

# Forest Resource and Its Sustainable Use For ‘Viksit Bharat’: A Case Study of Jharkhand

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**Abstract**—Forests are one of Jharkhand’s richest natural resources and play a crucial role in building *Viksit Bharat*. Forest maintains biodiversity, regulate climate, conserve soil, recharge groundwater, and act as carbon sinks. It is source of timber, fuelwood, bamboo, medicinal plants, minor forest produce, and Eco-tourism. It also supports tribal and rural livelihoods, cultural traditions, and indigenous knowledge systems. Around 29% of the area in Jharkhand is under forest cover. The state has three major forest types: Tropical Moist Deciduous Forests, Tropical Dry Deciduous Forests, Subtropical Broad-leaved Hill Forests. Sal is the major tree species across large parts of Jharkhand. Other common species include Mahua, Bamboo, Teak, Arjun, Neem, Piyar, etc. Jharkhand is part of the Chhota Nagpur Plateau biogeographic zone, which has varied terrain and supports a mix of ecosystems. There is significant wildlife-richness, including large mammals, smaller mammals, a variety of birds, reptiles etc. Challenges in Forest Resource Management are deforestation, mining, and urbanization etc. To align with *Viksit Bharat’s* vision of development with ecological balance, forests must be used sustainably, adopt sustainable yield forestry (plantation + regulated felling), promote agroforestry & social forestry to reduce pressure on natural forests, encourage joint forest management (JFM) with local communities. Develop eco-friendly alternatives to timber and paper. Promote bio-economy from medicinal plants, bamboo, and forest-based industries. Expand protected areas, biosphere reserves, and wildlife corridors. Promote Eco-tourism with community participation. Strengthen forest rights for tribal people while ensuring conservation. Empower tribal and rural communities through forest cooperatives. Encourage women-led forest self-help groups for minor forest produce. By integrating traditional knowledge + modern technology, forests will become a cornerstone of self-reliant and green India. Forests are not just a resource but a *lifeline*. For *Viksit Bharat*, their sustainable use means developing without destroying, conserving while creating livelihoods, and ensuring that future generations inherit a greener India.

**Index Terms**—Agroforestry; Biosphere reserves; Sustainable; Social forestry

## I. INTRODUCTION

Forests are one of India’s most valuable natural resources. They provide timber, fuelwood, fodder, medicinal plants, and numerous ecological services such as soil conservation, carbon storage, and biodiversity preservation. For achieving the vision of Viksit Bharat (Developed India), sustainable management of forest resources is crucial.

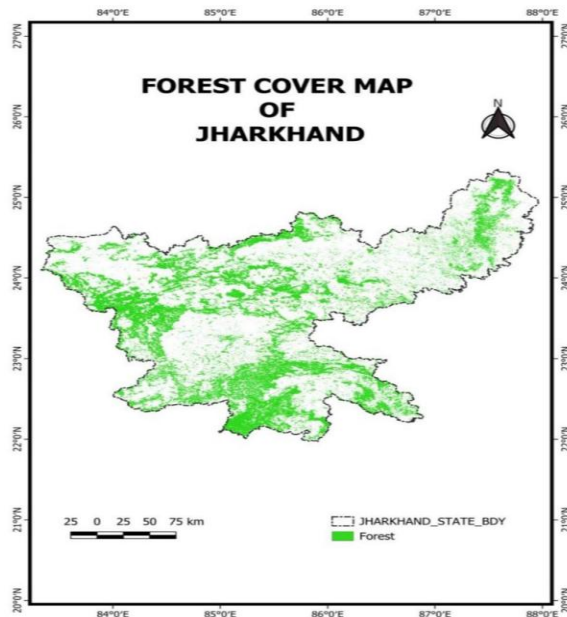
The forest in Jharkhand comprises of biological and geophysical diversities. Due to variations of altitude and rainfall diverse forest types and species are available in Jharkhand Forest. Many species are economically important for the people living in & around the forest areas. These people mainly tribal are engaged in the collection of leaves, barks, gums, roots, flowers, fruits and sometimes entire plants.

Forest provides invaluable income to millions of tribal people and forest dwellers and, thereby, plays an important role in their life support system. They depend on it for food, fodder, medicines. Entertainment Forest is a source of livelihood for nearly 2 million poor and tribal people of Jharkhand: Around 29% of the area in Jharkhand is under forest cover as against 23% in India as a whole. Jharkhand accounts for 3.4% of the total forest cover of the country and ranks 10th among all states. Forests have contributed about 1.3% of the State’s GSDP in 2005-06 which is less than half of what used to be in 2001-02. Jharkhand’s poverty ratio was 44% as against the national average of 29.81% in 2023.

