

# Analytical Study of Social and Economic Factors of Deforestation in Chhattisgarh State

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**Abstract :** Forests are among the most vital natural resources that sustain ecological stability and human survival. They perform a wide range of ecological functions such as regulating climate, conserving soil and water, maintaining biodiversity, and sequestering carbon. Beyond their environmental importance, forests also provide food, fuel, fodder, and raw materials for millions of people, particularly in regions where local communities remain heavily dependent on natural resources for daily subsistence. In India, and specifically in Chhattisgarh, forests hold an even deeper significance because of their socio-cultural connection with tribal communities, who view them not merely as economic resources but as integral elements of their cultural and spiritual life.

Chhattisgarh, often referred to as the “rice bowl of India” and the “heart of tribal India,” is characterized by a dense forest cover, rugged plateaus, and mineral-rich lands. The state accounts for nearly 44 percent of its geographical area under forest cover, making it one of the most forested states in the country. Forests in Chhattisgarh are home to diverse flora and fauna, some of which are rare and endangered. These landscapes serve as the ecological backbone of the state and contribute significantly to India’s overall biodiversity.

**Keywords :** Local communities, its geographical area, forest cover.

**Introduction -** Yet, despite these ecological and cultural values, Chhattisgarh has been experiencing steady deforestation over the past decades. Rapid changes in land use patterns, industrial growth, mining expansion, and infrastructural development have exerted increasing pressure on forest resources. This deforestation has far-reaching implications, not only for the environment but also for the livelihoods of millions, especially the tribal populations who constitute more than 30 percent of the state’s population.

Understanding deforestation requires distinguishing between two levels of causality. The **proximate causes** are the immediate human activities that directly result in forest clearance or degradation, such as agricultural expansion, logging, mining, and settlement growth. On the other hand, the **underlying forces** represent the broader socio-economic, political, and institutional structures that indirectly drive these proximate actions. These include population dynamics, poverty, governance failures, market pressures, and policies favoring extractive development. A comprehensive analysis of deforestation in Chhattisgarh must therefore consider both levels, since proximate causes are often symptoms of deeper systemic issues.

## Review of Literature

Deforestation in India has been a widely discussed subject in academic and policy research, particularly in states like

Chhattisgarh where forest cover plays a central role in the livelihood of indigenous and rural populations. Several studies emphasize that both social and economic factors act as major drivers of forest degradation. Scholars have highlighted the role of population growth and demographic pressure in increasing the demand for cultivable land and forest resources. Expansion of agriculture through shifting cultivation, clearing of forest patches, and encroachment on reserve forests has been identified as a major cause of forest loss (Sharma, 2019). In Chhattisgarh, where tribal communities depend heavily on forest products, such practices become more pronounced due to limited alternative livelihood opportunities.

From the economic perspective, industrialization and mining activities have significantly contributed to large-scale deforestation. Chhattisgarh, being rich in minerals like iron ore, coal, and bauxite, has witnessed extensive clearance of forests for mining leases and industrial corridors (Verma & Singh, 2020). Several reports suggest that the economic policies encouraging industrial expansion often overlook the ecological costs, resulting in biodiversity loss and displacement of local populations. The dependence on forest-based livelihoods such as fuelwood collection, grazing, and minor forest produce has also been recognized as an important factor (Patel, 2021). These subsistence activities, while small-scale individually, collectively exert

enormous pressure on forest ecosystems, leading to gradual degradation.

Cultural and social dimensions are equally significant. Studies point out that traditional beliefs, customary rights over land, and shifting cultivation practices of tribal groups often clash with formal forest conservation policies (Das, 2018). The enforcement of protected areas without adequate participation of local communities sometimes intensifies illegal extraction, as livelihood needs remain unmet. Government initiatives and forest policies in Chhattisgarh have been evaluated in past research. While Joint Forest Management (JFM) and community forestry programs have shown potential in reducing forest degradation, their success largely depends on community participation and equitable benefit-sharing (Kumar, 2022). However, gaps remain in effectively balancing economic development with ecological conservation.

