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LIVELIHOOD DIVERSIFICATION WITHIN A RESOURCE-DEPENDENT RURAL ECONOMY: AN ETHNOGRAPHIC STUDY OF TOURISM AND NON-TIMBER FOREST PRODUCT (NTFP) USE IN KOTUMSAR VILLAGE, BASTAR, CHHATTISGARH

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RESEARCH ARTICLE

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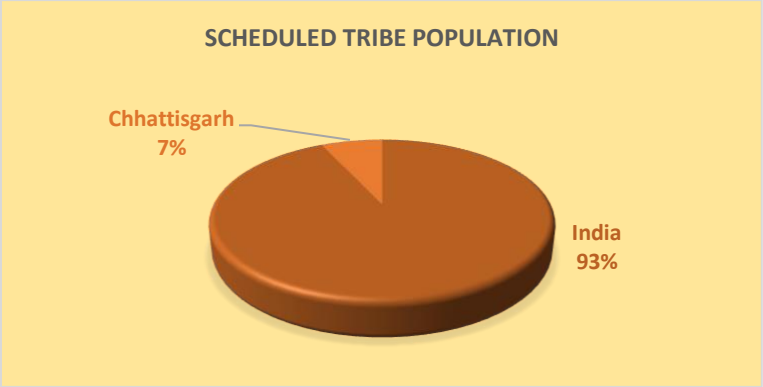
Abstract
This study examines livelihood diversification within a resource-dependent rural economy through an ethnographic analysis of Kotumsar village in Kanger Valley National Park, Bastar, Chhattisgarh. Focusing on the dual role of Non-Timber Forest Products (NTFPs) and tourism, the research analyzes the degree of forest dependency and the extent to which tourism reshapes local livelihood patterns. Findings reveal that NTFPs constitute the primary and most reliable source of income, ensuring subsistence security and reflecting strong structural dependence on forest resources. In contrast, tourism provides seasonal and supplementary income, characterized by informality, limited scale and income volatility. While tourism contributes to livelihood diversification and introduces market-oriented opportunities, its impact remains constrained due to weak institutional support, inadequate skills, and unequal value distribution. The study highlights that diversification has not led to substantial structural transformation, and traditional resource-based activities continue to dominate the local economy, underscoring the need for more inclusive and sustainable development interventions.

Keywords: *Non-Timber Forest Products (NTFPs), Livelihood Diversification, Resource-Dependent Rural Economy, Tourism, Kotumsar Village, Bastar, Chhattisgarh*

Introduction

Livelihood systems in rural tribal regions are increasingly shaped by the need to balance traditional resource dependence with emerging economic opportunities (Gupta, 2011; Sharma & Sahu, 2019). Within this context, the concept of livelihood diversification becomes crucial in understanding how communities adapt to changing socio-economic and environmental conditions. This study, explores the dynamic interplay between forest-based livelihoods and tourism in a tribal setting. Located near Kanger Valley National Park, Kotumsar village (composed of Gond, Maria, Muria, Halba, Dhurwa tribe) is characterized by a high dependence on non-timber forest products such as tendu leaves, mahua, and tamarind, which form the backbone of household economies (Banik & Nema, 2014). At the same time, the growing presence of tourism-particularly around natural attractions like Kotumsar Cave, have introduced new, albeit uneven, income opportunities (Shrey, Choudhury & Dhurwey, 2017).

This study adopts an ethnographic approach to examine how tribal households negotiate between these livelihood sources. It highlights patterns of economic diversification, spatial inequalities in tourism participation, and the continued centrality of forest resources. By situating local practices within broader development debates, the research contributes to understanding sustainable livelihood strategies in resource-dependent rural economies.



Graph 1: Tribal Population of Chhattisgarh
Source: Ministry of Tribal Affairs

Importance of Forest-Based Livelihoods (NTFPs): Forest-based livelihoods form the backbone of the tribal economy in Bastar. The Ministry of Tribal Affairs identifies Non-Timber Forest Products (NTFPs) - such as tendu leaves, mahua flowers, sal seeds, lac, and medicinal plants- as critical to both subsistence and income generation for tribal households. In regions like Bastar, a substantial proportion of annual household income is derived from the seasonal collection and sale of these forest products (Kumar, 2019). Beyond their economic significance, NTFPs are embedded in the cultural and ritual life of tribal communities. Collection practices are governed by traditional ecological knowledge systems that ensure sustainability and intergenerational transfer of skills (Saxena, 2003). The Ministry's policies, including the Minimum Support Price (MSP) scheme for minor forest produce, further acknowledge the centrality of forest resources in tribal livelihoods. However, access to forest resources is increasingly mediated by conservation regulations and market dynamics, creating new vulnerabilities and dependencies (Ministry of Tribal Affairs, n.d).

