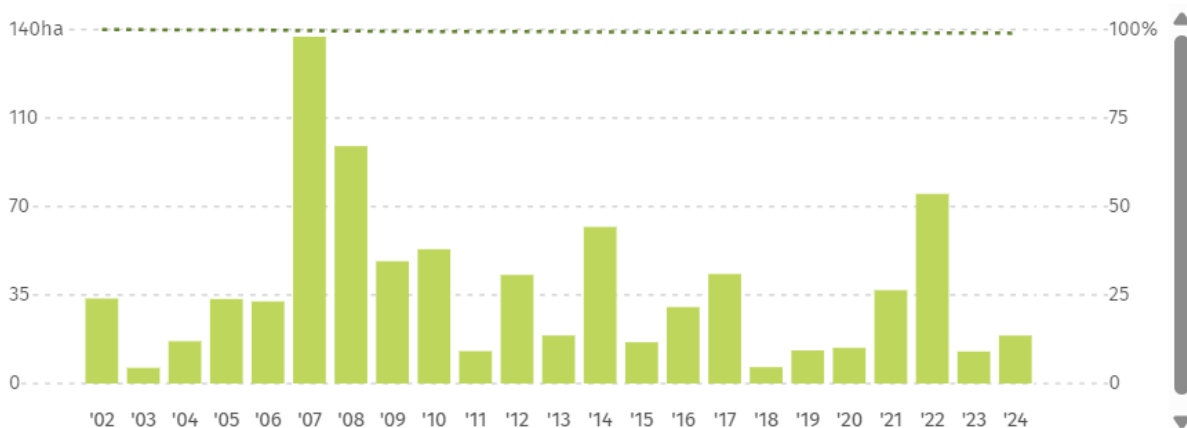


28. WEST BENGAL (Res.32)

PRIMARY FOREST LOSS IN WEST BENGAL, INDIA



From **2002 to 2024**, West Bengal lost **859 ha** of humid primary forest, making up **5.7%** of its total tree cover loss in the same time period. **Total area of humid primary forest in West Bengal decreased by 1.0%** in this time period.

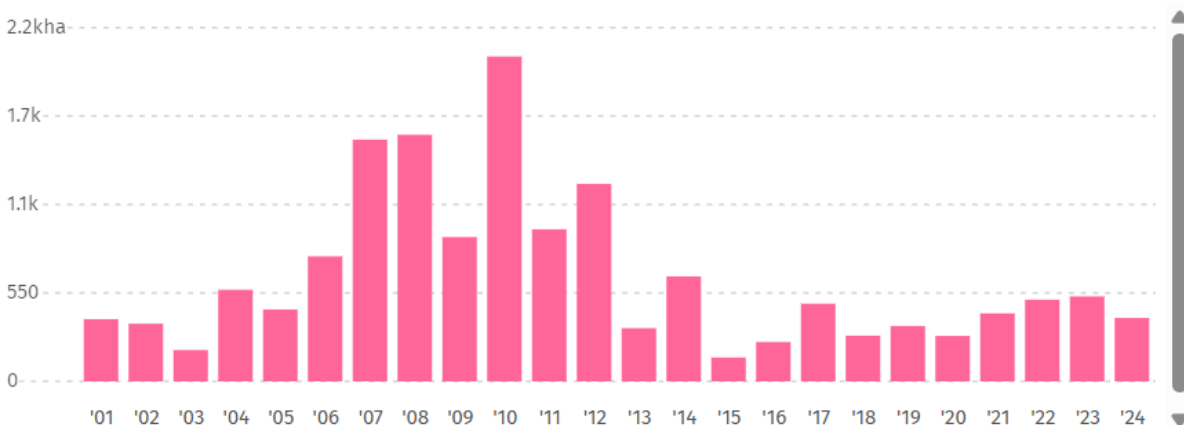


- Area of tree cover loss within 2001 primary forest extent
- Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN WEST BENGAL, INDIA



From **2001 to 2024**, **West Bengal** lost **15.5 kha** of tree cover, equivalent to a **3.8%** of the **2000** tree cover area, and **7.96 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

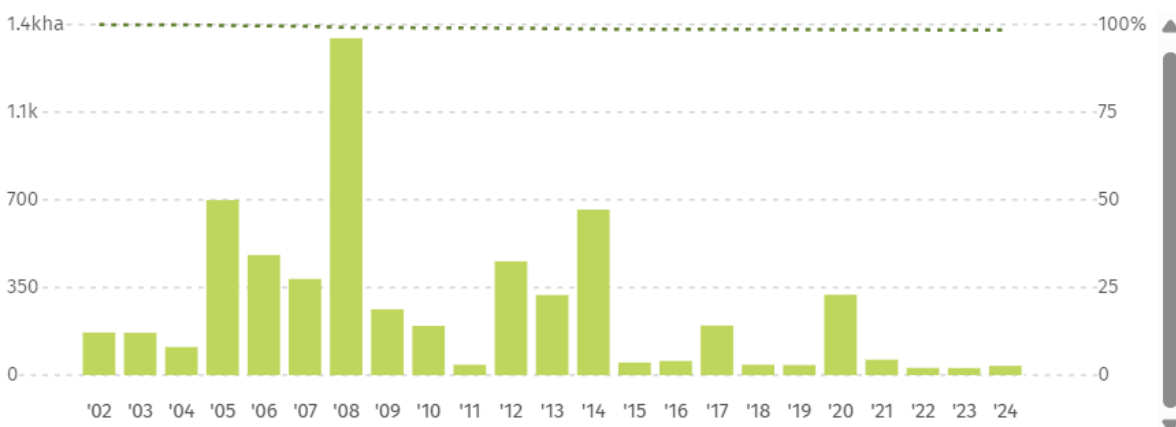


29. ANDAMAN & NICOBAR ISLANDS (Res.33)

PRIMARY FOREST LOSS IN ANDAMAN AND NICOBAR, INDIA



From **2002 to 2024**, **Andaman and Nicobar** lost **6.16 kha** of humid primary forest, making up **36%** of its total tree cover loss in the same time period. **Total area of humid primary forest in Andaman and Nicobar decreased by 1.5%** in this time period.

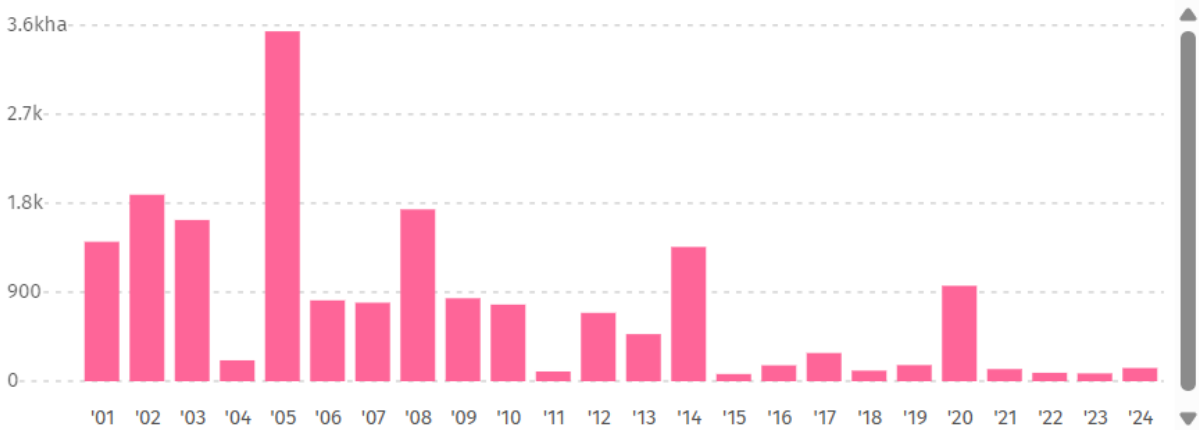


- Area of tree cover loss within 2001 primary forest extent
- ⋯ Percent of 2001 primary forest area extent remaining

TREE COVER LOSS IN ANDAMAN AND NICOBAR, INDIA



From **2001** to **2024**, **Andaman and Nicobar** lost **18.4 kha** of tree cover, equivalent to a **2.7%** of the **2000** tree cover area, and **11.4 Mt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