Overall, the literature suggests that deforestation in Chhattisgarh is not the result of a single factor, but rather the outcome of the interaction of social, economic, and cultural processes. While population growth, agricultural expansion, and livelihood dependence form the proximate causes, underlying forces include poverty, inadequate policy implementation, and market-driven demand for resources.

#### Objectives of the study:

1. To analyse social factors of deforestation in Chhattisgarh state.
2. To analyse Economic factors of deforestation in Chhattisgarh state.

**Research Methodology:** The presented research paper is based on primary and secondary data. Observation and interview method has been used for collection of primary data and for secondary data, relevant data has been obtained from offices.

#### Analysis

**A. Social factors for deforestation:** Chhattisgarh, often referred to as the "Rice Bowl of India," is one of the most resource-rich states in the country, endowed with dense forests, rich biodiversity, and vast mineral reserves. Forests cover a significant portion of its geographical area, forming the backbone of tribal culture, livelihoods, and ecological balance. However, deforestation in Chhattisgarh has emerged as one of the most critical environmental challenges of the last few decades. While ecological and economic reasons are widely studied, the **social factors driving deforestation** remain deeply influential. Human behavior, lifestyle patterns, social structures, demographic shifts, poverty, cultural practices, and institutional dynamics together shape the way forests are used and misused. Understanding these social factors is crucial to address deforestation in a state where forest and people share such a long-standing symbiotic relationship.

**1. Population Growth and Pressure on Land:** The population of Chhattisgarh has been rising steadily, and with it, the pressure on land resources. A large share of the

population lives in rural areas, where people directly depend on forests for subsistence. The expansion of villages, construction of housing, demand for firewood, and small-scale farming all exert pressure on forest lands. In tribal-dominated districts like Bastar, Dantewada, Kanker, and Korba, communities traditionally practiced shifting cultivation and collected forest produce for survival. While these practices were once sustainable due to lower population densities, today they have become unsustainable because the same forests are required to meet the needs of a much larger population. Thus, demographic expansion directly contributes to forest degradation.

**2. Dependence on Firewood and Biomass:** One of the major social factors responsible for deforestation in Chhattisgarh is the heavy reliance on firewood for cooking, heating, and household energy needs. Even in recent decades, a large section of rural and tribal households continue to use traditional biomass energy rather than cleaner alternatives like LPG or electricity. This dependence results in large-scale daily extraction of wood from nearby forests. In areas with limited income, purchasing alternative fuels is either unaffordable or inaccessible. Women and children often spend hours collecting fuelwood, reflecting both the economic and social dimensions of this dependence. The cumulative effect of thousands of families collecting firewood every day has drastically reduced forest density in several regions of the state.

**3. Poverty and Livelihood Dependency:** Poverty is deeply linked with deforestation in Chhattisgarh. Many rural households have limited income opportunities beyond agriculture and forest produce collection. For poor families, forests are not just a source of food and firewood but also provide income through minor forest products like tendu leaves, sal seeds, mahua flowers, lac, honey, and medicinal herbs. These products are often collected in unsustainable quantities, sometimes involving cutting of branches or burning of undergrowth to increase yield. Similarly, the collection of timber for household construction or for selling illegally is often driven by immediate financial needs. The cycle of poverty pushes people into overexploitation of resources, and at the same time, the destruction of forests deepens poverty by reducing the availability of forest products in the long run.

**4. Agricultural Expansion and Shifting Cultivation:** Agricultural practices are another important social driver of deforestation. In tribal areas of Chhattisgarh, shifting cultivation (locally known as "bewar" or "podu") was once carried out on a small scale, with long fallow periods that allowed forests to regenerate. However, with population growth and reduction in available land, the fallow period has shortened drastically. Families are compelled to clear more forested areas each year, leading to permanent deforestation rather than regenerative cycles. Additionally, subsistence farmers frequently extend cultivation into forest margins to meet food needs. The expansion of paddy

cultivation, especially in low-lying forest-rich areas, has resulted in the clearing of large tracts of forest land, thereby accelerating deforestation.

