



FOREST RESOURCES AND SOCIO-ECONOMIC DEVELOPMENT IN BILASPUR DIVISION, CHHATTISGARH: LIVELIHOODS, WOMEN'S PARTICIPATION AND FOREST GOVERNANCE

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ABSTRACT

Forest resources are closely connected with the socio-economic well-being of rural households in Chhattisgarh. Their importance is reflected not only in forest-product collection and income but also in food security, employment, household assets, women's participation, livelihood diversification and community institutions. This paper examines the socio-economic role of forest resources in Bilaspur Division through the geographical framework of a Ph.D. study covering the six districts of the division under the 2020 administrative structure. The analysis combines household-level indicators with forest-resource utilization, government-policy participation and forest-management practices. Particular attention is given to the ways forest-derived income can support education, health, housing, food security and household assets, while women's involvement in collection, processing and marketing can contribute to economic participation. The paper also examines the tension between increasing resource dependence and forest conservation. The study argues that socio-economic development through forest resources is sustainable only when economic benefits are combined with regeneration, community participation, institutional support, value addition and equitable access to markets. The geographical approach highlights spatial differences in resource availability, accessibility, forest dependence and development outcomes. The paper concludes that forest governance should move toward locally appropriate, livelihood-sensitive and conservation-oriented strategies that strengthen the economic agency of forest-dependent households.

Keywords

Forest resources; socio-economic development; women; livelihood diversification; forest governance; community participation; NTFPs; sustainable development; Bilaspur Division; Chhattisgarh.

1. INTRODUCTION

Forests are fundamental to the socio-economic organization of many rural communities. They provide food, fuel, fodder, medicinal resources and materials for household use while also creating opportunities for income and employment. The thesis on which this paper is based describes forests as complex ecosystems that combine ecological services with tangible and intangible benefits for society. It emphasizes that forest resources contribute to household income, employment and subsistence, while also supporting biodiversity, soil conservation, water regulation and environmental stability. The socio-economic significance of forests becomes particularly visible where agriculture and wage employment are uncertain. Forest products may act as a safety net, allowing households to meet essential expenditures during lean periods. However, socio-economic development cannot be measured only by forest income. It also involves improvements in education, health, housing, food security, assets, women's participation and livelihood security. The research framework therefore includes these dimensions as part of the assessment of forest-related development.

Bilaspur Division is an appropriate setting for this analysis because the region contains different levels of forest dependence and different degrees of market and institutional accessibility. The study uses the six-district administrative framework relevant to the year 2020—Bilaspur, Mungeli, Janjgir-Champa, Korba, Raigarh and Gaurela-Pendra-Marwahi.

2. OBJECTIVES

- To examine the contribution of forest resources to household socio-economic development.
- To assess the relationship between forest income and education, health, housing, food security and assets.
- To examine women's participation in forest-based livelihood activities.
- To assess the role of forest management and government policy in improving livelihood outcomes.
- To identify constraints and suggest strategies for inclusive and sustainable forest-based development.

3. CONCEPTUAL FRAMEWORK

The conceptual framework links five components: forest-resource availability, utilization, economic returns, socio-economic outcomes and governance. Availability provides the resource base; utilization determines how households access and consume or sell forest products; economic returns are generated through income and employment; socio-economic outcomes emerge through improvements in household welfare; and governance influences sustainability and distribution of benefits.

This relationship is not linear. High utilization may increase short-term income but can reduce future resource availability if harvesting is unsustainable. Conversely, conservation without livelihood alternatives may impose costs on resource-dependent households. Sustainable

development therefore requires an equilibrium between resource use and regeneration. Community institutions, government programmes, market systems and women's participation can mediate this relationship.

4. METHODOLOGY

The study uses a mixed geographical approach combining secondary information and primary household data. The thesis methodology specifies a structured household questionnaire as the principal primary-data instrument. It covers household characteristics, occupation, education, livelihood sources, income, forest products, collection frequency, forest dependence, forest-derived income, employment, marketing, resource availability, forest management and awareness of government programmes. A field-observation schedule is also used to record settlement location, forest proximity, accessibility and livelihood activities.