II. METHOD AND MATERIALS

The study was conducted in Jharkhand. In present study is based on secondary data published by different organisations. The data and information presented in this paper have been collected after discussion with local people and members of Village Forest Protection Committees. These have also been verified through consultation with other literature.

Study Area



Source: Forest Survey of India

Jharkhand, an eastern state of India, was carved out of the southern part of Bihar State on 15 November 2000. It is located between 21° 57' - 25° 14' N latitude and 83° 20' - 87° 58' E longitude to the south, and West Bengal to the east. It has an area of 79,714 km<sup>2</sup>. The name "Jharkhand" means "The Land of Forests". Jharkhand accounts for 3.4% of the total forest cover of the country and ranks 10th among all states. The recorded forest area of the state is 23765.78sq. km which is 29.81 % of the geographical area of the state.

Forest Cover:

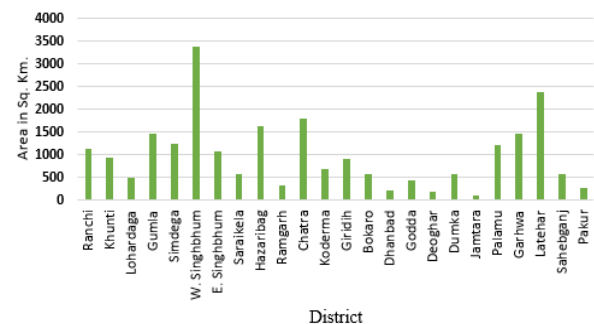
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Viksit Bharat (Developed India), sustainable management of forest resources is crucial. Jharkhand, known as the “Land of Forests,” is one of the most forest-rich states in India. Nearly 29% of its total geographical area is covered by forests. These forests play a vital role in maintaining the ecological balance, supporting tribal livelihoods, and contributing to the state’s economy.

District Wise Forest Cover in Jharkhand-2023

	Forest	Forest Area in Km <sup>2</sup>	% of Total Area
1	Ranchi	1140.46	22.38
2	Khunti	951.71	37.54
3	Lohardaga	503.17	33.50
4	Gumla	1455.41	27.15
5	Simdega	1246.51	33.03
6	W. Singhbhum	3377.69	46.76
7	E. Singhbhum	1068.98	30.01
8	Saraikela	582.04	21.91
9	Hazaribag	1641.54	46.18
10	Ramgarh	341.56	25.47
11	Chatra	1799.39	48.40
12	Koderma	695.74	27.39
13	Giridih	900.20	18.14
14	Bokaro	572.41	19.85
15	Dhanbad	221.20	10.84
16	Godda	430.48	19.00
17	Deoghar	205.66	8.30
18	Dumka	588.84	15.60
19	Jamtara	107.49	5.94
20	Palamu	1217.92	27.72
21	Garhwa	1455.60	35.56
22	Latehar	2383.20	55.54
23	Sahebganj	592.45	28.72
24	Pakur	286.13	15.80
25	Total	23765.78	

District Wise Forest Cover Area (in sq. Km.) Jharkhand 2023



Source: India state Forest Report-2023

Types of Forests in Jharkhand

1. Tropical Dry Deciduous Forests: Found in most parts of the state; dominated by *Sal* (*Shorea robusta*).

- 2. Moist Deciduous Forests: Found in areas with higher rainfall, such as Ranchi and Singhbhum.
- 3. Dry Mixed Forests and Bamboo Forests: Scattered across the plateau and hilly regions.