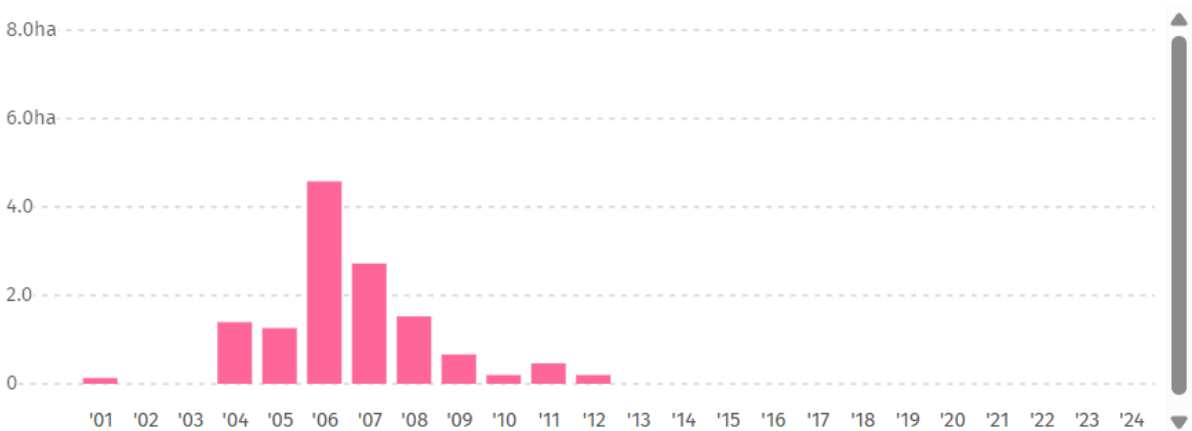


30. CHANDIGARH (Res.34)

TREE COVER LOSS IN CHANDIGARH, INDIA



From **2001** to **2024**, **Chandigarh** lost **13 ha** of tree cover, equivalent to a **1.9%** of the **2000** tree cover area, and **5.64 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

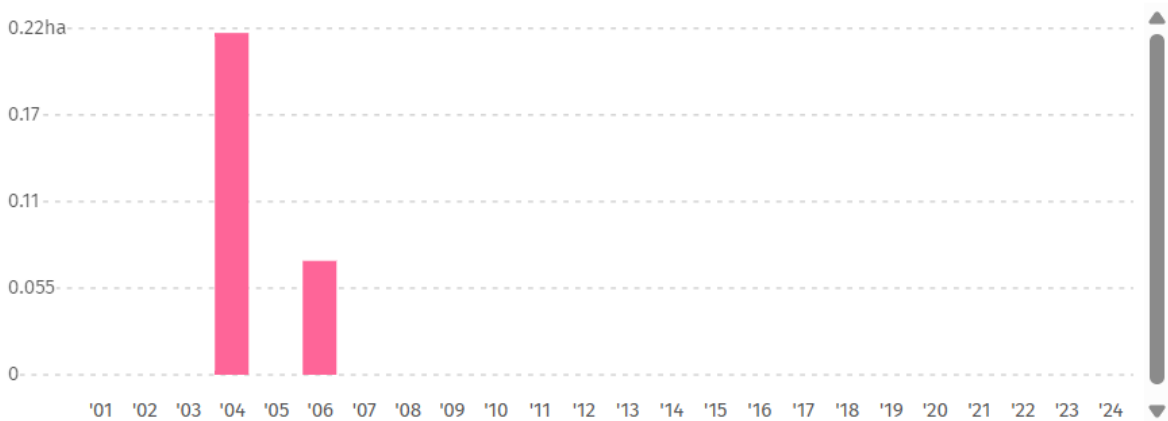


31 DADRA AND NAGAR HAVELI AND DAMAN AND DIU (Res.35)

TREE COVER LOSS IN DADRA AND NAGAR HAVELI, INDIA



From **2001** to **2024**, **Dadra and Nagar Haveli** lost **< 1 ha** of tree cover, equivalent to a **< 0.1%** of the **2000** tree cover area, and **222 t** of CO₂e emissions. This does not account for gains in tree cover over the same period.

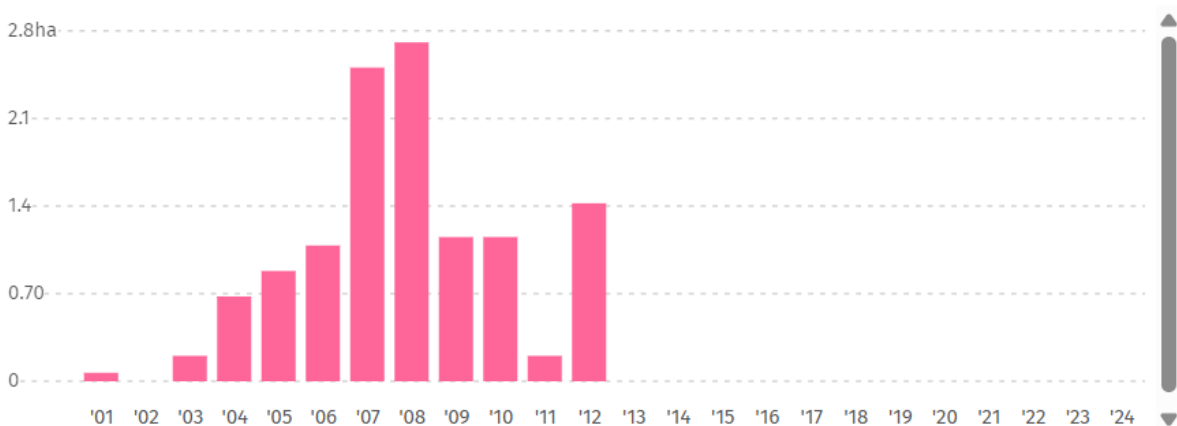


32. DELHI (Res.37)

TREE COVER LOSS IN NCT OF DELHI, INDIA



From **2001** to **2024**, **NCT of Delhi** lost **12 ha** of tree cover, equivalent to a **4.6%** of the **2000** tree cover area, and **4.69 kt** of CO₂e emissions. This does not account for gains in tree cover over the same period.

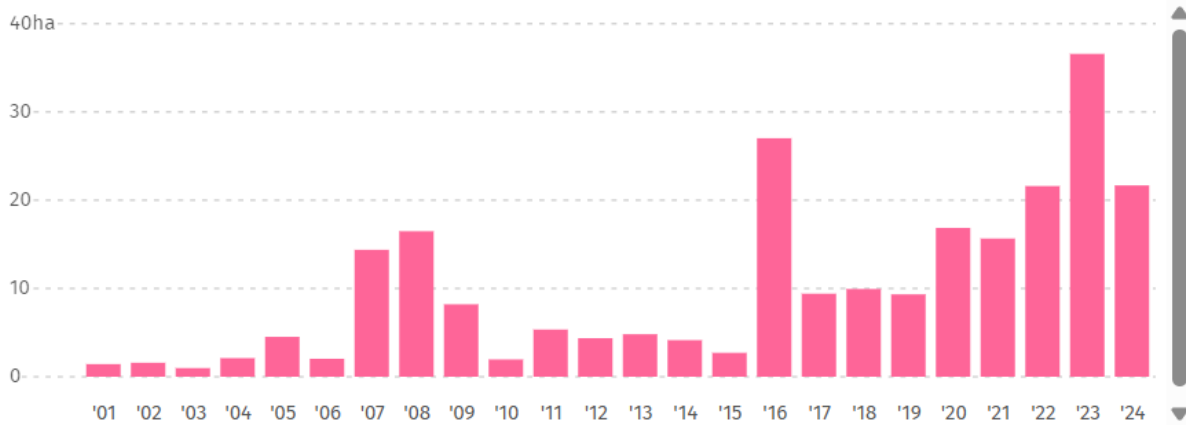


33. PUDDUCHERRY (Res.38)

TREE COVER LOSS IN PUDUCHERRY, INDIA

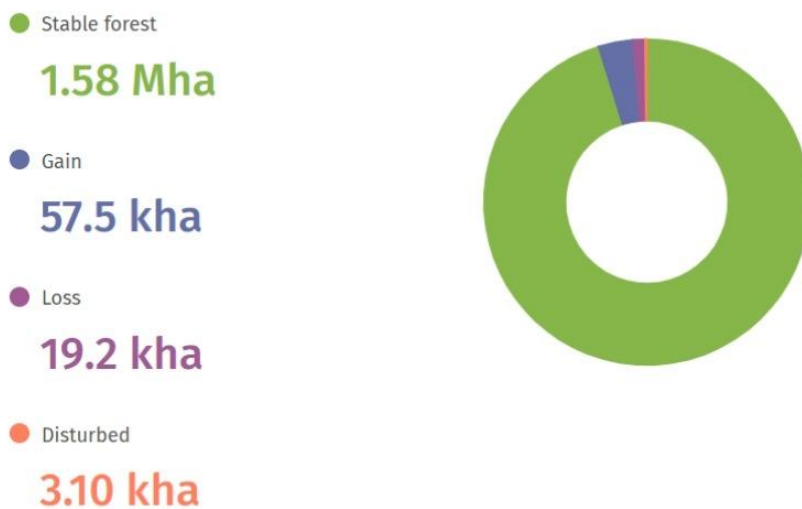


From **2001** to **2024**, Puducherry lost **243 ha** of tree cover, equivalent to a **3.5%** of the **2000** tree cover area, and **150 kt** of CO_{2e} emissions. This does not account for gains in tree cover over the same period.