The household indicators include gender, age, social category, education, household size, occupation, landholding, forest distance, collection frequency, forest-product output, forest income, forest-income share, forest employment, women's participation, forest management, government-policy support, forest-cover change and socio-economic development. The supporting schedule explicitly identifies income, education, housing, food security and household assets as dimensions of socio-economic development.

The analysis can use descriptive statistics, cross-tabulation, composite indices and association tests. The underlying thesis specifically proposes examination of relationships between forest utilization and household income, forest-product output, forest-cover status, government policy support and forest management. This analytical structure is useful for determining whether forest dependence is associated with measurable differences in household welfare.

5. FOREST RESOURCES AND HOUSEHOLD WELFARE

The socio-economic contribution of forests operates at several levels. At the consumption level, households obtain food, fuel and medicinal products directly. At the income level, sale of forest products generates cash. At the employment level, collection and processing provide work. At the welfare level, income and savings from forest activities can support education, health, housing and assets. These outcomes are particularly important for households with limited agricultural land or irregular wage employment.

Forest-derived income can improve food security in two ways. It can provide food products directly and generate cash for purchasing food. During agricultural lean periods, collection activities may supplement household resources. However, dependence may also expose households to fluctuations in forest-product availability. Therefore, the quality of forest-based development depends on both resource sustainability and diversification into complementary livelihoods.

6. EDUCATION, HEALTH AND HOUSING

Household expenditure patterns provide a useful indicator of the developmental significance of forest income. When forest-derived earnings are invested in children's education, health care or housing improvement, the contribution of forests extends beyond immediate consumption. Education can strengthen future livelihood opportunities, while health expenditure protects household productive capacity. Housing improvements provide a visible indicator of accumulated economic capacity.

The research schedule therefore asks whether forest income has contributed to education, health expenditure and housing improvement. It also records housing type and household assets. These indicators permit a broader assessment of whether forest resources contribute to long-term welfare rather than only short-term income.

7. FOREST INCOME AND HOUSEHOLD ASSETS

Household assets represent accumulated economic capacity and can include agricultural equipment, livestock, motorcycles, refrigerators, televisions, mobile phones and other productive or consumer goods. Forest income may contribute to asset formation directly or indirectly by reducing the need to sell existing assets during difficult periods. Productive assets can, in turn, strengthen livelihood diversification.

The relationship between forest income and assets should, however, be interpreted carefully. Asset ownership is influenced by occupation, landholding, remittances, wage income, access to credit and public programmes. Therefore, forest income should be considered one factor within a wider livelihood system. A geographical comparison can help identify villages where forest resources play a larger role in household asset formation.

8. WOMEN'S PARTICIPATION IN FOREST-BASED ACTIVITIES

Women are often central participants in forest-based livelihood systems. Their work may include collection, sorting, cleaning, drying, processing, packaging, storage and marketing. Such activities can create economic opportunities while drawing upon locally available resources. The research schedule specifically examines women's participation and whether women receive or control forest-derived income.

Women's participation becomes more economically meaningful when it is connected to collective institutions such as self-help groups and cooperatives. Collective action can improve bargaining power, facilitate training, enable access to finance and support local processing. It can also shift women from being only collectors of raw products toward participants in value-added activities. Such a shift has potential implications for household income and women's economic agency.

The paper therefore views women's participation not as a separate social variable but as part of the economic structure of forest-based livelihoods. Policies aimed at improving forest-based development should include women in decisions about collection, processing, marketing, benefit

sharing and conservation.

9. LIVELIHOOD DIVERSIFICATION AND MIGRATION

Forest dependence is often combined with agriculture, livestock, wage labour and small-scale business. Diversification reduces vulnerability by distributing household income across several activities. Forest income can become particularly important during periods of agricultural unemployment. The underlying thesis asks whether forest activity provides off-season employment and whether forest income reduces dependence on migration.

Where local forest-based employment is available, households may have fewer incentives to migrate temporarily. However, forest activities alone may not provide sufficient income throughout the year. Sustainable development therefore requires combining forest-based livelihoods with agriculture, livestock, skills, small enterprises and public employment. This integrated approach can reduce vulnerability without increasing pressure on forests.