**5. Grazing Pressure and Livestock Rearing:** Animal husbandry is central to rural and tribal livelihoods in Chhattisgarh. Cattle, goats, and buffaloes are often grazed freely in forest lands. With the increasing livestock population, grazing pressure on forests has become unsustainable. Overgrazing prevents natural regeneration of young plants and causes compaction of soil, leading to further degradation. Communities often cut young saplings for fodder, undermining reforestation efforts. Social practices such as maintaining large herds for status or traditional reasons also add to this pressure. In this way, grazing emerges as a subtle but powerful social factor in the deforestation process.

**6. Cultural Practices and Religious Traditions:** Tribal communities of Chhattisgarh share deep cultural bonds with forests. Rituals, festivals, and local traditions often involve the use of wood, flowers, leaves, and animal sacrifices. For example, large quantities of wood are required for traditional marriage ceremonies, cremation practices, and village festivals. While these activities are part of the cultural identity of tribal life, their cumulative demand on forest resources is significant. Furthermore, hunting, though declining, remains a traditional practice in some areas, contributing to disturbance of forest ecosystems. Thus, cultural traditions—while deeply valuable—sometimes indirectly contribute to forest exploitation.

**7. Urbanization and Social Aspirations:** With the spread of education, communication, and exposure to urban lifestyles, rural and tribal populations are increasingly aspiring for modern facilities. This has created new social demands such as the need for permanent housing, furniture, and consumer goods. As a result, timber extraction for household construction or sale has increased. Migration to towns for work has also altered consumption patterns, with families spending more on market goods that require packaging, firewood, and raw materials derived from forests. Social aspirations, therefore, influence the scale and type of forest resource use in both direct and indirect ways.

**8. Social Exclusion and Weak Institutional Integration:** Another important social factor behind deforestation in Chhattisgarh is the limited integration of tribal communities with formal governance structures. Many forest dwellers are either unaware of or excluded from schemes meant to regulate forest use and provide alternatives such as subsidized fuel, fertilizers, or irrigation. Weak participation in local institutions, lack of negotiating power, and fear of external authorities often push communities to rely exclusively on forest resources. At the same time, the intrusion of non-tribal groups into tribal areas for logging or land grabbing further alienates indigenous people from their traditional habitats, causing conflict and

unregulated exploitation.

**9. Illiteracy and Lack of Environmental Awareness:** Low literacy rates in many tribal-dominated areas of Chhattisgarh have contributed to the persistence of unsustainable practices. Without adequate knowledge about long-term ecological consequences, people continue to overexploit forests. For example, cutting green trees for firewood or clearing steep slopes for cultivation may provide short-term benefits but cause long-term damage through soil erosion and reduced fertility. Lack of awareness also means that communities often fail to adopt alternative practices like agroforestry, fuel-efficient stoves, or sustainable harvesting methods. This absence of awareness, combined with poverty, accelerates forest degradation.

**10. Social Conflicts and Displacement:** Chhattisgarh has been affected by conflict situations, particularly in tribal belts like Bastar and Dantewada, due to insurgency and counter-insurgency operations. Displacement of villagers from their homes, either due to conflict or development projects like mining, roads, and industries, has a major social impact on forests. Displaced communities are often resettled in new areas, where they clear forests to build homes and cultivate land. Social unrest also weakens community institutions that traditionally regulated forest use, leaving forests more vulnerable to exploitation.

**11. Gender Dimensions of Forest Use:** In tribal society, women are the primary collectors of firewood, medicinal plants, and edible forest products. Their daily survival needs directly depend on forest resources. However, their limited decision-making power in formal institutions means that their voices are often unheard in forest governance. This gendered social structure results in overdependence on forests for household needs without adequate institutional support for sustainable alternatives. In this way, gender roles, combined with lack of empowerment, become a social factor that indirectly fuels deforestation.