34. JAMMU AND KASHMIR (Res.40)

From 2000 to 2020, Jammu and Kashmir experienced a net change of **38.3 kha** (2.4%) in tree cover.



| STATES | DRIVERS OF DEFORESTATION | | | FACTORS OF TEMPORARY DISTURBANCES | | | |
|-------------------|--------------------------|-----------------------|-----------------------------|-----------------------------------|----------------------------|----------|----------------------|
| | Hard Commodities | Permanent agriculture | Settlement & Infrastructure | Logging | Other natural disturbances | Wildfire | Shifting Cultivation |
| Andhra Pradesh | 23 ha | 26.8 kha | 214 ha | 1.43 kha | 42 ha | 95 ha | 12.7 kha |
| Arunachal Pradesh | 4.12 kha | 49.7 kha | 1.17 kha | 8.75 kha | 8.16 kha | 16 ha | 48.2 kha |
| Assam | 1.28 kha | 114 kha | 3.39 kha | 21.8 kha | 8.11 kha | 480 ha | 189 kha |
| Bihar | 67 ha | 458 ha | 35 ha | 31 ha | 189 ha | 8 ha | 21 ha |
| Chhattisgarh | 522 ha | 27.4 kha | 214 ha | 3.51 kha | 261 ha | 324 ha | 22.3 kha |
| Goa | 235 ha | 504 ha | 26 ha | 33 ha | 8 ha | 8 ha | 57 ha |
| Gujarat | 0 ha | 52 ha | 2 ha | 4 ha | <1 ha | <1ha | |
| Haryana | <1 ha | 217 ha | 40 ha | 12 ha | 20 ha | 8 ha | |
| Himachal Pradesh | 166 ha | 940 ha | 711 ha | 965 ha | 625 ha | 734 ha | 5 ha |
| Jharkhand | 381 ha | 3.26 kha | 24 ha | 342 ha | 25 ha | 151 ha | 1.64 kha |
| Karnataka | 148 ha | 44.7 kha | 1.91 kha | 8.42 kha | 388 ha | 65 ha | 593 ha |
| Kerala | 96 ha | 84.9 kha | 7.96 kha | 9.46 kha | 534 ha | 22 ha | 2.56 kha |
| Madhya Pradesh | 152 ha | 2.83 kha | 19 ha | 4.59 kha | 81 ha | 58 ha | 614 ha |
| Maharashtra | 84 ha | 13.0 kha | 27 ha | 4.17 kha | 160 ha | 646 ha | 3.07 kha |
| Manipur | 1.31 kha | 11.0 kha | 1.93 kha | 18.7 kha | 1.49 kha | 112 ha | 220 kha |
| Meghalaya | 2.08 kha | 32.3 kha | 3.19 kha | 26.4 kha | 472 ha | 82 ha | 178 kha |
| Mizoram | 2.94 kha | 7.82 kha | 1.13 kha | 2.73 kha | 1.02 kha | <1 ha | 318 kha |
| Nagaland | 521 ha | 17.0 kha | 2.42 kha | 44.2 kha | 1.32 kha | 68 ha | 202 kha |
| Odisha | 1.28 kha | 48.1 kha | 77 ha | 3.44 kha | 180 ha | 477 ha | 91.8 kha |
| Punjab | 4 ha | 633 ha | 82 ha | 56 ha | 96 ha | 21 ha | <1 ha |
| Rajasthan | | 112 ha | 4 ha | 15 ha | 5 ha | 15 ha | |
| Sikkim | 196 ha | 31 ha | 614 ha | 232 ha | 835 ha | 61 ha | |
| Tamil Nadu | 6 ha | 23.5 kha | 1.13 kha | 3.90 kha | 389 ha | 2.09 kha | 552 ha |
| Telangana | 252 ha | 40.9 kha | 25 ha | 301 ha | 235 ha | 186 ha | 530 ha |
| Tripura | | 45.5 kha | 1.75 kha | 2.55 kha | 670 ha | 9 ha | 97.4 kha |
| Uttar Pradesh | 26 ha | 1.88 kha | 126 ha | 443 ha | 459 ha | 68 ha | 27 ha |
| Uttarakhand | 147 ha | 7.96 kha | 1.30 kha | 7.84 kha | 1.80 kha | 1.40 kha | 283 ha |
| West Bengal | | 9.18 kha | 556 ha | 3.28 kha | 1.41 kha | 11 ha | 175 ha |

| | | | | | | | |
|-----------------------------|-------|----------|--------|----------|----------|----------|----------|
| Andaman and Nicobar Islands | 92 ha | 5.13 kha | 458 ha | 4.08 kha | 6.07 kha | 1.12 kha | 1.04 kha |
| Chandigarh | | 2 ha | 8 ha | | | | |
| Dadra & Nagar Haveli | | | | | | | |
| Lakshadweep | | | | | | | |
| Delhi | | 1 ha | 7 ha | | | | |
| Puducherry | | 190 ha | 44 ha | 4 ha | | | |
| Ladakh | | | | | | | |
| Jammu & Kashmir | | | | | | | |

Source: Global Forest Watch (2001-2024)

RESPONSES SUBMITTED BY STATES FOR ORDER DATED

| S.No | Res. No. | Party | Change | Remarks (factors responsible for changes) | Action Taken |
|------|----------|--|--|---|---|
| 1. | 35 | Dadra and Nagar Haveli and Daman and Diu | According to the Indian State of Forest Report (ISFR) from 2001 to 2021 the forest cover has remained largely stable | Marginal Changes Due to- a) Linear infrastructure projects (<i>decrease</i>) b) Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act,2006 (<i>increase</i>) c) Shifting Cultivation (<i>decrease</i>) d) Natural Disturbances such as cyclonic winds, seasonal forest fires and drought (<i>decrease</i>) e) Silvicultural interventions (<i>increase</i>) | a) Compensatory and Urban Afforestation b) Forest Fire Mitigation c) Soil and Moisture Conservation d) Community Participation e) GIS and Remote Sensing-Based Monitoring f) Regulatory Measures |
| 2. | 39 | Ladakh | No significant tree loss has been reported in the UT of Ladakh during the period under consideration i.e. from 2000 , except for some forest areas diverted under the provisions of forest (conservation) act - 1980/ van (sanrakshan evam samvardhan) adhiniyam 1980. | | a) Extensive Tree Plantation Drive b) Sustainable Agroforestry Practises c) Protection of Existing Forests d) Constituted a State Expert Committee in the matter of Ashok Kumar Sharma v. Union of India |

| | | | | | |
|----|-----------|--|---|--|---|
| | | | | | & Ors. and other related matters |
| 3. | 41,4 2 | 41. Secretary, Department of Forests and Wildlife Preservation, Government of Punjab 42. Principal Chief Conservator of Forest, Department of Forest and Wild Life Preservation, Punjab | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 the percentage of geographical area of forest cover decreased from 4.80 to 3.67 . The percentage of geographical area of tree cover has also decreased from 3.20 to 2.92 . | | |
| 4. | 1 | Central Pollution Control Board | . | | A Joint Committee has been formed by the Hon'ble NGT in the matter of Prof. Dr. Sanjeev Bagai & Ors. Vs Department of Environment, GNCTD & Ors. |
| 5. | 20 | Meghalaya | Percentage Loss of forest due to encroachment as on March 2025 is 0.44% | Encroachment of Forest and Tree cover. | Steps to reduce Encroachment of Forest a) Government owned Recorded forest areas have been digitised. b) Advanced technological interventions |

| | | | | | |
|----|----|-----------------------------|---|--|--|
| | | | | | c) Cognizance of Encroachment of forest lands and registering of offence reports under BNSS |
| 6. | 33 | Andaman and Nicobar Islands | As per the data of Indian State of Forest Report from 2001 to 2021 the forest cover has reduced from 6930 km² to 6744 km² . For the same time period the tree cover changed from 83 km² to 23 km² . | Loss in Forest Cover is due to drying up of mangroves and as a consequence of tsunami. | a) Reintegration of forest areas lost during the tsunami b) Afforestation and Conservation initiatives. |
| 7. | 12 | Haryana | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 the forest cover has reduced from 4% to 3.65% . Whereas the tree cover has increased from 3.4% to 3.83% during the same period. | | Environment and plantation drive is being initiated in the monsoon period of each year. |
| 8. | 3 | Surveyor General of India | | The current party is not the custodian of the data that was asked to provide by this hon'ble tribunal. Forest survey of India (FSI) and the National Remote Sensing Centre (NRSC) are the custodians of land cover and land use data | |
| 9. | 10 | Goa | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 the | a) Enforcement of statutory provisions | |

| | | | | | |
|-----|----|------------|---|--|---|
| | | | <p>forest cover has increased from 2,095 sq. km(56.59%) to 2,265.72 sq. km. (61.20%)</p> | <ul style="list-style-type: none"> b) Regular patrolling c) Establishments of protection Camps and Check gates d) Compensatory afforestation as per CAMPA e) Extensive tree plantation Campaigns f) Raising Awareness through various programmes. | |
| 10. | 38 | Puducherry | <p>According to the Indian State of Forest Report (ISFR) from 2001 to 2023 the forest cover has increased from 36 sq. km. to 44.31sq km. Whereas the tree cover has decreased from 35 sq. km. to 23 sq. km. from 2001 to 2023.</p> | <p>Factors for reduction are-</p> <ul style="list-style-type: none"> a) climatic changes like periodic cyclone, urbanization and pollution b) biotic agents like alien flora and fauna c) Abiotic agents like greenhouse gases and pollutants | Tree plantation and awareness programs |
| 11. | 14 | Jharkhand | <p>According to the Indian State of Forest Report (ISFR) from 2001 to 2023 there has been an increase of 1,04,978 hectares of forest cover</p> | <p>Reasons for reduction (in some areas)-</p> <ul style="list-style-type: none"> a) anthropogenic factors like mining, grazing, unsustainable harvesting, etc. b) deforestation for non-forestry purposes c) Geographical conditions making it vulnerable to soil erosion | <ul style="list-style-type: none"> a) Afforestation and plantation activities taken up b) initiative taken up to reduce forest fires. c) enforcement of various schemes d) Awareness programs and punitive action taken against |