Picture 1 & 2: Tribal Settlements in Kotumsar Village inside Kanger Valley National Park, Bastar, Chhattisgarh
Source: Captured during field visit 2026

Emergence of Tourism in Kanger Valley National Park (Kotumsar Cave): The designation of forest areas as protected zones, such as Kanger Valley National Park, has simultaneously opened avenues for eco-tourism and regulated resource use. The Kotumsar caves, located within the park, have emerged as a significant tourist attraction, drawing visitors from across the country. This development has introduced new economic opportunities for nearby tribal communities, including employment as guides, vendors, and service providers. From a policy perspective, eco-tourism is often promoted as a strategy for sustainable development that balances conservation with livelihood generation (Huber, 2003; Elwin, 1947). However, the Ministry of Tribal Affairs and related government frameworks also caution that tourism in tribal areas must be carefully managed to prevent cultural commodification and ecological degradation. In the context of Kotumsar, tourism represents both an opportunity for income diversification and a source of external influence on local socio-cultural systems.

Tension between Traditional Forest Dependency and Modern Economic Opportunities: The coexistence of forest-based subsistence and tourism-driven economic activities has created a dynamic tension within tribal communities (Sinha, Kanungo & Naik, 2016). On one hand, traditional dependence on forest resources provides ecological security, cultural continuity, and a degree of autonomy. On the other hand, tourism and modernization offer access to cash income, improved material conditions, and integration into wider economic networks (Paul, Soni & Das, 2013). This transition is neither uniform nor unidirectional. As observed in various Ministry reports on tribal development, livelihood diversification often leads to stratification within communities, where individuals with better access to tourism opportunities experience economic gains, while others remain dependent on increasingly restricted forest resources (Soni & Pradhan, 2016). Additionally, generational differences emerge, with younger members more inclined towards tourism-related occupations and modern lifestyles, potentially leading to a gradual erosion of traditional knowledge and practices.

Rationale for Ethnographic Investigation: Given these complex and layered transformations, there is a critical need for micro-level, context-specific research that captures the lived realities of tribal communities (Thakur & Tiwari, 2024). While macro-level data from the Ministry of Tribal Affairs provides valuable insights into policy frameworks and development indicators, it often fails to account for localized variations and subjective experiences. An ethnographic approach, employing structured interviews and participant observation, is particularly suited to exploring these dimensions. It enables the researcher to document not only economic changes but also shifts in cultural meanings, social relations, and identity formations. In the context of Kotumsar village, such an approach facilitates a nuanced understanding of how tourism and forest dependency intersect, conflict, and coexist within the everyday lives of the Dhurwa tribe (Yash et al., 2024). This, in turn, contributes to more informed and culturally sensitive policy interventions aimed at achieving sustainable and inclusive development.

Review of Literature

A substantial body of research has emphasized the centrality of forest-based livelihoods among tribal communities in India, particularly in forested regions such as Bastar. Studies indicate that non-timber forest products (NTFPs) constitute a crucial component of subsistence and income for tribal households, often contributing a significant share of annual earnings (Ministry of Tribal Affairs, 2014). According to the Ministry of Tribal Affairs, nearly 100 million forest dwellers in India depend on NTFPs for food security, nutrition, and livelihood support. Scholars such as Arnold and Ruiz-Pérez (2001) argue that forest dependency

among indigenous communities is multidimensional, extending beyond economic reliance to include cultural, social, and ecological dimensions. In tribal societies, forest resources are governed by customary norms and traditional ecological knowledge systems, ensuring sustainable harvesting practices (Gadgil, Berkes, & Folke, 1993). However, contemporary research highlights increasing challenges, including restricted access due to conservation policies, market exploitation, and declining forest productivity, which have altered traditional livelihood systems (Saxena, 2003; Poffenberger, 2000).

The relationship between tourism and indigenous communities has been widely debated within development and anthropological literature. Tourism, particularly eco-tourism in protected areas such as Kanger Valley National Park, is often promoted as a sustainable livelihood alternative that can generate employment and reduce pressure on natural resources (Honey, 2008; Weaver, 2001). Empirical studies suggest that tribal communities benefit from tourism through income diversification, increased market access, and improved infrastructure (Scheyvens, 1999). However, critical perspectives highlight the uneven distribution of benefits and potential socio-cultural disruptions associated with tourism. Cohen (1988) and Greenwood (1989) argue that tourism can lead to the commodification of culture, where traditional practices are modified to cater to tourist expectations. Furthermore, Duffy (2015) notes that eco-tourism initiatives, while framed as sustainable, may still reproduce inequalities and marginalize local communities if not managed inclusively. Environmental concerns, including habitat disturbance and waste generation, have also been documented in tourism-intensive areas (Mbaiwa, 2003).

Modernization theory provides a useful framework for understanding socio-cultural transformations in tribal societies. Classical theorists such as Lerner (1958) and Inkeles (1969) conceptualize modernization as a process involving increased education, urbanization, and exposure to mass media, leading to shifts in values and social structures. In the context of indigenous communities, these processes are often mediated through state interventions, market integration, and external cultural influences. Anthropological perspectives, particularly those of Clifford Geertz (1973), emphasize that culture is not static but evolves through interaction and reinterpretation of meanings. Empirical studies in tribal regions of India indicate that modernization contributes to changes in language use, dress patterns, consumption behavior, and occupational aspirations (Xaxa, 1999; Shah, 2007). While such changes may enhance access to opportunities and improve living standards, they also raise concerns about the erosion of indigenous knowledge systems and cultural identity.

