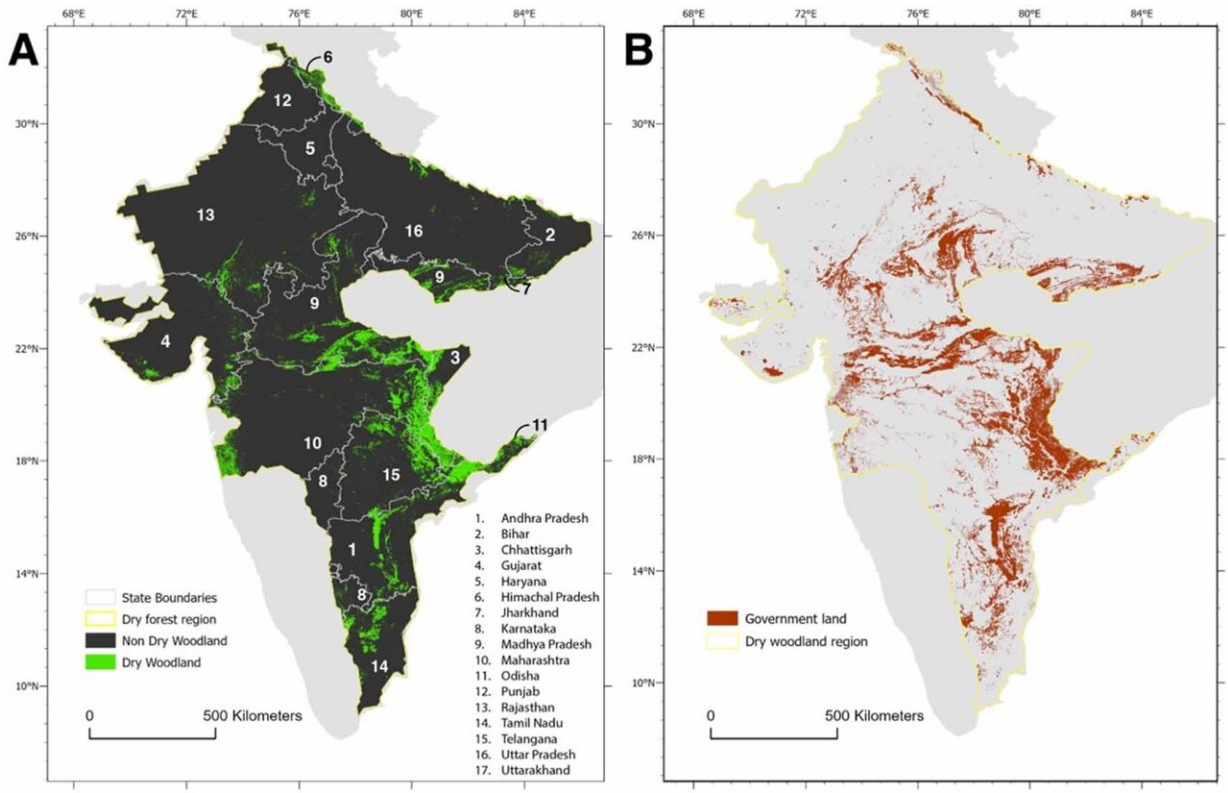
India gained 2.1 million hectares of dry woodland in a decade, major study finds

June 5 2026, by Joe Stafford



Forest cover in India's dryland biome in 2014 (A) and government managed forest lands derived from digitized toposheets (B). Credit: *Environmental Research Letters* (2026). DOI: 10.1088/1748-9326/ae61cb

India gained around 2.1 million hectares of tropical dry woodland between 2014 and 2024—an area larger than Wales—according to a

major new study involving researchers from The University of Manchester's Global Development Institute. The research was published in the journal *Environmental Research Letters*.

The research found that large-scale tree planting, restoration schemes and expanding plantations have likely transformed woodland cover across parts of the country over the past decade.

But the study also warns that headline gains can hide a more complicated picture, with native woodlands still being lost in some areas even as overall tree cover increases.

What did the study find?

The study mapped changes in India's tropical dry woodlands—which cover vast areas of the country, but have received far less scientific and conservation attention than tropical rainforests—over a ten-year period using high-resolution satellite imagery.

The researchers found a large overall increase in woodland cover across the country, driven partly by major government-backed restoration efforts including the Green India Mission, the Compensatory Afforestation Fund and the National Afforestation Programme.

The findings suggest these schemes are having a visible impact on the landscape.

Where are the new woodlands appearing?

The study found contrasting patterns inside and outside government-managed forest land.

Within state-administered forest areas, researchers say gains are likely linked to restoration and conservation programs aimed at increasing forest cover and meeting climate goals.

Outside government lands, however, many gains appear to come from commercial timber plantations and tree crops in agricultural landscapes.

Why this matters

India's tropical dry woodlands are among the country's most important but overlooked ecosystems.

They support wildlife, store carbon and provide livelihoods for millions of people, especially in poorer rural regions.

Researchers say understanding exactly what kind of woodland is increasing—and where—matters for biodiversity, climate policy and local communities.

Tree cover is not always the same as forest recovery

The researchers warn that national statistics showing rising tree cover do not always mean natural forests are recovering.

Some native dry woodlands inside protected or government-managed areas continued to experience losses during the study period.

Scientists say plantations can provide economic and climate benefits, but they may not fully replace the biodiversity and ecological value of long-established natural woodlands.

How researchers tracked the changes

The team used satellite imagery to reconstruct changes in woodland cover across India between 2014 and 2024 at very high detail.

This allowed them to identify where woodland was expanding, where it was being lost, and how those patterns differed across landscapes and land ownership types.

"Our study shows that India has seen substantial gains in dry woodland cover over the past decade," said lead author Dhanapal Govindarajulu. "A lot of this appears linked to major restoration and afforestation programs, which demonstrate the scale of change that government policy can achieve—but we also found that not all woodland gains are the same.

"If we only look at national tree-cover numbers, we risk missing what is happening to native ecosystems on the ground."

Why it matters now

Countries around the world are pledging large-scale tree planting and forest restoration as part of climate and biodiversity targets.

Researchers say the study highlights the importance of looking beyond headline numbers to understand whether restoration efforts are protecting natural ecosystems, supporting wildlife and benefiting local communities.

More information: Dhanapal Govindarajulu et al, Contrasting patterns of deforestation and reforestation in India's tropical dry woodlands, *Environmental Research Letters* (2026). DOI: 10.1088/1748-9326/ae61cb

Provided by University of Manchester

Citation: India gained 2.1 million hectares of dry woodland in a decade, major study finds (2026, June 5) retrieved 24 June 2026 from https://phys.org/news/2026-06-india-gained-million-hectares-dry.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.