

Silent Trees on the Brink of Extinction

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WHEN we think about extinction, we often imagine giant dinosaurs, woolly mammoths, dodos, and Saber-toothed cats. In the present scenario, we often see headlines about the death of tigers, elephants, and rare birds. But trees rarely make the news when they disappear from the earth, even though their loss affects entire ecosystems, people's livelihoods, and even the climate. A recent study by global scientists and conservationists delivered an alarming message — more than one-third of the world's tree species are at risk of extinction.

Interestingly, trees are among the oldest living organisms on earth, having evolved approximately 300 million years ago, long before humans appeared on this planet. Trees support us in many ways: they provide shade and beauty, purify the air we breathe, and store carbon to fight climate change. They also regulate water and protect us from floods, heatwaves, and soil erosion. When grown together, trees develop forests that provide homes and life to countless organisms. More than half of the world's known species, including intelligent mammals, colourful birds, and vibrant insects, live in these forests. For more than 8.1 billion people across the globe, trees also provide food, fuel, and a livelihood. That's why we say — trees are the foundation of our life.

Despite their importance, trees are facing unprecedented threats, and plants, especially trees, are disappearing quickly, often without anyone noticing. In contrast, charismatic animals always dominate conservation headlines, while trees remain neglected. According to a global database of tree species, published in the *Journal of Sustainable Forestry*, approximately 20% of all plant species are trees, and many of these are under threat. The major drivers include habitat loss, agricultural expansion, urbanisation, invasive species, pests, diseases, and climate change. Together, these factors are contributing to the continuing decline of trees worldwide.

A Global Tree Assessment

To address this problem, scientists launched the Global Tree Assessment (GTA) in 2015, the largest global assessment of its kind. This project is coordinated by Botanic Gardens Conservation International (BGCI) and the IUCN Species Survival Commission (SSC), the Global Tree Specialist Group. The GTA aims to evaluate the conservation status of every known tree species globally and prioritise those most at risk of extinction. After years of meticulous work by more than a thousand experts from 60 institutions worldwide, including Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Kerala, India. The first comprehensive report was released in 2024, and the results are alarming. Of the nearly 48,000 tree species assessed, almost 38% were found to be

threatened with extinction. To put this in perspective, the number of threatened tree species exceeds the combined total of threatened birds, mammals, reptiles, and amphibians.

Why are Trees in Trouble?

This raises an important question — why are trees in such deep trouble? One major reason is that they are often treated as a single “group” rather than as unique species. When we talk about saving forests, we generally think of them as a whole, but in reality, each forest is made up of many different tree species, some common and some extremely rare. Another reason is that most conservation projects and funding agencies focus on ecosystems or charismatic animals, often neglecting individual tree species — especially those found in only one region or island.

For example, *Mangifera nicobarica* is a wild mango species found only in the Nicobar Islands of India. It survives in a few small populations within a limited range and is facing habitat loss. The tree is classified as Endangered on the IUCN Red List and highlighted for urgent focused conservation efforts. Similarly, *Dialium travancoricum*, the only representative of its genus in India, is endemic to the Southern Western Ghats. This species survives with only a single tree and is categorised as Critically Endangered on the IUCN Red List.

These species play vital ecological roles but remain highly vulnerable to habitat loss and limited conservation attention. Unfortunately, losing these trees would not only erase a species but also threaten countless other organisms that depend on them for survival. In some cases, it also erases part of our cultural and natural heritage, as many communities have deep ties to the trees found around them.

Geography Matters

Geography also plays an important role in tree conservation. In particular, countries in the Global South, i.e., India, Brazil, Indonesia, Colombia, Peru, and the Democratic Republic of Congo, are among the most biodiversity-rich nations, holding thousands of native tree species. These regions also contain a high proportion of endemic and yet-to-be-discovered species. Unfortunately, they often struggle with limited funding, weak research infrastructure, and few conservation-focused programmes. Additionally, many countries in Asia, Africa, and South America still do not have a complete list of their tree species.

To fill this gap, Botanic Gardens Conservation International (BGCI) created GlobalTreeSearch (https://tools.bgci.org/global_tree_search.php) — the first comprehensive global database of all known tree species and their country-