**12. Migration and Changing Social Relations:** Seasonal and permanent migration from rural areas to cities in search of work has also reshaped forest use. When men migrate, women and elderly people are left to manage households, leading to greater dependence on nearby forests for fuel and fodder. At the same time, remittances from migration sometimes lead to new consumption patterns—construction of bigger houses, buying of livestock, or investment in farming—that increase pressure on forests. Thus, migration creates both direct and indirect social pathways that contribute to deforestation. The problem of deforestation in Chhattisgarh cannot be explained solely in terms of economic or ecological pressures. It is deeply rooted in social structures, traditions, lifestyles, and community needs. Population growth, poverty, dependence on firewood, cultural rituals, agricultural practices, and weak institutional integration together drive the exploitation of forests. The issue is further complicated by gender roles,



illiteracy, social exclusion, and conflict-related displacement. Addressing deforestation in Chhattisgarh therefore requires not just technical or legal interventions but a holistic social approach—one that recognizes the dependence of people on forests, respects their cultural practices, provides sustainable alternatives, and strengthens local institutions. Conservation policies must be people-centric, ensuring that tribal communities are active participants rather than victims of forest governance. Only by acknowledging and addressing these social dimensions can Chhattisgarh strike a balance between ecological preservation and human well-being.

**Table 1: factor of Deforestation**

Social Factor	Link to Deforestation
<b>Population Growth</b>	Expanding villages, increased demand for land, firewood, and cultivation leads to forest clearance.
<b>Dependence on Firewood</b>	Daily extraction of wood for cooking and heating reduces forest density.
<b>Poverty &amp; Livelihood Needs</b>	Overharvesting of timber and NTFPs to meet income and survival needs depletes forest resources.
<b>Agricultural Expansion</b>	Shifting cultivation and paddy farming push into forest areas, reducing forest cover.
<b>Grazing Pressure</b>	Overgrazing by cattle and goats prevents regeneration and damages saplings.
<b>Cultural &amp; Religious Practices</b>	Rituals, festivals, and traditional ceremonies demand wood, plants, and animals from forests.
<b>Urbanization &amp; Aspirations</b>	Increased demand for timber, furniture, and construction materials accelerates deforestation.
<b>Social Exclusion</b>	Weak integration with institutions and intrusion by outsiders cause unregulated forest use.
<b>Illiteracy &amp; Lack of Awareness</b>	Unsustainable practices like green tree felling and slope farming degrade forests.
<b>Conflict &amp; Displacement</b>	Villager displacement due to insurgency and development projects leads to fresh clearing of forests.
<b>Gender Roles</b>	Women's heavy dependence on forests for household needs, without institutional support, fuels overuse.
<b>Migration</b>	New consumption patterns and land clearing in resettled areas increase forest pressure.

**Source: Primary Data.**

**Economical factors of deforestation :** Deforestation in Chhattisgarh is not merely an ecological issue but also a deeply rooted economic phenomenon. The state, known as the “Rice Bowl of Central India” and endowed with nearly **44 percent forest cover**, is also one of the richest in terms

of mineral and forest resources. Its economic activities—ranging from mining and industrialization to agriculture and fuelwood extraction—have created enormous pressures on forests. While forests sustain the tribal economy, they also serve as the backbone of formal industries, creating a paradox in which economic growth often comes at the expense of ecological stability. Analyzing the economic factors behind deforestation is thus essential to understanding the broader development trajectory of Chhattisgarh.

**1. Mining and Mineral Extraction:** Chhattisgarh is endowed with abundant mineral wealth, including coal, iron ore, bauxite, limestone, and dolomite. Districts like Dantewada, Korba, Raigarh, Bastar, and Bilaspur are major centers of mining operations. The extraction of these minerals requires large-scale clearance of forests for open-cast mining, road building, and associated infrastructure. Iron ore mining in Dantewada's Bailadila hills and coal mining in Korba are prime examples where dense forests have been destroyed to meet industrial demand.

Economically, mining contributes significantly to the state's Gross State Domestic Product (GSDP), creates employment opportunities, and generates revenue through royalties and taxes. However, the environmental cost is immense. Mining operations not only lead to direct deforestation but also cause soil erosion, water pollution, and loss of biodiversity. The dependence of the state on mineral revenues has often tilted the balance in favor of granting mining leases, even in ecologically sensitive areas. For local tribal communities, the economic benefits are negligible compared to the loss of land, displacement, and disruption of their traditional forest-based livelihoods.