| | | | | | |
|-----|------|---|---|---|---|
| | | | | | people involved in forest crimes e) Soil and moisture conservation |
| 12. | 2, 4 | 2. Ministry of Environment, forest and climate change, 4. Forest Survey of India | According to the Indian State of Forest Report (ISFR) from 2001 to 2021 , there is a net increase of Forest Cover by 59,891 sq. km. and in tree cover by 14,227 sq. km. | It is submitted that there is no decrease in tree cover and forest cover and the question of emission of carbon dioxide does not arise | |
| 13. | 34 | Union Territory of Chandigarh | As per India State of Forest Report 2023 increase in Tree Cover of 21.18 sq km from 2001. Increase in Forest Cover 25 sq km from 1997 | | |
| 14. | 31 | Uttarakhand | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 , the Forest and the Tree cover increased by 1148.97 sq. km. | This increase is attributed to the Working Plan approved by MoEF&CC a) Forest Zoning b) Sustainable Harvesting c) Bio-Diversity Conservation d) Forest protection and fire control e) Afforestation and Reforestation f) Protection of watersheds | a) Plantation drives b) Community Participation |

| | | | | | |
|----|----|-------------------|---|--|--|
| | | | | g) Community Participation through Van Panchayat | |
| 15 | 6 | Arunachal Pradesh | As per the ISFR report of 2023, total Forest Cover 65881.57 sq. km. (78.67 of the total geographical area of the state), 2nd highest in the country. However, ISFR indicates a loss of 91.17 sq.km compared to 2021, whereas an increase in tree cover by 38.68 sq. km. (decadal fall in forest cover) | Diversion of Forest for non- forestry purposes due to developmental activities. | |
| 16 | 13 | Himachal Pradesh | According to the Indian State of Forest Report (ISFR) from 2021 to 2023, increase of 1220 sq. km in Forest area | | <ul style="list-style-type: none"> a) Compensatory Afforestation b) Wildlife Conservation c) Soil and Moisture conservation d) Mining Sector compliance,etc. |
| 17 | 21 | Mizoram | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 the percentage of geographical area of forest cover increased from 82.98 to 85.34. | Reasons for reduction (in some areas)- a) Infrastructure development projects | Implementation of Afforestation schemes like Green India Mission, National Afforestation Program, Green Mizoram program, CAMPA,etc. |
| 18 | 18 | Maharashtra | According to the Indian State of Forest Report (ISFR) from 2021 to 2023, increase | | |

| | | | | | |
|----|----|-----------------|--|--|--|
| | | | in forest and tree cover by 7.11% and 75.65% (total - 17.28%) | | |
| 19 | 36 | Lakshadweep | Largely made up of Coral formations, however, according to IFSR 2023, Lakshadweep has a forest cover of 91.33% from 90.33% in 2021. | No terrestrial forest in Lakshadweep | |
| 20 | 16 | Kerala | According to the Indian State of Forest Report (ISFR) from 2001 to 2021 the percentage of geographical area of forest cover increased from 40.04 to 54.07 , while the tree cover increased from 2.95 to 7.26 | | |
| 21 | 9 | Chhattisgarh | According to the Indian State of Forest Report (ISFR) from 2001 to 2023 overall decline in forest cover from 56,448 sq km (2001) to 55,812 sq km (2023) indicating a net loss of 636 sq km(FSI). However, tree cover is increased from 3535 sq km to 6539 sq km | <ul style="list-style-type: none"> a) Mining activities b) Infrastructure development c) Urbanization and industrialization d) Grazing and livestock pressure. e) Implementation of Forest Rights Act, 2006 | <ul style="list-style-type: none"> a) Plantation efforts b) Anti-encroachment Drive c) Compensatory Afforestation Scheme d) Kisan Vriksha Mitra Yojana e) Ek Ped Maa Ke Naam for tree cover |
| 22 | 40 | Jammu & Kashmir | According to the Indian State of Forest | | Social forestry |

| | | | | | |
|----|----|-----------|---|--|---|
| | | | Report (ISFR), 2023, Increase in forest cover by 396.12 sq km from 2013 to 2023 | | |
| 23 | 37 | Delhi | According to the Indian State of Forest Report (ISFR), 2023, The Green Cover has increased by 4.89 sq km from 2021 to 2023(25.04 % of geographical area) | | <ul style="list-style-type: none"> a) Green Action Plan b) Compensatory Plantation c) Tree Plantation Policy 2020 d) Mega Eco Park NTPC e) DDA developing and maintaining Biodiversity Parks |
| 24 | 25 | Rajasthan | According to the Indian State of Forest Report as per Rajasthan forest policy 2023, forest cover increased from 13,871.00 sq. km to 16,548.21 sq. km and tree cover has increased from 5,286.00 sq. km to 10,841.12 sq. km. | | <ul style="list-style-type: none"> a) Rajasthan Forestry and Biodiversity Project-1 (RFBP-1), b) Biodiversity Project-2 (RFBP-2) c) CAMPA Fund, d) State Plan Fund e) RFBDP project, etc. |
| 25 | 08 | Bihar | According to the Indian State of Forest Report (ISFR), 2024, forest cover is 12.55% whereas tree cover is 2.5% of total | | <ul style="list-style-type: none"> a) National Afforestation Programme b) Nagar Van Yojana |

| | | | | | |
|--|--|--|---|--|--|
| | | | geographical area (slight increase from 2001) | | c) Namami Gange Programme Mission Haryali Mission d) Target of 20 Crores of sampling between the year 2023 and 2028 |
|--|--|--|---|--|--|

KEY TAKEAWAYS FROM ISFR (Indian State of Forest Report)

1] The classification of forest cover used in the present report based on three canopy density, wiz.

A] **Very dense forest** having canopy density equal to or more than 70 percent.

B] **Moderately dense forest** having canopy density equal or more than 40 or less than 70 percent.

C] **Open forest**- canopy >10 and <40, the key findings of ISFR 2023 are as follows:

2] The **total forest and tree cover** of the country is **827356.95 km sq. which is 25.17 percent of geographical area.**

3] **Total forest cover is 715342.61 km sq (21.76 percent) where is the tree cover 112014.34 km sq. (3.41 percent)**

4] It shows an **increase** of 156.41 km sq in the **forest cover.**

5] The total forest and tree cover increased by 1445.81 km sq compared to 2021 assessment.

6] The maximum increase in forest and tree cover 1) Chhattisgarh (683.62 km sq) followed by UP (559.19 km sq) then Odisha (558.57 km sq) and Rajasthan (394.46 km sq)

7] The maximum decrease in forest and tree cover are as follows: Madhya Pradesh (612.41 KM SQ) then Karnataka (459.36 km sq) then Ladakh (159.26 km sq) and Nagaland (125.22 km sq)

8] **Maximum tree cover** has been found in states of

A) Maharashtra (14524.88 km sq)

B) Rajasthan (10841.12 km sq)

C) UP (8950.92 km sq)

9] **Maximum positive change** as compared to ISFR 2021 observed in:

1) Chhattisgarh (702.75 km sq)

2) Rajasthan (478.26 km sq)

3) UP (440.76 km sq)

10] **21 states and UTs** have shown an **increase in trained tree cover** that indicates that agroforestry, is being promoted in these states.

11] **Forest cover in the hills districts** which is **40 percent** of the total geographical area has increased by 234.14 km sq,

12] **The total forest cover and tree cover in the north eastern is 174394.70 km sq which is 67 percent of geographical area of these states which apparently shows decrease of forest cover of 327.30 km sq in the region.**

13] During the fire season 2023-24 the number of fire hotspots detected by SNPP- VIIRS sensors were 203544 as against the 223333 in 2021-22 seasons and 212249 in 2022-23 seasons.

14] **Top 3 states** where the **fire incidences** have been observed the most in 2023-24 seasons are:

1)UK

2)Odisha 3

3)Chhattisgarh.

15] It has been observed that the **growing stock** on national levels is estimated as 86.10 m³ per ha in forest areas.

16] The **maximum bamboo bearing areas** –

1)MP (20421 km sq.)

2) Arunachal Pradesh (18424 km sq.)

3) Maharashtra (13572 km sq.)

4) Odisha (12328 km sq.)

17] Maximum increase in bamboo bearing areas 1) Arunachal Pradesh (2685 km sq.) 2) Madhya Pradesh (2027 km sq. (3) Karnataka (1290 km sq.) 4) Manipur (860 km sq.)

18] **Total tree green cover under agroforestry** at national level has been estimated at **127590.05 km sq.** in 2023. There is a total increase of 21286.57 km sq. (20.02) in the total tree green cover under agroforestry compared to the estimates in ISFR 2013.