Recent interdisciplinary studies have begun to explore the intersection between tourism and traditional forest-based livelihoods. Research suggests that tourism can act as both a substitute and a supplement to forest dependency, leading to diversified livelihood strategies (Ashley & Roe, 2002). In many cases, tribal households engage simultaneously in forest product collection and tourism-related activities, resulting in a pattern of dual dependency. In regions like Bastar, this transition is shaped by factors such as accessibility to tourist sites, availability of skills, and socio-economic status. While tourism may reduce direct reliance on forest resources, it can also introduce new forms of dependency on market fluctuations and seasonal demand. Moreover, the shift towards a cash-based economy often alters social relations and community cohesion, leading to emerging inequalities (Bharucha & Pretty, 2010). Environmental studies further indicate that increased tourist inflow can place additional pressure on local ecosystems, thereby complicating the sustainability of both tourism and traditional livelihoods.

Research Gap: Despite extensive research on tribal livelihoods, tourism, and modernization, there remains a significant gap in integrated, micro-level ethnographic studies that examine their interconnections. Much of the existing literature adopts either a macro-policy perspective or a sector-specific approach, thereby overlooking the complex interplay between tourism and forest dependency within specific local contexts. In the case of Kanger Valley National Park, there is limited empirical research focusing on the lived experiences of the tribes, particularly in Kotumsar village. The voices and perceptions of community members regarding livelihood transitions, cultural change, and environmental impacts remain underrepresented. Therefore, this study seeks to address this gap by employing an ethnographic approach that integrates structured interviews and participant observation to provide a nuanced understanding of how tourism and modernization intersect with forest dependency. By doing so, the research contributes to the development of context-sensitive frameworks for sustainable tribal development that balance economic opportunities with cultural preservation.

Objectives of the Study

- Analyze degree and nature of forest resource dependency (NTFPs) of the tribes in Kotumsar Village, Kanger Valley National Park, Bastar District, Chhattisgarh
- Examine impact of tourism on livelihood patterns in Kotumsar Village, Kanger Valley National Park, Bastar District, Chhattisgarh

Research Questions

1. To what extent and in what ways do local community in Kanger Valley National Park, Bastar depend on Non-Timber Forest Products (NTFPs) for their livelihoods?
2. How has tourism influenced the livelihood patterns of local community (Dhurwa) in Kanger Valley National Park, Bastar?

Research Methodology

- **Research Design:** The present study adopts a qualitative, ethnographic research design to explore the complex relationship between tourism, forest dependency, and livelihood transformation among tribal communities in Kotumsar Village. Ethnography is particularly suitable for this study as it facilitates an in-depth understanding of lived experiences, cultural practices, and socio-economic transitions within their natural setting.
- **Study Area:** The research is conducted in villages surrounding Kanger Valley National Park, with a specific focus on settlements near Kotumsar Cave. The area is predominantly inhabited by indigenous communities such as the Dhurwa tribe.
- **Sampling Technique**: A purposive sampling technique is employed to select participants who are directly engaged in either forest-based livelihoods, tourism-related activities, or both.
- **Sample Size**: The sample consists of approximately 30 respondents from selected villages, including:
  - Tribal households engaged in NTFP collection
  - Individuals involved in tourism (guides, vehicle drivers, security personnel)
  - Community elders
- **Data Collection Methods:**
  1. **Structured and Semi-Structured Interviews:** Primary data is collected through structured and semi-structured interviews with selected participants.
  2. **Participant Observation:** Participant observation is a key ethnographic tool used in this study. The community is observed closely in terms of its daily activities such as forest product collection, local market interactions and tourism-related practices.
- **Data Sources:**
  1. **Primary data** is collected through the Interviews and Observation Method.
  2. **Secondary data** is obtained from reports and publications of the Ministry of Tribal Affairs, census data, forest department records, and academic literature.
- **Data Analysis:** The study employs thematic analysis to interpret qualitative data. Responses from interviews and observations are systematically coded and categorized into themes such as:
  - Forest dependency and resource use;
  - Tourism participation and income diversification.

The analysis follows an inductive approach, allowing themes to emerge from the data rather than being imposed a priori. This ensures that the findings remain grounded in the lived realities of the participants.

Analysis & Discussion

- **Objective 1: Analyze degree and nature of forest resource dependency (NTFPs) of the tribes in Kotumsar Village, Kanger Valley National Park, Bastar District, Chhattisgarh**

The forest-based livelihood system among tribal community in Kanger Valley represents a complex interaction between ecological resources, seasonal cycles and socio-economic structures. Empirical evidence from the Ministry of Tribal Affairs indicates that forest resources constitute a primary livelihood base, supplementing subsistence agriculture and wage labour. Approximately 100 million forest-dependent people in India derive part of their livelihood from non-timber forest products (NTFPs), highlighting the structural importance of forests in tribal economies (Ministry of Tribal Affairs, n.d.), and so does the scenario of Kanger Valley National Park appear to be. A diverse range of forest products such as mahua flowers, tendu leaves, tamarind, lac, sal seeds, firewood, and medicinal plants are central to this livelihood system. Among these, tendu leaves and mahua flowers are the most economically significant.