**2. Industrialization and Infrastructure Growth:** Industrial expansion has been another crucial driver of deforestation in Chhattisgarh. The state has several steel plants, thermal power stations, and cement factories, many of which are located near forest areas for easy access to raw materials. For example, Bhilai Steel Plant, one of India's largest, depends heavily on iron ore extracted from forest-rich Bastar and Dantewada. Thermal power plants in Korba and Raigarh consume vast quantities of coal, again extracted from forest zones.

Additionally, the setting up of industrial townships, transport corridors, and power transmission lines demands forest clearance. Roads connecting mining areas to industrial hubs cut through dense forests, fragmenting ecosystems. While these developments are justified in the name of economic progress, the immediate effect is large-scale forest degradation. The challenge lies in balancing the short-term industrial gains with the long-term ecological costs.

**3. Agriculture and Shifting Cultivation:** Agriculture is the backbone of Chhattisgarh's rural economy, employing more than 70 percent of its population. The pressure to expand agricultural land is one of the oldest and most

persistent causes of deforestation. With rising population and food demand, farmers often encroach upon forest areas to cultivate crops like paddy, maize, and millets. In tribal-dominated districts, shifting cultivation (locally known as "Podu" or "Jhum") still continues, albeit in a reduced form. This practice involves clearing forest patches for temporary farming, which contributes to forest loss when fallow cycles are shortened due to population growth.

Economically, agriculture ensures subsistence for rural households, but the expansion into forest lands comes with trade-offs. Soil fertility is often low in newly cleared areas, leading to unsustainable farming and further forest encroachment. The lack of irrigation facilities also forces farmers to depend on rainfed agriculture, increasing their vulnerability and dependency on more land. In the absence of adequate agricultural reforms and alternative livelihood options, forests remain the easiest and cheapest resource for expansion.

**4. Fuelwood and Energy Needs:** One of the most direct economic reasons for deforestation in Chhattisgarh is the dependence of rural households on fuelwood. For cooking, heating, and small-scale industries such as brick kilns and lime production, wood remains the primary source of energy. In tribal areas, where access to LPG and electricity is limited or unaffordable, forest wood is collected daily in large quantities.

This fuelwood demand, although appearing small at the household level, becomes massive when aggregated across villages. Small industries such as dhabas, roadside eateries, jaggery-making units, and pottery kilns also thrive on firewood. The lack of alternative energy infrastructure, coupled with the economic affordability of free wood from forests, creates a cycle of dependency that continues to degrade forest resources.

**5. Timber Extraction and Illegal Logging:** Timber, bamboo, and other forest products have long been integral to the economy of Chhattisgarh. Timber is used for construction, furniture, agricultural implements, and infrastructure projects. Bamboo is vital for paper mills, handicrafts, and construction. While the government regulates timber extraction through forest departments, illegal logging and smuggling remain rampant.

The black-market value of teak, sal, and bamboo creates strong incentives for forest encroachment and over-exploitation. Corruption, weak enforcement, and the involvement of contractors exacerbate the problem. For local villagers, timber extraction also provides seasonal income, making it economically attractive despite its long-term destructive impact.

**6. Non-Timber Forest Products (NTFPs) and Market Pressures:** Chhattisgarh is often called the "Herbal State" because of its rich variety of medicinal plants, tendu leaves, mahua, tamarind, and lac. Collection of these products forms a substantial part of tribal livelihoods. For instance, tendu leaves are used for bidi-making and provide

employment to thousands of tribal families. However, commercial pressures and market-driven exploitation of NTFPs often result in unsustainable harvesting practices, indirectly contributing to forest degradation.

Contractor-based collection systems frequently exploit tribal collectors by offering low prices, pushing them to extract more in order to increase their income. This over-harvesting disturbs the regenerative capacity of forests. Mahua flowers, used for food and local liquor, are another major source of income, but extensive collection can reduce the natural reproduction of mahua trees. Thus, the commercialization of NTFPs, while providing cash income, simultaneously threatens the sustainability of the resource bases.