19] **The carbon stock for 2023** has been estimated as **7285.5 Mt**. There is an **increase of 81.5 Mt** of carbon stock as compared to the previous estimates. The **annual increase** of carbon stock is estimated as **40.75 Mt** which is 149.42 Mt of CO₂ equivalent.

20] Soil organic carbon is the largest pool of forest carbon accounting for 55.06%

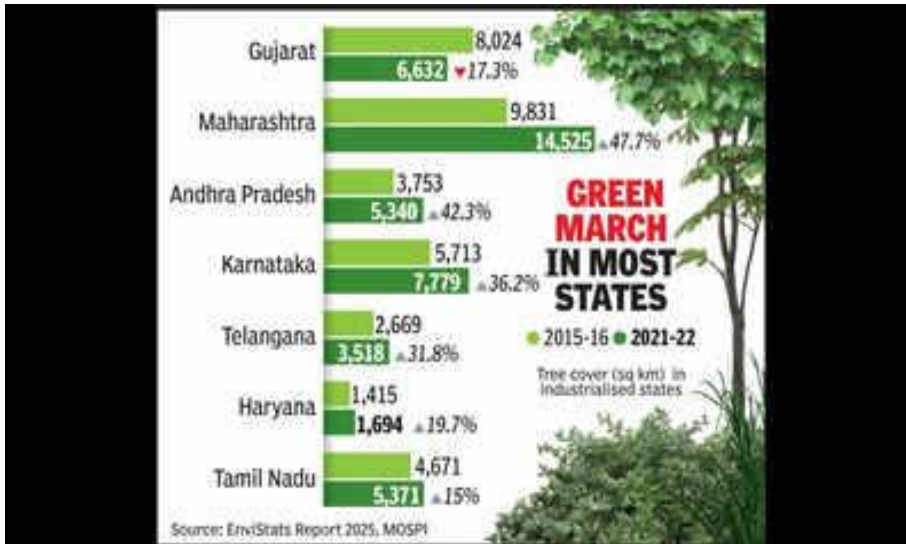
21] **Arunachal Pradesh** has **maximum carbon stock of 1021 Mt** followed by **Madhya Pradesh** (608 Mt) **Chhattisgarh** (505 Mt) **Maharashtra** (465 Mt)

22] Regarding the monitoring of the **target of NDC**, the current assessment shows that India has **reached to 3043 Billion tons of CO₂ eq**, which indicates that as compared to the base year of 2005, we have already reached to 2.29 billion tons of additional carbon sink which is 1st NDC under the Paris agreement. This updates to India's existing NDC is a step forward towards our long term goal of reaching net zero by 2070.

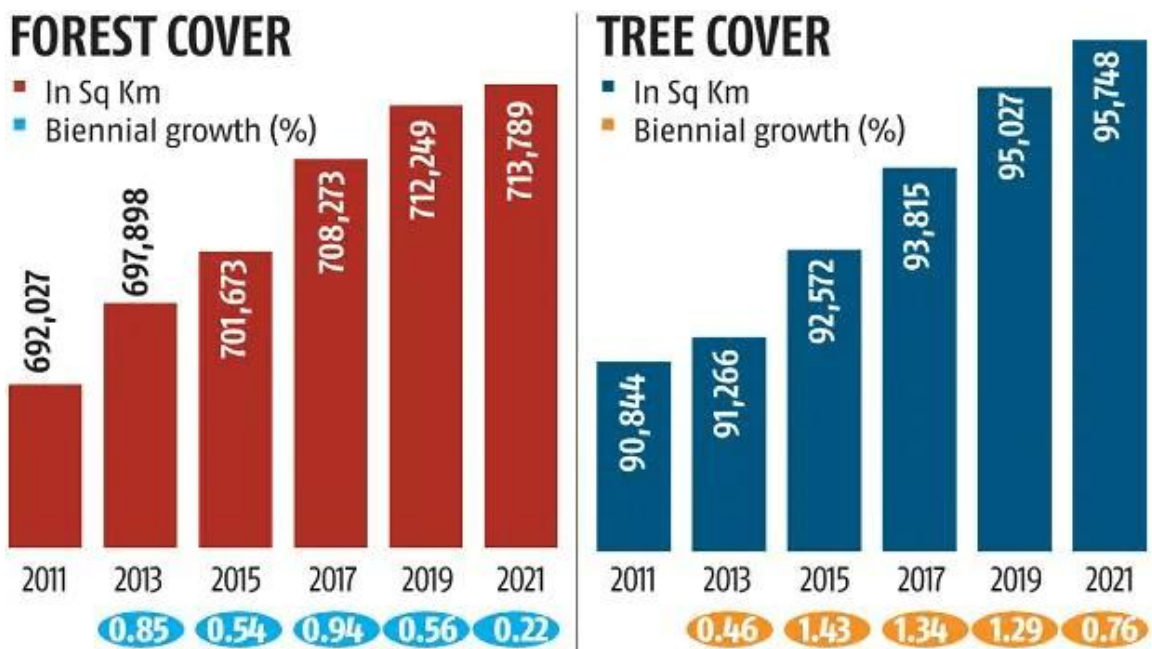
23] Analysis of the **decadal change** in forest cover between **2013** and **2023** for the entire north eastern states reveals a **net loss of 3132.27 sq. km.** in forest cover.

Source: ISFR

| CHANGE IN DENSE FOREST COVER 2003-2023 | | | | |
|--|----------------|------------------|------------------|------------------|
| | 2021-23 | 2003-2013 | 2013-2023 | 2003-2023 |
| LOST | | | | |
| VDF to NF | 295 | 288 | 1277 | 1565 |
| MDF to NF | 3362 | 6714 | 15086 | 21800 |
| VDF to scrub | 24 | 5 | 65 | 70 |
| MDF to scrub | 313 | 144 | 1153 | 1297 |
| Disappeared | 3994 | 7151 | 17581 | 24732 |
| VDF to OF | 228 | 134 | 1128 | 1262 |
| MDF to OF | 5166 | 6414 | 22249 | 28663 |
| Total loss | 9388 | 13699 | 40958 | 54657 |
| GAINED | | | | |
| NF to VDF | 56 | 43 | 483 | 526 |
| NF to MDF | 839 | 3631 | 7554 | 11185 |
| Scrub to VDF | 1 | 0 | 54 | 54 |
| Scrub to MDF | 102 | 105 | 1043 | 1148 |
| OF to VDF | 496 | 124 | 2567 | 2691 |
| Plantations | 1494 | 3903 | 11701 | 15604 |
| OF to MDF | 8610 | 6122 | 34301 | 40423 |
| Total gain | 10104 | 10025 | 46002 | 56027 |
| NET CHANGE | 716 | -3674 | 5044 | 1370 |
| VDF: Very Dense Forest (canopy over 70%) MDF: Moderate Dense Forest (canopy 40-70%) | | | | |
| OF: Open Forest (canopy 10-40%) Shrub (canopy under 10%) NF: Non-Forest (no canopy) | | | | |