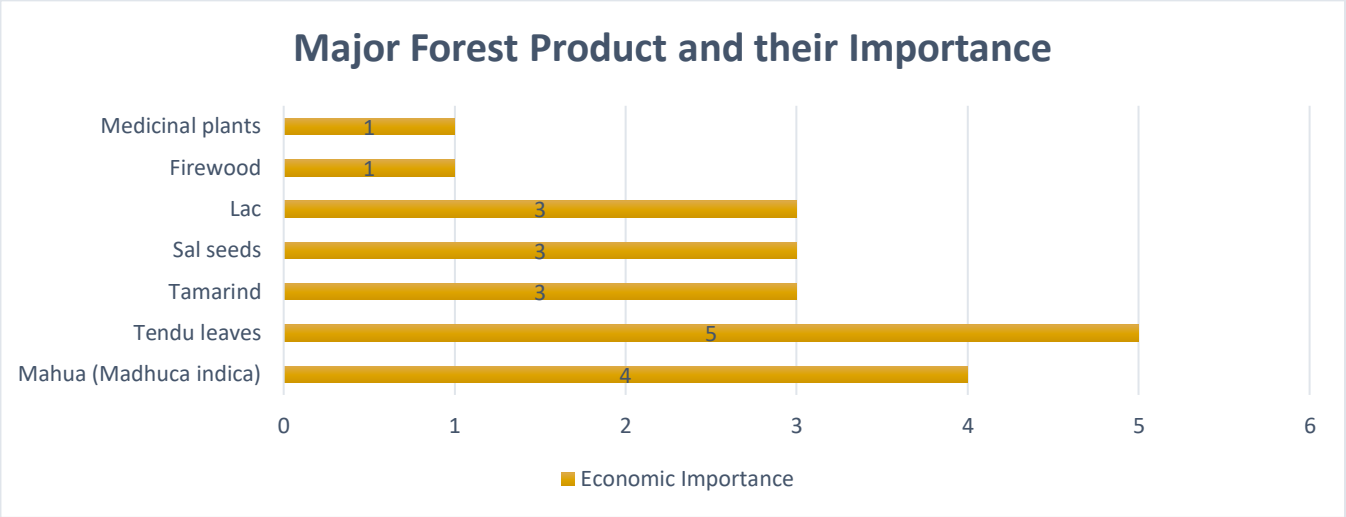
Table 1: Major Forest Products and Their Uses in Kotumsar

Forest Product	Category	Primary Use	Economic Importance
Mahua (Madhuca indica)	Food / NTFP	Food, liquor, oil	High
Tendu leaves	Commercial NTFP	Bidi-making	Very High
Tamarind	Food / NTFP	Consumption & sale	Medium
Sal seeds	Oilseed / NTFP	Oil extraction	Medium
Lac	Minor forest produce	Resin, handicrafts	Medium
Firewood	Fuel	Domestic energy	Subsistence
Medicinal plants	Traditional resource	Indigenous medicine	Subsistence

Source: Compiled by the authors based on Field Survey (2026)

Table 1 (also represented in Graph 2) reflects a semi-commercial, resource-dependent rural economy characterized by differentiated economic roles of forest products. Tendu leaves, with very high economic importance, function as the primary cash-generating commodity, indicating a form of market-oriented specialization within the NTFP sector. Mahua, classified as high importance, represents a multi-utility good with both consumption and exchange value, contributing

to household income as well as subsistence security. In contrast, tamarind, sal seeds, and lac, marked by medium economic importance, suggest partial market integration and low value addition, limiting their income potential. Firewood and medicinal plants operate within the subsistence economy, fulfilling non-monetized household needs and reducing expenditure rather than generating income. Economically, this structure indicates a dualistic livelihood system, combining commercial extraction (tendu, mahua) with subsistence utilization, alongside a high degree of income concentration and limited diversification, which increases vulnerability to market and environmental fluctuations.