**7. Population Growth and Settlement Expansion:** The population of Chhattisgarh has been steadily increasing, with tribal and rural populations expanding into forest fringes. The establishment of new villages, expansion of old settlements, and increasing demand for housing materials directly lead to deforestation. Migration from other states for industrial jobs and mining work also adds to settlement pressure in forest areas.

Economically, population growth translates into more mouths to feed, more land required for agriculture, and greater energy consumption. This cumulative demand places immense stress on forest lands. In the absence of proper urban planning and land-use regulations, unregulated settlements often emerge on forest land, leading to long-term encroachment.

**8. Infrastructure Development:** Roads, railways, power lines, irrigation dams, and canals are critical for economic growth in Chhattisgarh. However, such projects often require clearing large areas of forests. The construction of the Dudhawa Dam, Hasdeo Bango Dam, and other irrigation projects submerged forest tracts, leading to displacement of villages and loss of biodiversity.

Roads built to connect mining zones to industrial towns pass through dense forests, fragmenting wildlife habitats. Railways and transmission lines also cut across ecologically sensitive areas. While infrastructure boosts connectivity and economic opportunities, it leaves behind scars of deforestation that are often ignored in cost-benefit analyses.

**9. Poverty and Livelihood Dependence:** Ironically, poverty itself is an economic factor driving deforestation in Chhattisgarh. For the poor and marginalized, especially tribal households, forests are the most accessible source of food, fuel, fodder, and income. Collection of firewood, bamboo, mahua, honey, and medicinal herbs forms their safety net in times of economic distress. However, over-dependence due to lack of alternative livelihood options often leads to unsustainable exploitation of resources.

The cycle of poverty and deforestation is self-reinforcing: poverty pushes people to exploit forests, while deforestation reduces the resource base, further aggravating poverty. Government schemes for alternative

livelihoods and skill development are often weakly implemented in remote forest regions, keeping people locked in forest dependency.

**10. Market and Globalization Pressures:** The integration of Chhattisgarh's forest economy into national and global markets has amplified pressures on forests. The demand for iron ore, coal, bamboo, and tendu leaves extends beyond the state to national and international buyers. With globalization, forest products are not merely local subsistence goods but commodities traded for profit.

This commercial orientation increases the scale of extraction, often beyond sustainable limits. Mining exports, industrial supply chains, and corporate contracts create economic incentives that prioritize short-term gains over long-term forest conservation. Tribal communities, instead of benefiting proportionately, often find themselves marginalized in this market economy.

**Conclusion :** Government policies also contribute indirectly to deforestation when economic priorities outweigh ecological considerations. Industrial corridors, Special Economic Zones (SEZs), and mining leases are granted in forest areas to attract investment. While compensatory afforestation is mandated, it rarely matches the ecological value of original forests.

Subsidies for mining and industrial projects further tilt economic incentives towards resource extraction. Weak enforcement of environmental clearances and inadequate rehabilitation of displaced people deepen the problem. In effect, the state's development model, centered on industrial growth, directly competes with the goal of forest conservation.

Deforestation in Chhattisgarh cannot be understood in isolation from its economic drivers. Mining, industrialization, agriculture, fuelwood demand, timber extraction, and market pressures are all rooted in the state's economic structure. While these activities generate revenue and employment, they simultaneously degrade the ecological foundation upon which millions of people—especially tribal communities—depend. The challenge lies in designing economic policies that balance growth with sustainability. Unless alternative livelihoods, renewable energy options, and stricter resource management practices are adopted, the cycle of deforestation will continue to erode both the ecological wealth and cultural heritage of Chhattisgarh.

In sum, deforestation in Chhattisgarh is not simply an environmental concern; it is an economic dilemma, reflecting the contradictions between development and sustainability. Recognizing and addressing these economic factors is essential if the state is to pursue a path of inclusive and ecologically balanced development.

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