BIENNIAL GROWTH (%) OF FOREST AND TREE COVER FROM 2011 TO 2021



Source: India State of Forest Report, 2021

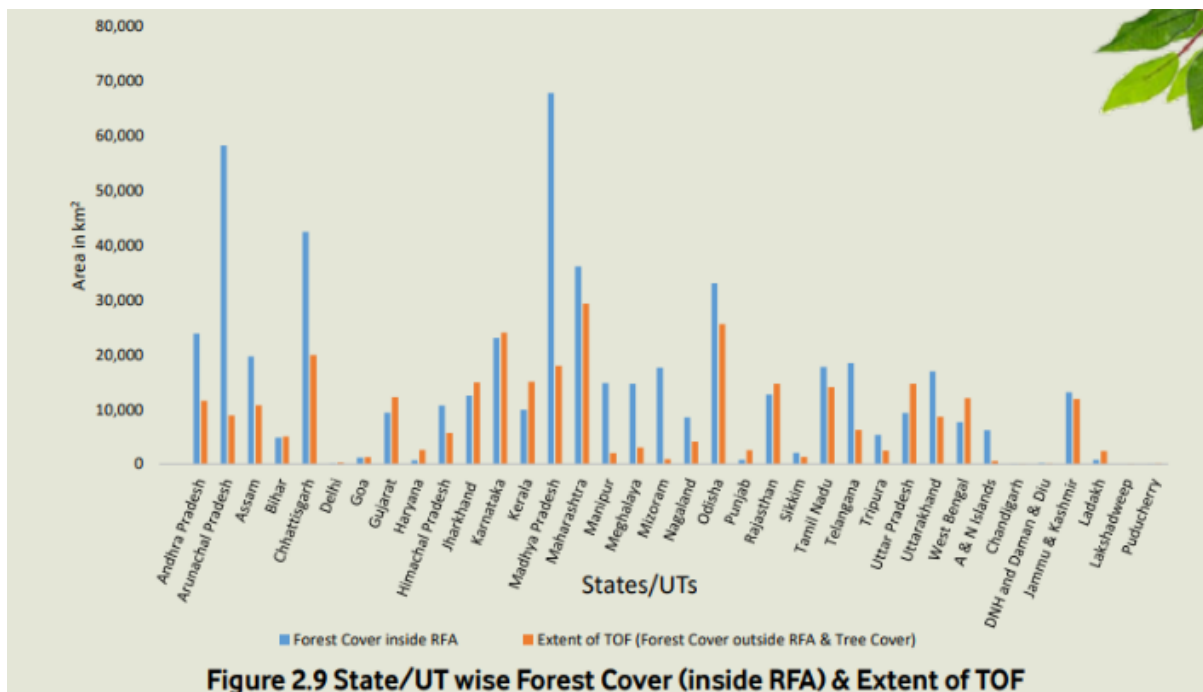
COMPARATIVE TABLE OF TOTAL RFA AND PERCENT CHANGE BETWEEN 2013 AND 2023

| STATE | TOTAL RECORDED FOREST AREA (RFA) (in km sq.) | | PERCENTAGE OF GEOGRAPHICAL AREA | |
|-----------------------------|--|--------|---------------------------------|-------|
| | 2013 | 2023 | 2013 | 2023 |
| Andhra Pradesh | 63,814 | 37,258 | 23 | 22.87 |
| Arunachal Pradesh | 51,541 | 51,540 | 61.55 | 61.55 |
| Assam | 26,832 | 26,836 | 34.21 | 34.21 |
| Bihar | 6,473 | 7,442 | 6.87 | 7.9 |
| Chhattisgarh | 59,772 | 59,816 | 44.21 | 44.25 |
| Goa | 1,225 | 1,271 | 33.09 | 34.33 |
| Gujarat | 21,647 | 21,870 | 11.04 | 11.14 |
| Haryana | 1,559 | 1,559 | 3.53 | 3.53 |
| Himachal Pradesh | 37,033 | 37,948 | 66.52 | 68.16 |
| Jharkhand | 23,605 | 25,118 | 29.61 | 31.51 |
| Karnataka | 38,284 | 38,284 | 19.96 | 19.96 |
| Kerala | 11,309 | 11,522 | 29.1 | 29.66 |
| Madhya Pradesh | 94,689 | 94,689 | 30.72 | 30.72 |
| Maharashtra | 61,357 | 61,952 | 19.94 | 20.13 |
| Manipur | 17,418 | 17,418 | 78.01 | 78.01 |
| Meghalaya | 9,496 | 9,508 | 42.34 | 42.39 |
| Mizoram | 16,717 | 7,479 | 79.3 | 35.48 |
| Nagaland | 9,222 | 8,632 | 55.62 | 52.07 |
| Odisha | 58,136 | 61,204 | 37.34 | 39.31 |
| Punjab | 3,084 | 3,084 | 6.12 | 6.12 |
| Rajasthan | 32,737 | 32,869 | 9.57 | 9.6 |
| Sikkim | 5,841 | 5,841 | 82.31 | 82.31 |
| Tamil Nadu | 22,877 | 23,188 | 17.59 | 17.83 |
| Telangana | | 27,688 | | 24.69 |
| Tripura | 6,294 | 6,295 | 60.02 | 60.03 |
| Uttar Pradesh | 16,583 | 17,435 | 6.88 | 7.24 |
| Uttarakhand | 34,651 | 38,000 | 64.79 | 71.05 |
| West Bengal | 11,879 | 11,885 | 13.38 | 13.39 |
| Andaman and Nicobar Islands | 7,171 | 7,171 | 86.93 | 86.93 |
| Chandigarh | 35 | 35 | 30.7 | 30.7 |
| Dadra & Nagar Haveli | 204 | 217 | 41.55 | 36.05 |

| | | | | |
|-----------------|--------|-------|------|------|
| Lakshadweep | 0 | 0 | 0 | |
| Delhi | 85 | 104 | 5.73 | 7.01 |
| Puducherry | 13 | 13 | 2.71 | 2.65 |
| Ladakh | | 7 | | |
| Jammu & Kashmir | 20,230 | 20199 | 9.1 | 9.09 |

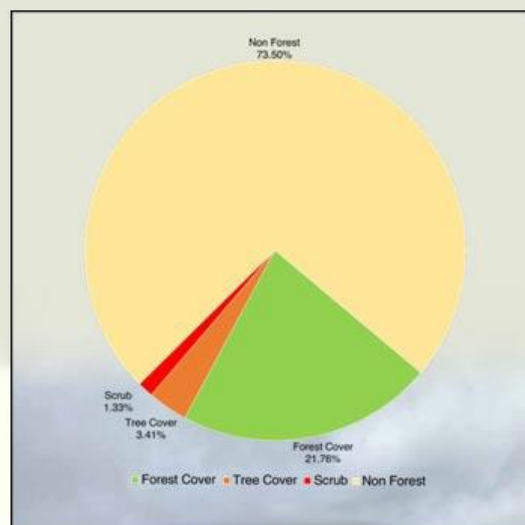
Source: Indian State of Forest Report

STATE AND UT WISE FOREST COVER (INSIDE RFA) AND EXTENT OF TOF



FOREST AND TREE COVER OF INDIA IN 2023

| Forest and Tree Cover of India | | |
|------------------------------------|---------------------|---------------------------------|
| in km ² | | |
| Class | Area | Percentage of Geographical Area |
| Forest Cover | 7,15,342.61 | 21.76 |
| Tree Cover | 1,12,014.34 | 3.41 |
| Total Forest and Tree Cover | 8,27,356.95 | 25.17 |
| Scrub | 43,622.64 | 1.33 |
| Non Forest | 24,16,489.29 | 73.50 |
| Geographical Area | 32,87,468.88 | 100.00 |



Source :ISFR 2023

RECOMMENDATIONS AND SUGGESTIONS TO INCREASE FOREST COVER

1. **Forest Cover Expansion**-The target is to achieve the National Forest Policy (1988) goals of bringing 33% of India's geographical area under forest and tree cover nationally, and 66% in hilly areas. The aim is to enhance green cover, support rural livelihoods, and create carbon sinks.
2. **Agroforestry Promotion**- Agroforestry involves integrating trees with crops and livestock to improve soil productivity, increase farmer income, and enhance biodiversity. This reduces the dependence on natural forests for resources and contributes to carbon sequestration. It is recommended to strengthen agroforestry research and create a mass movement for its adoption.
3. **Forest Fire Management**-There is a need to adopt the National Programme on Forest Fire Management (NPFFM) as outlined in the India State of Forest Report (ISFR) 2023. Recommended measures include the use of satellite-based systems for early warning and real-time monitoring, deploying artificial intelligence to predict high-risk zones, and integrating forest fire response into disaster management systems.
4. **Forest Inventory & Monitoring**-Accurate and timely forest data collection should be ensured through the adoption of modern technologies such as satellites, drones, GIS, and PDA-based mapping systems.
5. **Mangrove and Wetland Protection**- Mangrove ecosystems are carbon-dense, despite occupying less than 1% of tropical forest and sequestering approximately 3% of world's tropical forest carbon. Mangroves should be protected as part of India's obligations under the Ramsar Convention. The Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI) scheme should be expanded to promote shoreline afforestation and improve coastal livelihoods.
6. **Biodiversity and Forest Health**- Regular monitoring of forest health is essential, including surveillance of invasive species, soil conditions, and disturbances such as overgrazing and illicit felling. Forests with mixed-size tree classes should be encouraged as they offer better resilience to climate change.
7. **Community Participation**- Local communities should be incentivized through Joint Forest Management (JFM), eco-tourism opportunities, and inclusion in carbon credit mechanisms to ensure active participation in forest conservation efforts.
8. **Urban Forestry**-Urban areas should be required to include green belts in planning. Additionally, rooftop forestry and citizen-led afforestation should be promoted to help tackle urban challenges such as air pollution and rising temperatures.
9. **Legal and Policy Measures**-The National Forest Policy (1988) should be revised to reflect modern environmental challenges such as climate change, carbon trading, and the Sustainable Development Goals (SDGs). Laws related to illegal logging and forest encroachments need to be tightened and better enforced.
10. **Education and Awareness**- Forest conservation should be integrated into school curricula. Training programs should be conducted for local governance bodies, and large-scale awareness campaigns should be launched to build a culture of environmental stewardship.
11. **Transmission Line Management**- Dwarf species preferably medicinal plants are plants within the right of way of transmission lines to mitigate environmental impact.
12. **Reclamation of Dumping Sites** - Native species are planted on dumping sites as per approved reclamation sites.