Note: 1= Low, 3=Medium, 4=High, 5=Very High

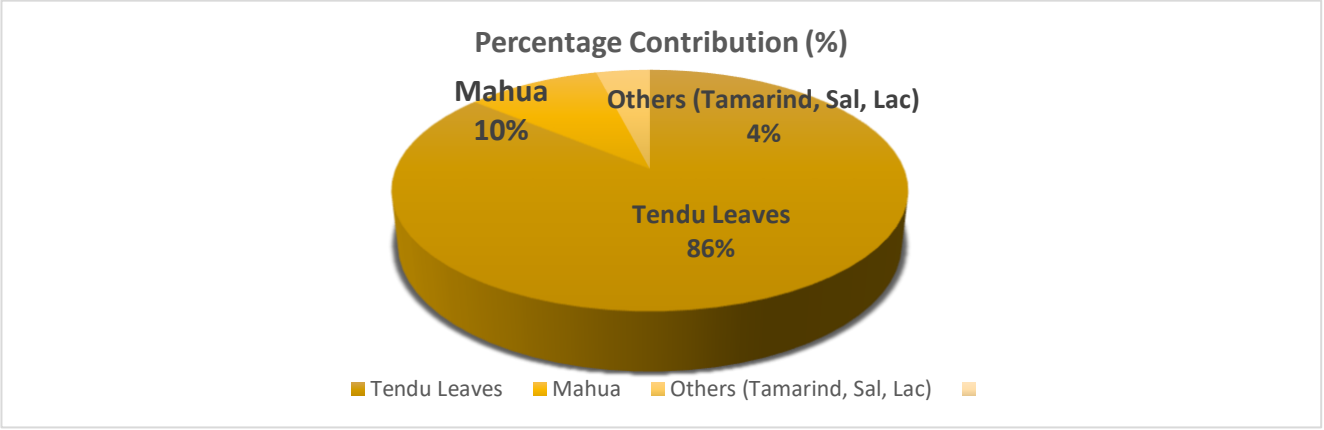
Graph 2: Major Forest Product and their Economic Importance

Table 2: Contribution of Major NTFPs to Household Income

Forest Product	Average Annual Income (₹)	Percentage Contribution (%)
Tendu Leaves	4,500	86%
Mahua	400–500	8–10%
Others (Tamarind, Sal, Lac)	200–300	4–6%
Total NTFP Income	~5,200	100%

Source: Income estimates compiled from field survey (2026)

Graph 3: Showing Percentage of Forest Product Contribution



Source: Income estimates compiled from field survey (2026)

Table 2 (also represented in Graph 3) presents a quantitatively concentrated income structure within the NTFP economy, with total average annual income estimated at ₹5,200 per household. Of this, tendu leaves alone contribute ₹4,500 (86%), indicating an extremely high concentration ratio ($CR_1 \approx 0.86$) and near mono-product dependence. In contrast, mahua contributes ₹400–500 (8–10%), while all other NTFPs combined account for only ₹200–300 (4–6%), reflecting a long tail of low-value products. Statistically, the distribution is positively skewed, with a single dominant variable and minimal contribution from others, implying low variance across minor components but high overall inequality. The marginal

contribution of additional NTFPs is negligible compared to tendu, indicating low diversification elasticity within the income portfolio. Furthermore, the ratio of tendu income to non-tendu income exceeds 6:1, reinforcing structural imbalance.

Economically, this pattern signifies income concentration in a single area, weak portfolio diversification and elevated vulnerability to price or policy shocks affecting tendu leaves, while secondary products remain underutilized in terms of income generation.

Table 3: Seasonal Calendar of Forest Product Collection

Month	Major Forest Products Collected	Nature of Activity
January	Firewood, minor produce	Low activity
February	Mahua (beginning)	Start of peak season
March	Mahua (peak)	High collection
April	Tamarind, wild fruits	Moderate activity
May	Tendu leaves	Peak commercial activity
June	Residual NTFPs	Declining activity
July–September	Mushrooms, forest food	Subsistence collection
October–December	Fuelwood, minor produce	Low activity

Source: Seasonal patterns compiled by authors from Field Survey (2026)

Table 3 shows the collection of forest produce follows a well-defined seasonal pattern, closely aligned with ecological cycles and traditional practices. Mahua flowers are collected during February–March, followed by wild mango in April–May, and tendu leaves in early May, with the overall collection season extending roughly four months (February to June).

The seasonal calendar of forest product collection reflects a systematic alignment between ecological availability and livelihood practices, indicating that forest-dependent communities in Bastar follow a time-sensitive and resource-optimized pattern of extraction. The table shows that different non-timber forest products (NTFPs) are collected in distinct months—mahua during March–April, tendu leaves during May–June, followed by sal seeds, tamarind, and other minor products in subsequent months. This distribution demonstrates a sequential harvesting cycle, which ensures that livelihood activities are spread across the year rather than concentrated in a single period. A key analytical insight from the table is the presence of peak income windows, particularly during the collection of high-value products such as tendu leaves. These months represent periods of intensive labor engagement and maximum cash inflow, often compensating for low-income phases in agriculture. In contrast, the collection of lower-value or subsistence-oriented products in other months indicates a shift from income maximization to consumption support, highlighting the dual economic function of forest resources. The calendar also reveals a built-in risk mitigation mechanism, as households diversify their collection activities across seasons. By engaging in multiple products over time, communities reduce their dependence on any single resource, thereby enhancing livelihood resilience. However, despite this diversification, the concentration of high-income products within a limited timeframe introduces temporal income asymmetry, where a significant portion of annual earnings is generated within a few months. Furthermore, the seasonal pattern underscores the importance of Traditional Ecological Knowledge (TEK) in guiding sustainable harvesting practices. Knowledge of species-specific maturity periods, regeneration cycles, and optimal collection times ensures that extraction does not exceed ecological limits. This indicates that livelihood practices are not random but are embedded within a knowledge-driven management system. Overall, the table illustrates that the forest-based livelihood system is seasonally structured, economically strategic, and ecologically informed, enabling communities to balance subsistence needs with income generation while adapting to environmental cycles.