10. FOREST MANAGEMENT AND COMMUNITY PARTICIPATION

Socio-economic development based on forest resources cannot be sustained if resource extraction exceeds regeneration. The thesis emphasizes that population growth, agricultural expansion, mining, industrial development, infrastructure, urbanization and uncontrolled extraction can create pressure on forest ecosystems. At the same time, afforestation, social forestry, joint management, community participation and improved governance can support protection and regeneration. □filecite□turn22file0□L36-L44□

Community participation is important because local households possess practical knowledge of seasons, species, collection practices and resource availability. Sustainable harvesting rules are more likely to be effective when communities understand and participate in them. The research schedule therefore includes statements measuring avoidance of excessive harvesting, seasonal collection, forest protection, plantation, fire prevention, conservation rules and the usefulness of traditional knowledge.

11. GOVERNMENT POLICY AND INSTITUTIONAL SUPPORT

Government policy influences forest-dependent livelihoods through conservation rules, collection systems, market support, training, procurement, community institutions and livelihood programmes. The thesis literature review notes that forest governance in India has moved toward greater emphasis on conservation, community participation, livelihood security and climate objectives. It also notes that implementation outcomes are affected by administrative capacity, local institutions, political economy, market forces and community participation.

For local households, policy effectiveness is experienced through practical access: whether information reaches the village, whether collection centres function, whether prices are transparent, whether training is available, and whether women and community institutions can participate. Thus, policy evaluation should combine formal programme objectives with household-level perceptions and outcomes

12. SOCIO-ECONOMIC DEVELOPMENT INDEX

A composite socio-economic development index can be constructed from selected household indicators such as income, education, housing, food security and assets. Each indicator can be standardized or coded according to the research design, and the combined score can classify households or villages into low, medium and high levels of socio-economic development. The prepared thesis appendix explicitly identifies income, education, housing, food security and assets as dimensions for such assessment. The index provides a useful geographical comparison because individual indicators may show different patterns. A village may have moderate income but better education outcomes, while another may have higher forest dependence but weaker asset ownership. A composite index captures the broader welfare condition and allows the relationship with forest utilization to be examined more systematically.

13. MAJOR CHALLENGES

- Unequal access to forests and forest products.
- Declining availability of selected resources in areas of high extraction pressure.
- Seasonality of collection and income.
- Low bargaining power of primary collectors.
- Limited storage, processing and value-addition facilities.
- Inadequate market information and transport.
- Unequal participation in institutional benefits.
- Potential conflict between short-term livelihood needs and long-term conservation.

14. POLICY RECOMMENDATIONS

- Promote sustainable harvesting based on local resource conditions and regeneration capacity.
- Strengthen village-level storage, processing, packaging and value-addition facilities.
- Improve transparent procurement and market information systems.
- Expand training and enterprise support for women and self-help groups.
- Strengthen community participation in forest protection, fire prevention and regeneration.
- Integrate forest livelihoods with agriculture, livestock, skills and other livelihood programmes.
- Use GIS and remote sensing to monitor forest condition and identify areas of increasing utilization pressure.
- Ensure that conservation policies are accompanied by viable livelihood alternatives where household dependence is high.

15. CONCLUSION

Forest resources have an important role in the socio-economic development of rural communities in Bilaspur Division. Their contribution extends from direct consumption and income to employment, food security, education, health, housing, asset formation and livelihood diversification. Women's participation can further strengthen household economic capacity when collection is connected with processing, marketing and collective institutions. However, the

benefits of forest resources are not automatically sustainable. Resource degradation, weak market access, limited value addition and unequal institutional support can reduce long-term gains.

The study therefore supports an integrated model of forest-based development in which ecological conservation and socio-economic development are treated as complementary objectives. Strengthening local institutions, improving market systems, expanding value addition, supporting women and using spatial technologies for monitoring can increase the developmental contribution of forests while reducing pressure on the resource base. The geographical perspective is particularly valuable because it recognizes that forest dependence and development outcomes vary across locations. Location-specific planning is consequently essential for sustainable and equitable forest-based development in Bilaspur Division.

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