

Forest Fires in India

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Forest Fires in India: Causes, Consequences, and Solutions

Context: Why Are Forest Fires a Growing Concern?

Forest fires have become a **major global issue**, causing widespread environmental, social, and economic damage.

- **Recent wildfires in Los Angeles** destroyed homes, caused casualties, and led to large-scale evacuations.
- **Forest fires often receive attention only after major disasters**, but they are a recurring problem that requires continuous prevention and management.
- No region is immune, as **forest fires are increasing worldwide**, including in **California, Australia, the Amazon, and India**.

India, too, is witnessing a **sharp rise in forest fire incidents**:

- **More than 36% of India's forests** are prone to fires (**Forest Survey of India**).
 - **Forest fires have increased 10 times in the last 20 years**, while India's forest cover has grown by just **1.12%** (**Council on Energy, Environment, and Water**).
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The Rising Forest Fire Crisis in India

India's forests are **crucial for biodiversity, climate regulation, and the livelihoods of millions**. However, several states are facing **frequent and severe forest fires**.

- **Himalayan states like Uttarakhand and Himachal Pradesh** often make headlines due to forest fires.
 - **Madhya Pradesh, Maharashtra, Odisha, and Karnataka** are also experiencing a rise in fire incidents.
 - **The dry season, combined with human activities, is making forests highly vulnerable to wildfires**.
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Consequences of Forest Fires

Forest fires **have far-reaching environmental, economic, and social impacts**.

1. Environmental Damage

- **Loss of trees, plants, and wildlife**, leading to destruction of habitats.
- **Increased human-wildlife conflict**, as animals move towards human settlements for safety.
- **Disruption of the water cycle**, reducing groundwater levels and leading to soil degradation.
- **High carbon emissions contribute to climate change.**
 - Indian forest fires release 69 million tonnes of CO₂ annually (World Resources Institute).

2. Economic Losses

- **Destruction of timber and non-timber forest products**, affecting communities dependent on forests.
- **Impact on agriculture and tourism** due to loss of natural resources and scenic landscapes.
- **Annual economic loss due to forest degradation, including fires, is estimated at ₹1.74 lakh crore** (Ministry of Environment, Forest and Climate Change, 2018).

3. Social and Health Consequences

- **Rising air pollution**, causing respiratory diseases and other health issues.
- **Loss of livelihoods** for communities that rely on forest resources.
- **Water shortages**, as forests play a key role in maintaining water sources.

Major Causes of Forest Fires in India

Around **90% of forest fires in India are caused by human activities**, including:

1. **Deliberate burning** for land clearing or agriculture.
2. **Slash-and-burn farming** (also known as shifting cultivation).
3. **Unattended campfires and burning of waste materials** in forested areas.
4. **Illegal activities like poaching and logging**, which increase fire risks.
5. **Rising temperatures and extended dry spells** due to climate change.

India's Measures to Control Forest Fires

Several policies and schemes have been implemented to manage and prevent forest fires:

- **National Action Plan on Forest Fires (NAPFF)** - Focuses on reducing forest fire risks.
- **Forest Fire Prevention and Management Scheme (FFPMS)** - A centrally sponsored scheme to help state governments improve fire management efforts.

However, challenges remain in **funding, technology, and community participation**.

1. Budget Constraints

The funding for **FFPMS has fluctuated**, affecting fire prevention measures:

- ₹46.40 crore (2019-2020)
- ₹32.47 crore (2020-2021)
- ₹34.26 crore (2021-2022)
- ₹28.25 crore (2022-2023)
- ₹40 crore (Revised for 2023-2024)
- ₹50 crore (Planned for 2024-2025)

Inconsistent funding makes long-term planning difficult.

2. Limitations in Technology

- The current Forest Fire Alert System struggles to differentiate between forest fires and other types of fires, leading to delayed response.
- Predictive modelling using weather and satellite data can help identify high-risk areas.
- Drones with thermal imaging cameras can improve monitoring and firefighting.
- Tamil Nadu and Odisha have piloted such technologies, but national-level implementation is needed.

3. Need for Greater Community Involvement

- Early detection and reporting by local communities can help prevent major fire outbreaks.
- Mobile applications, SMS alerts, and toll-free helplines can strengthen early warning systems.
- Women's self-help groups in Uttarakhand and Himachal Pradesh collect pine needles to reduce fire risks.
- Nepal's Community Forest User Groups and Indonesia's Fire-Free Village Program offer models for involving local communities.

The Way Forward: Strengthening India's Response

A **comprehensive and well-coordinated strategy** is required to effectively manage forest fires.

1. Improved Government Policies and Funding

- Ensure consistent funding for fire prevention and management.
- Enforce stricter regulations to prevent illegal land clearing and burning.

2. Advanced Technology for Fire Prevention

- Develop AI-based models to predict fire-prone areas.
- Expand the use of drones and satellite data for real-time monitoring.

3. Strengthening Early Warning Systems

- Encourage local participation in fire detection and reporting.
- Train local communities in fire prevention and firefighting techniques.

4. Community-Based Approaches

- **Promote awareness campaigns** on fire prevention.
 - **Engage youth as 'forest fire scouts'** to assist in monitoring and reporting fires.
 - **Adopt controlled burning techniques** to reduce fire fuel in high-risk areas.
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Conclusion

Forest fires pose **a serious threat to India's environment, economy, and communities**. While policies and programs exist, **more needs to be done to improve funding, technology, and community participation**.

A multi-pronged approach, involving **government agencies, scientists, civil society, and local communities**, is essential to effectively tackle forest fires and ensure the **protection of India's forests for future generations**.



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