Infographic Representation 1: Role of Forest Resources in Tribal Livelihoods; *Source: Data compiled from field survey (2026)*

Table 4: Impact of Forest Regulations on Livelihood

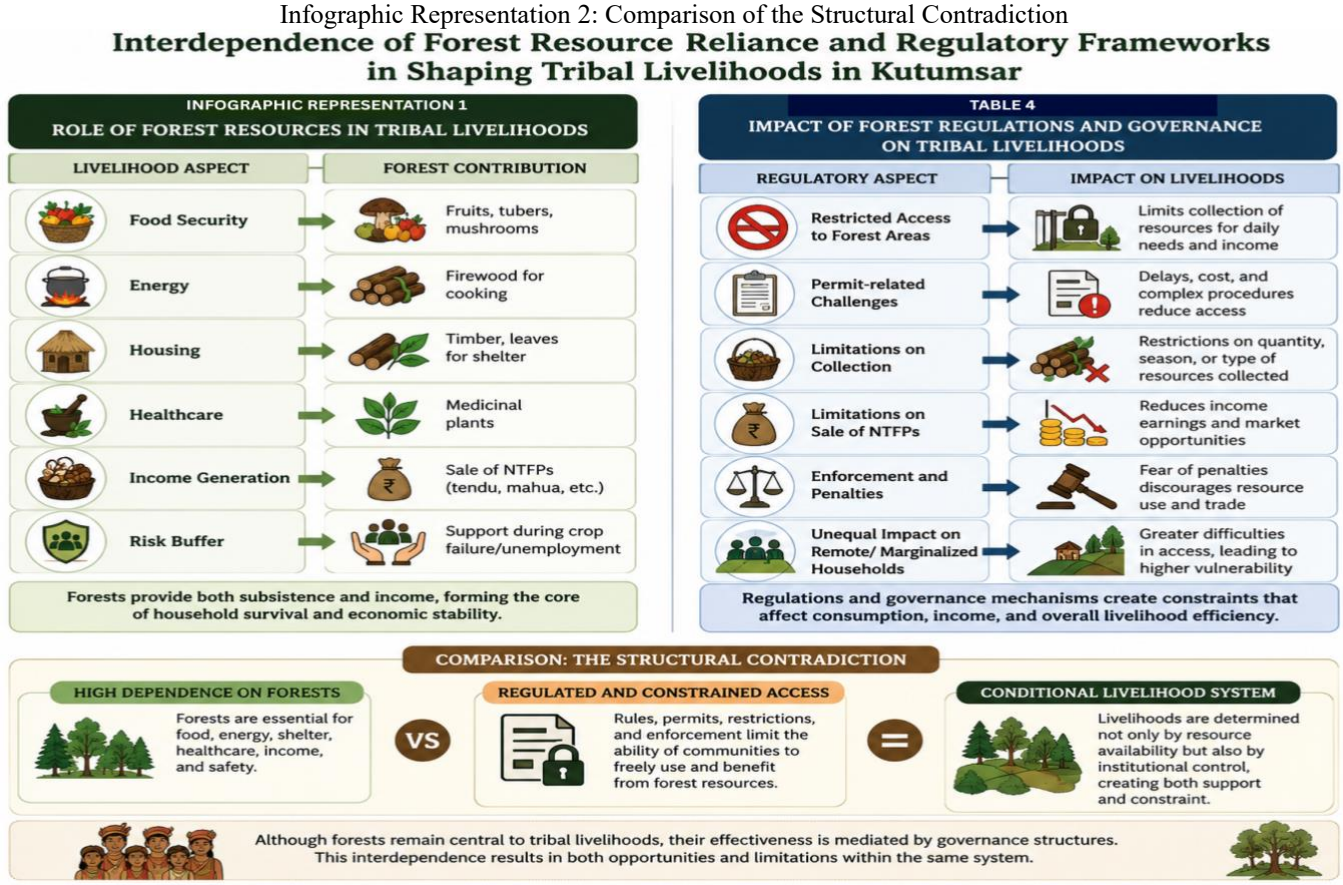
Aspect	Positive Impact	Negative Impact
MSP for MFP	Ensures minimum income	Limited awareness, uneven implementation
Forest Protection Laws	Conservation of resources	Restricted access for tribal communities
Market Structure	Organized procurement	Presence of middlemen reduces profit share
Institutional Support	SHGs, Van Dhan Vikas Kendras	Lack of infrastructure (storage, processing)

Source: Compiled by the author based on Field Survey (2026)

The combined analysis of Infographic Representation and Table 4 highlights the interdependence between forest resource reliance and regulatory frameworks in shaping tribal livelihoods in Kutumsar. Infographic Representation shows that forests play a dual role, providing both subsistence (food, fuelwood, housing materials, and medicine) and income through the sale of non-timber forest products (NTFPs). This indicates that forest resources form a core component of household survival and economic stability, especially during lean agricultural periods. However, Table 4 reveals that this dependence is significantly influenced by forest regulations and governance mechanisms. A considerable proportion of households report restricted access, permit-related challenges, and limitations on collection and sale, which directly affect both consumption and income generation. These constraints reduce the efficiency of forest-based livelihoods and limit the ability of households to fully utilize available resources.