POLICY MEASURES

1. **NAGAR VAN YOJNA (NVY)** - Scheme launched by the Ministry of Environment, Forest and Climate Change in 2020 to develop 200 urban forests across India. It aims to create green spaces in cities for ecological balance, biodiversity conservation, and improved quality of life. These urban forests are developed on degraded or unused land in collaboration with local bodies and communities.
2. **National Mission for a Green India (GIM)** - It is one of the eight missions under India's National Action Plan on Climate Change (NAPCC), launched in 2014. It aims to increase forest and tree cover, restore degraded ecosystems, and enhance ecosystem services including carbon sequestration. The mission emphasizes community participation and focuses on both environmental sustainability and livelihood security.
3. **Forest Fire Prevention and Management Scheme (FPM)**- It is the only centrally funded program dedicated to forest fire management in India. It aims to reduce the vulnerability of forests to fires through activities like fire line creation, use of fire-watch towers, and early warning systems. The scheme also supports capacity building, community involvement, and modern firefighting equipment for effective fire control.
4. **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**- It was established to manage funds collected for compensatory afforestation when forest land is diverted for non-forest purposes. The authority ensures that afforestation, regeneration, and conservation activities are carried out using these funds. CAMPA operates at both national and state levels to promote sustainable forest management and ecological balance.
5. **“Ek Ped Maa Ke Naam”**- It is a green initiative that encourages individuals to plant a tree in honor of their mother. The campaign aims to strengthen emotional bonds while promoting environmental conservation and increasing green cover. It is symbolic of nurturing nature as we honor the nurturing role of mothers.
6. **Green Credit Initiative** - It promotes voluntary plantation activities through a dynamic land bank and digital platform for issuing Green Credits. It incentivizes individuals and organizations to plant trees on degraded lands registered by Forest Departments. The goal is to enhance forest cover, restore degraded land, and encourage climate-positive actions.

RELEVANT ACTS AND PROVISIONS

- 1. National Green Tribunal Act, 2010**
- 2. Environment (Protection) Act, 1986**
- 3. Forest (Conservation) Act, 1980**
- 4. Wildlife (Protection) Act, 1972**
- 5. Biological Diversity Act, 2002**
- 6. Forest (Conservation) Amendment Act, 2023**
- 7. National Forest Policy, 1988**

Provisions in Indian Constitution (Articles 21, 48A, 51A(g))

RELEVANT DOCTRINES

1. Public Trust Doctrine

The Public Trust Doctrine obligates the government to act as a trustee of natural resources, including forests, for the benefit of present and future generations. Forests, being crucial for maintaining biodiversity, regulating climate, and ensuring ecological balance, fall within the ambit of this doctrine. Accordingly, the state has a duty to prevent deforestation, regulate their sustainable use, and protect them from private exploitation. Indian courts, in landmark cases like *M.C. Mehta v. Kamal Nath* and *T.N. Godavarman v. Union of India*, have reinforced that forests are a public trust, and the government must preserve and expand forest cover as part of its fiduciary responsibility.

2. Precautionary Principle

The Precautionary Principle in the context of forest cover obligates the state to act cautiously in granting clearances for deforestation, logging, or diversion of forest land. It is based on legal mechanisms such as Environmental Impact Assessments and forest clearance procedures under the Forest (Conservation) Act, 1980.

3. Polluter Pays Principle

The doctrine talks about the accountability of the pollute which creates a legal obligation on those who harm the environment, including through deforestation, to bear the cost of restoration and environmental compensation.

NATIONAL AND INTERNATIONAL CONVENTIONS AND TREATIES

1] **UNITED NATIONS FRAMEWORK INVENTION ON CLIMATE CHANGE (UNFCCC)**

2] **KYOTO PROTOCOL**

3] **PARIS AGREEMENT** which sets out ambitious goals to limit global warming well below 2 degree Celsius above pre- industrial levels and to pursue efforts to limit it to 1.5 degree Celsius which apparently emphasizes the importance of forests in climate mitigation and adaptation strategies.

4] **SUSTAINABLE DEVELOPMENT GOALS (SDG)** The SDG 15 – ‘Life on Land’- specifically targets the conservation, restoration and sustainable use of terrestrial eco systems, including forests which is One of the 17 sustainable goals of SDG which has to be achieved by 2023.

5] **CONVENTION BIOLOGICAL DIVERSITY:** The AICHI by diversity targets have been established under CBD to guide international efforts in bio-diversity preservation. AICHI target 5 specifically addresses the conservation of habitats including forests.

6] **NEW YORK DECLARATION ON FORESTS (NYDF):** It is a voluntary international declaration that aims to halve deforestation by 2020 and end it by 2030, while also restoring forests and enhancing sustainable management.

7] **UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION [UNCCD]:** Established in 1994, UNCCD is legally binding convention that links development and environment to sustainable land management. The convention aims to combat desertification and the ill effects of drought.

8] **BONN CHALLENGE:** Bonn challenge is a global effect to bring under restoration 150 million hectares of the world’s deforested and degraded lands by 2020, and 350 million hectares by 2030. India has made commitment of bringing 26 million ha under this initiative to restore degraded landscapes. UN decade on ecosystem restoration [2021-3] calls for the scaling up to efforts to restore ecosystems and combat climate change, and India is a participant in this global initiative also.

9] **ASIA PACIFIC FORESTRY COMMISION [APFC]:** India as a member of APFC, is a part of regional body that aims to promote sustainable forest management in the Asia-pacific region. Reporting on the state of forests is an integral part of this endeavour.

Items No.03 & 04

Court No. 2

**BEFORE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 555/2024

News item titled "India lost 2.33 million hectares of tree cover since 2000 Global Forest Watch" appearing in The Indian Express date 13.04.2024.

WITH

Original Application No. 20/2025

News Item titled "Assam,s forests shrink by 83.92 sq km in just two years Report" appearing in the Assamtribune.com dated 22.12.2024

Date of hearing: 07.08.2025

**CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Original Application No. 555/2024

Applicants: Suo-moto Application.

Respondents: Mr. Raj Kumar, Advocate for respondents no. 1 and 39.
Mr. Gi Gi C George and Mr. Sunil Kumar, Advocates for respondents no. 3 and 33.
Mr. Gautam Singh, Advocate for respondents no. 5 and 40.
Mr. Shubham Bhalla, Advocate for respondents no. 6, 34 and 38.
Mr. Shivodeep Roy and Mr. Saurabh Tripathi, Advocates for respondent no. 7 and 29
Mr. Azmat H. Amanullah and Ms. Nitya Sharma, Advocates for respondents no. 8
Mr. Abhishek Pandey and Mr. Manuraj Singh, Advocates for respondent no. 9
Mr. Surjendu Sankar Das and Ms. Yoovika Toor, Advocates for respondent no. 10
Mr. Rahul Khurana, Advocate for respondent no. 12.
Ms. Sanya Kaushal, Advocate for respondent no. 13
Mr. Dev Aryan, Advocate for respondent no. 14 (through VC).
Mr. Alim Anvar and Mr. Nishe Rajen Shonker, Advocate for respondent no. 16
Ms. Rukhmini Bobde, Advocate for respondent no. 17 (through VC)
Mr. Anando Mukherjee Adv Standing Counsel for respondent no. 21 (through VC).
Ms. Savi Nagpal, AAG for respondent no. 24, 41 and 42 (through VC).
Ms. Prachi Mishra, Advocate for respondent no. 25 (through VC).
Mr. Krishna Rastogi, Advocate for respondent no. 26 (through VC)
Ms. Sai Sathyajith, Advocate for respondent no. 27 (through VC)

Mr. Bhanwar Pal Singh Jadon, Mr. Harshwardhan Singh Rajawat, Ms. Anjali Sharma and Ms. Gargi Chaturvedi, Advocates for respondent no. 30.

Mr. Adarsh Chamoli, Advocate for respondent no. 31.

Ms. Madhumita, Advocate for respondent no. 32 (through VC).

Mr. Shashwat Parihar, Advocate for respondent no. 35 alongwith Mr. Anand S. Jadhav, Deputy Conservator of Forest

Ms. Sunita Sharma, Advocate for respondent no. 36.

Ms. Jyoti Mendiratta and Ms. Ananya Basudha, Advocates for respondent no. 37 with Mr. Ankit Kumar, DCF (P & M), DO FW GNCTD.

None for respondents no. 2, 4, 11, 15, 18 to 20, 22, 23, 28,

Original Application No. 20/2025

Respondents: Mr. Shivodeep Roy, Mr. Saurabh Tripathi and Mr. Deepayan Dutta, Advocates for respondents no. 1 and 3.
Mr. Shubham Bhalla, Advocate for respondent no. 2.
Mr. Anando Mukherjee Adv Standing Counsel for respondent no. 4 (through VC).
Ms. Suhasini Sen and Ms. Masooma Rizvi, Advocates for respondent no. 5.

ORDER

1. In compliance of order dated 09.05.2025 reply has been filed on behalf of Respondents No. 41 & 42. Reply dated 31.05.2025 has been filed by Respondent no.20- State of Meghalaya. Reply dated 30.07.2025 has been filed by Respondent no.35- UT of Dadra and Nagar Haveli and Daman and Diu.

2. Despite specific directions given vide order dated 09.05.2025 responses have not been filed by respondents no.5,7,8,9,10,11,15,16,17,18,19, 22, 23,26,27,28,29,33,34,38 and 39 in O.A. No. 555/2024. Responses in the above said O.A. have also not been filed by respondents no. 4, 24, 30, and 32 so far.

3. Learned Counsels for respondents no. 5,7,8,9,10,16,17,24, 26,27,29,30,32,33,34,38 and 39 seek some more time for filing of their responses.