Major Tree Species in Jharkhand

Sr. No.	Vernacular Name	Name of Species (Botanical name)	Sr. No.	Vernacular Name	Name of Species (Botanical name)
1	Khair	Acacia Catechu	20	Pakar	Ficus lacor
2	Karam	Adina cord folia	21	Gular dumar	Ficus racemosa
3	Bel	Aegle Marmelos	22	Peepal	Ficus religiosa
4	Siris	Albizzia lebbeck	23	Gamhar	Gmelina arborea
5	Dhaura	Anogeissus latifolia	24	Mahua	Madhuca longifolia
6	Kadam	Anthocephalus indicus	25	Aaam	Mangifera indica
7	Neem	Azadirachta indica	26	Bakain	Melia azedarach
8	Koinar	Bauhinia Purpurea	27	Sona	Oroxylum indicum
9	Kachnar	Bauhinia variegata	28	Sandan	Ougeiniaoojeinensis
10	Semul	Bombax Ceiba	29	Karanj	Pongamia pinnata
11	Salai	Boswellia serrata	30	Sal	Shorearobusta
12	Kaj	Bridelia retusa	31	Amra	Spondias pinnata
13	Piar	Buchnanialanzan	32	Jamun	Syzygiumcumini
14	Palas	Butea monosperm	33	Imli	Tamarindus indica
15	Galgal	Cochlospermumreligiosum	34	sagwan	Tectona grandus
16	Shishum	Dalbergia sissoo	35	Asan	Terminalia alata
17	Tendu	Diospyros malabarica	36	Arjun	Terminalia arjuna
18	Amla	Embilica officinalis	37	Harra	Terminalia chebula
19	Bargad	Ficus benghalensis	38	ber	Ziziphus mauritiana

These trees provide timber, fuel wood, and raw materials for forest-based industries.

3. Ecological Role: Forests help prevent soil erosion, maintain water cycles, and support rainfall.

Wildlife and Biodiversity

Jharkhand’s forests are rich in flora and fauna. Major wildlife includes:

- Elephant, Tiger, Leopard, Bear, Deer, and Wild Boar

Protected areas like Betla National Park, Palamau Tiger Reserve, and Dalma Wildlife Sanctuary safeguard this biodiversity.

Sustainable Use of Forest Resources

Sustainability means using resources in a way that meets present needs without compromising the ability of future generations to meet theirs. The following strategies promote sustainable forest use:

Importance of Forests in Jharkhand

- 1. Livelihood Support: Around 60% of Jharkhand’s population, especially tribal communities, depend on forests for food, fuel, and income.
- 2. Economic Contribution: Forest-based products like lac, tendu leaves, bamboo, and medicinal plants contribute to the state’s economy.

1. Afforestation and Reforestation:

The consistent efforts. made by states to rehabilitate the degraded forest areas coupled with intensive soil moisture conservation. and similar strategies of afforestation in blank areas forest cover can be improved. Planting trees on degraded lands and restoring forest areas.

2. Community Forest Management (CFM):

Involving local people in the protection and management of forests.

### 3. Agroforestry

Agroforestry can be defined inclusion of trees in forming system and their management in rural landscape to enhance productivity, profitability, diversity and ecosystem Sustainability. Traditionally agroforestry system is usually combinations of tree crop, food crop, livestock rearing along with land-based livelihood practices like beekeeping, Pisciculture in ponds, vermi-composting, organic farming of vegetable etc. which his family members. Integrating trees with crops and livestock farming to enhance productivity and sustainability.



Sal Leaves for Making Dona

### 4. Use of Non-Timber Forest Products (NTFPs)

Promoting products like honey, bamboo, lac, and medicinal plants.



Kendu Pattta

### 5. Eco-Tourism

Encouraging responsible tourism that supports conservation and local livelihoods. Eco-Tourism: - Jharkhand has about one third forest Cover where there is immense scope of developing Eco-tourism. The lush green jungles, the perennial water falls, the terrain, the moderate climate, the rich wildlife make it an ideal destination for developing Eco-tourism activities like forest trails, nature walks, jungle Safaris, trekking, rock climbing etc.



Mahuwa Flower

### 6. Forest Policy and Laws

Implementation of the National Forest Policy (1988) and Forest Conservation Act (1980) to ensure long-term forest protection.

### 7. Scientific Management

Use of GIS, remote sensing, and sustainable yield practices for forest monitoring.



Sal Tree



Herbal Plant



Wild Mushroom

### III. CONCLUSION

The forests of Jharkhand are a vital natural asset — rich in biodiversity, culture, and economic potential. Sustainable management of these forest resources is essential to preserve nature while ensuring development and livelihood security for the people of Jharkhand. State of Jharkhand cover forest about one third of its geographical area Where there is immense scope of utilization of forest as a resource. State of Jharkhand is rich in biodiversity, which provides several minor Forest produces. It ensures the livelihood to the people of Jharkhand particularly forest dwellers. Sustainable forest resource management and utilization of forest produces the as such Lac, Kendupatta, honey, wax, and several other herbal medicinal plants will be uplift the Living of standard of the people of Jharkhand, an important forest produce which will be raw material of Liquor industry. Eco-tourism where the state of Jharkhand Mahua is another area. Explore the avenue of development. Fores) resource and its sustainable use will be the pillar for “Viksit Bharat”.

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