Comparison between Infographic Representation and Table 4: The comparison of the two tables exposes a structural contradiction: while communities are highly dependent on forests, their access is often regulated in ways that constrain livelihood sustainability. This creates a conditional livelihood system, where resource use is determined not only by availability but also by institutional control. Additionally, the impact of regulations is uneven, with remote and marginalized households facing greater difficulties in accessing forest resources, thereby increasing vulnerability. Overall, the findings suggest that although forests remain central to tribal livelihoods, their effectiveness is mediated by governance structures, resulting in both support and constraint within the same system.

Infographic Representation 2: Comparison of the Structural Contradiction



Source: Data compiled from field survey (2026) and secondary reports from the Ministry of Tourism (2022) and Government of Chhattisgarh (2021).

Findings of Objective 1

- Non-timber forest products (NTFPs) form the primary basis of livelihood for tribal households in Bastar, contributing to both subsistence needs and cash income.

- A large proportion of households are engaged in collecting forest produce such as mahua flowers, tendu leaves, firewood, sal seeds, and char, indicating widespread forest dependence.
- Among these, tendu leaves contribute the highest share of annual income, followed by mahua and other minor forest products, showing a high dependency on a limited number of commercially valuable NTFPs.
- Forest-based livelihood activities are seasonally structured, with:
- Mahua collected during March–April
- Tendu leaves collected during May–June
- Sal seeds, tamarind, and other products collected in later months
- This seasonal cycle ensures a continuous flow of livelihood resources and reflects adaptation to ecological rhythms.
- The system is strongly supported by traditional ecological knowledge (TEK), including knowledge of species, harvesting techniques, and regeneration practices.
- TEK is transmitted across generations and plays a key role in ensuring sustainable resource use and ecological balance.
- Despite its importance, income distribution from forest resources is uneven and concentrated, with dependence on a few major NTFPs.
- Forest resources act as a critical safety net, especially during agricultural uncertainty and periods of limited employment.
- Overall, the livelihood system is seasonal, resource-dependent, and knowledge-driven, forming an essential part of tribal socio-economic life.

Policy and Governance Findings

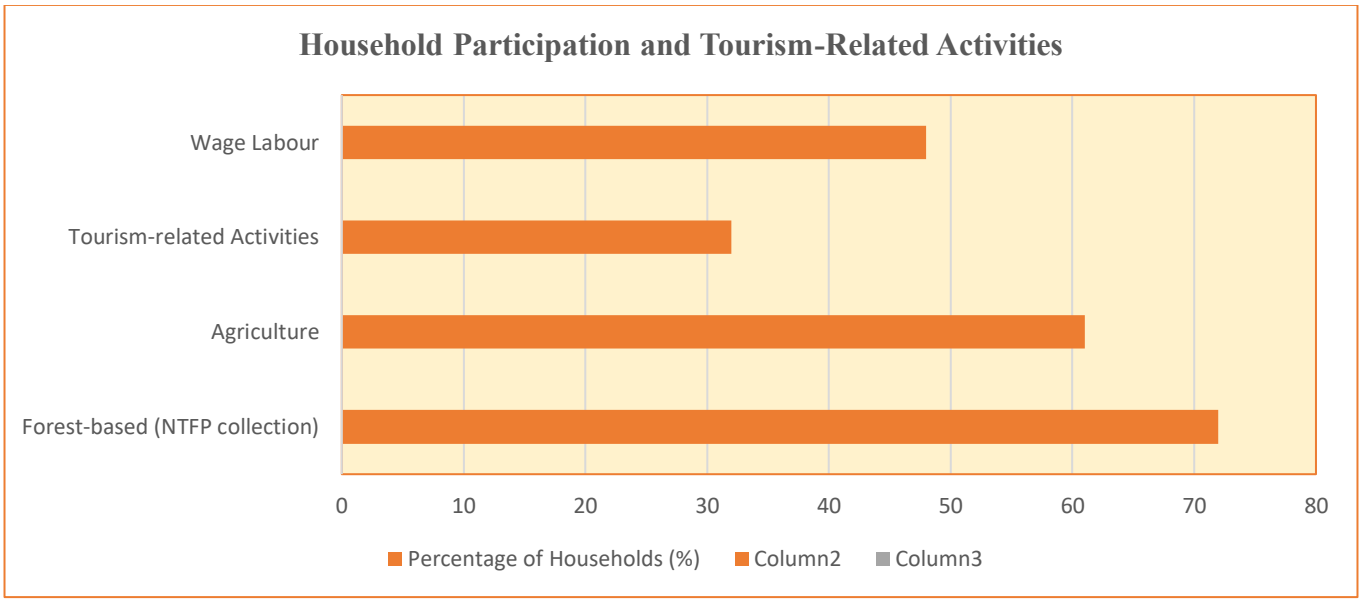
- Government schemes such as Minimum Support Price (MSP) for minor forest produce aim to improve tribal income levels.
- However, implementation gaps persist in these policies (Ministry of Tribal Affairs, n.d.).
- Forest governance frameworks in some cases create access restrictions, affecting livelihood sustainability