4. Responses by respondents no. 5,7,8,9,10,16,17,24, 26,27,29,30,32,33,34,38 and 39 may be filed in O.A. No. 555/2024 at

least one week before the next date of hearing failing which exemplary costs may be imposed on them.

5. None has appeared for respondents no. 2, 4, 11, 15, 18, 19, 20, 22, 23 and 28.

6. Notices may be issued to respondents no. 2, 4, 11, 15, 18, 19, 20, 22, 23 and 28 requiring them to appear on the next date of hearing through duly authorized officers/counsel and respondents no. 4, 11, 15, 18, 19, 22, 23 and 28 may also be required to file their responses in O.A. No. 555/2024 at least one week before the next date of hearing failing which exemplary costs may be imposed on them.

7. Learned Counsels for respondents no. 1 and 3 seek time for filing of their responses in O.A. No. 20/2025.

8. Responses by respondents no. 1 and 3 may be filed in O.A. No. 20/2025 at least one week before the next date of hearing failing which exemplary costs may be imposed on them.

9. In view of the serious nature and magnitude of the environmental questions involved in the present case, we consider it appropriate to have the assistance of some Advocates as amicus curiae to assist this Tribunal in just and fair adjudication of the questions involved. Accordingly, Ms. Shivani Pawar, Advocate (Enrolment No. D/6496/2023) is appointed as amicus curiae in O.A. No. 555/2024 and Mr. Dhruv Tamta, Advocate (Enrolment No. D/1410/2011) is appointed as amicus curiae in O.A. No. 20/2025 to assist this Tribunal in just and fair adjudication of the questions involved. Their Honorarium is fixed as Rs. 50,000/- each besides miscellaneous expenses including travelling, boarding/lodging charges etc. CPCB is directed to pay amount of Rs. 50,000/- to Mr. Dhruv Tamta, Advocate (Enrolment No. D/1410/2011) appointed as

amicus curiae in O.A. No. 20/2025 and amount of Rs. 50,000/- to Ms. Shivani Pawar, Advocate (Enrolment No. D/6496/2023) appointed as amicus curiae in O.A. No. 555/2024 out of the amount of environmental compensation lying deposited with it within one month from the date of receipt of a copy of this order and to pay miscellaneous expenses including travelling, boarding/lodging charges etc. within one month of submission of bills in respect thereof out of the amount of environmental compensation lying deposited with it.

10. The Amicus Curiae shall compile the information on the basis of replies filed by the respondents in the respective cases, collect other relevant information available in public domain from other sources including Government Departments and Public Institutions with reference to issues involved in the respective cases and file their report along with copies of relevant supporting documents and also give their suggestions, if any, in their respective reports in the respective cases.

11. List on 17.09.2025 for further consideration.

12. A copy of this order may be sent to Member Secretary, CPCB, Ms. Shivani Pawar, Advocate (Enrolment No. D/6496/2023 and Mr. Dhruv Tamta, Advocate (Enrolment No. D/1410/2011 by email for requisite compliance.

Arun Kumar Tyagi, JM

Dr. Afroz Ahmad, EM

August 07th, 2025
Original Application No. 555/2024 &
Original Application No. 20/2025
AB

This is an archive article published on April 12, 2024


India lost 2.33 million hectares of tree cover since 2000: Global Forest Watch

The Global Forest Watch, which tracks forest changes in near real-time using satellite data and other sources, said the country lost 4,14,000 hectares of humid primary forest (4.1 per cent) from 2002 to 2023, making up 18 per cent of its total tree cover loss in the same period.

By: [PTI](#)

New Delhi | Updated: April 13, 2024 09:13 AM IST

 NewsGuard

 4 min read



The data showed that 95 per cent of the tree cover loss in India from 2013 to 2023 occurred within natural forests. (File/ Express Photo by Amit Mehra)

India has lost 2.33 million hectares of tree cover since 2000, equivalent to a six per cent decrease in tree cover during this period, according to the latest data from the Global Forest Watch monitoring project.

The Global Forest Watch, which tracks forest changes in near real-time using satellite data and other sources, said the country lost 4,14,000 hectares of humid primary forest (4.1 per cent) from 2002 to 2023, making up 18 per cent of its total tree cover loss in the same period.

Between 2001 and 2022, it said, forests in India emitted 51 million tons of carbon dioxide equivalent a year and removed 141 million tons of carbon dioxide equivalent a year. This represents a net carbon sink of 89.9 million tons of carbon dioxide equivalent a year.

An average of 51.0 million tons of carbon dioxide equivalent per year was released into the atmosphere as a result of tree cover loss in India. In total, 1.12 gigatons of carbon dioxide equivalent was emitted during this period.

Forests are both a sink and a source for carbon, removing carbon dioxide from the air when standing or regrowing and emitting it when cleared or degraded. Loss of forests, thus, accelerates climate change.

Tree cover loss is not always deforestation, which typically refers to human-caused, permanent removal of natural forest cover. It includes both human-caused loss and natural disturbances, and loss that is permanent or temporary. Examples of tree cover loss that may not meet the definition of deforestation include loss from logging, fire, disease or storm damage.

The data showed that 95 per cent of the tree cover loss in India from 2013 to 2023 occurred within natural forests.

The maximum tree cover loss of 189,000 hectares occurred in 2017. The country lost 175,000 hectares of tree cover in 2016 and 144,000 hectares in 2023, the highest in the last six years.

The GFW data showed that five states accounted for 60 per cent of all tree cover loss between 2001 and 2023.

Assam had the maximum tree cover loss at 324,000 hectares compared to an average of 66,600 hectares. Mizoram lost 312,000 hectares of tree cover, Arunachal Pradesh 262,000 hectares, Nagaland 259,000 hectares, and Manipur 240,000 hectares.

The tree cover loss data featured on the Global Forest Watch represents the best available spatial figures on how forests are changing around the world. However, changes have occurred to the data over time due to algorithm adjustments and improved satellite data.

Therefore, the GFW cautions users against comparing old and new data, especially before/after 2015.

According to the Food and Agriculture Organisation, the rate of deforestation in India was 668,000 hectares per year between 2015 and 2020, the second highest worldwide.

The data showed India lost 35,900 hectares of tree cover due to fires from 2002 to 2022, with 2008 recording the maximum tree cover loss due to fires (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. Arunachal Pradesh lost 198 hectares, Nagaland 195 hectares, Assam 116 hectares, and Meghalaya 97 hectares.

The Global Forest Watch refers to tree cover when talking about forest extent, loss and gain. Tree cover is a convenient metric for monitoring forest change because it is easily measurable from space using freely available, medium-resolution satellite imagery. This means that tree cover can be monitored frequently, at low cost, and over large geographic scales.

However, the existence of tree cover does not always make a forest, tree cover loss does not always imply forest loss or deforestation, and tree cover gain does not always imply forest gain or restoration.

Measuring these variables directly poses technical challenges, since most definitions of forest involve a combination of tree cover and land use. The latter is much more difficult, if not impossible in some cases, to monitor using satellite imagery, the GFW says.

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Assam's forests shrink by 83.92 sq km in just two years: Report

The eight Northeastern states recorded a total forest cover loss of 327.30 sq km between 2021-23

[The Assam Tribune](#)



Guwahati, Dec 22: Assam recorded a forest cover loss of 83.92 sq km between 2021 and 2023, according to the India State of Forest Report 2023 (ISFR 2023) released on Saturday.

Between 2021 and 2023, the forest cover inside "recorded forest area" decreased by 86.66 sq km in the state. The eight Northeastern states recorded a total forest cover loss of 327.30 sq km during the period, with Mizoram recording the highest decrease of 178.42 sq km.

In Assam, canopy density inside "recorded forest area" has degraded in 1,699 sq km area. Overall, compared to the year 2021, there is an increase of 1,445 sq km in the total forest and tree cover of the country in 2023, according to the report.

The region has experienced significant forest cover loss, with Arunachal Pradesh recording the highest loss of 1,084 sq km, followed by Mizoram with 987 sq km and Nagaland with 794 sq km.

Despite this decline, Arunachal Pradesh remains the leading Indian state in carbon stock, holding an impressive 1,021 Mt. Other states also contribute to the region's carbon stock, with Assam at 272 Mt, Manipur at 175 Mt, Meghalaya at 183 Mt, Mizoram at 168 Mt, Nagaland at 132 Mt, Sikkim at 56 Mt, and Tripura at 74 Mt.

Expanding rubber plantations raise ecological concerns

The Indian State of Forest Report 2023 has highlighted significant concerns about the environmental impact of rubber cultivation in Tripura. It states that the large-scale conversion of natural forests into monoculture rubber plantations has disrupted the ecological balance and posed a threat to biodiversity.

A study conducted in 2019-20 at the request of the Tripura Forest Department mapped the state's rubber plantations using satellite imagery and field photographs. "The study revealed that the area under rubber plantations is 11.90% of the state's geographical area and 16.17% of the state's total forest area," the report said.

South Tripura district emerged as the region with the highest concentration of rubber plantations, covering 35,537 square kilometers. The report also noted, "Over the last decade, rubber plantations have been carried out on a massive scale due to it being a fast-growing species and its economic value."

The findings underline the need for sustainable land-use practices to prevent further ecological degradation while addressing economic considerations.