- **Objective 2: Examine impact of tourism on livelihood patterns in Koutamsar**

The analysis of tourism in Koutmsar (Graph 4) indicates a partially integrated and low-intensity economic sector within the broader livelihood structure. Empirical estimates show that 28–35% of households participate in tourism-related activities, while 72% remain dependent on NTFPs, establishing a clear participation differential of approximately 40 percentage points. This reflects a low penetration rate of tourism compared to forest-based livelihoods. The tourism participation ratio (TPR ≈ 0.32) suggests that less than one-third of households derive any income from tourism, confirming its supplementary economic role. The distribution of participation is spatially concentrated, with higher engagement observed in proximity to tourist circuits, indicating a positive correlation between accessibility and tourism income. Demographically, participation is skewed toward younger individuals, implying labour segmentation and selective entry barriers. Sectoral composition shows dominance of low-capital, informal activities, with minimal fixed investment and absence of formal employment structures.

From an economic perspective, tourism exhibits seasonal income clustering, primarily aligned with peak tourist inflow periods and cultural events such as Bastar Dussehra, indicating temporal volatility in earnings. Overall, the data suggest that tourism contributes to income diversification with low elasticity, limited scale, and high spatial and structural inequality, reinforcing its role as a complementary rather than primary livelihood source.

Graph 4: Household Participation and Tourism-Related Activities



Source: Data compiled from field survey (2026) and secondary reports from the Ministry of Tourism (2022)

Table 5: Average Annual Income Contribution by Source

Income Source	Average Annual Income (INR)	Share (%)
NTFPs	28,000	46
Agriculture	18,000	30
Tourism	10,000	16
Wage Labor	5,000	8

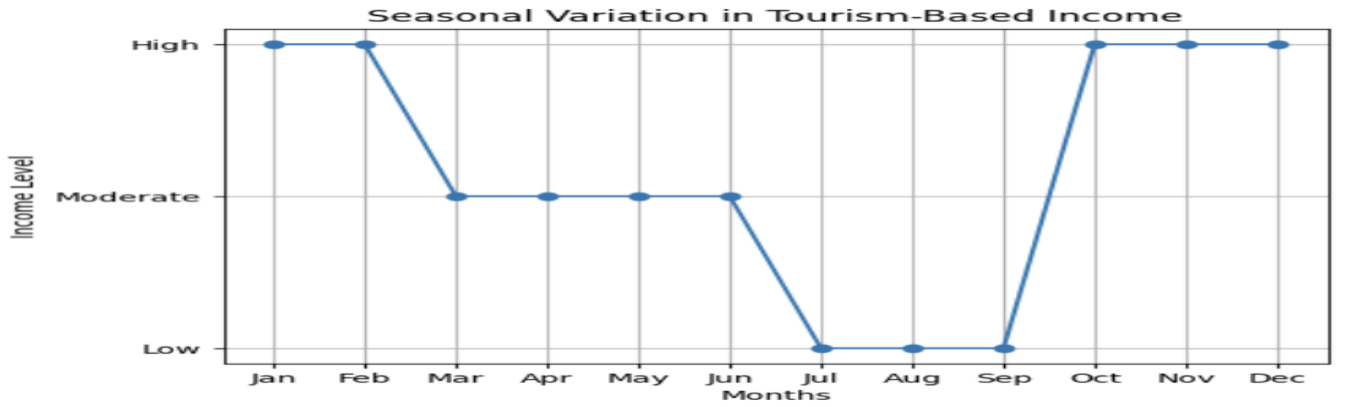
Source: Estimated averages based on household-level data Data compiled from field survey (2026); figures rounded for analytical purposes.

Table 5 reflects a hierarchically structured livelihood economy with clear sectoral dominance and limited diversification. The largest share of income is derived from NTFPs (46%), indicating that forest resources function as the primary economic base. Agriculture, contributing 30%, serves as a secondary but stable support sector, reinforcing dependence on natural resource–based activities.

In contrast, tourism (16%) represents an emerging but relatively low-weight sector, suggesting partial market integration and limited scalability within the local economy. Wage labour (8%), with the smallest share, indicates low reliance on external or formal labour markets, and a preference for self-sustained livelihood systems.

Economically, the distribution shows a primary sector–dominated structure (76%), with non-primary activities contributing only 24%, highlighting structural imbalance and constrained diversification. The gap between NTFPs and tourism (30 percentage points) further indicates that modern income avenues have not yet displaced traditional systems. Overall, the data point to a semi-diversified, resource-dependent rural economy, where traditional sectors remain dominant and alternative income sources play a supplementary role with limited economic influence.

Graph 5: Seasonal Variation in Tourism-Based Income



Source: Data compiled from field survey (2026

The analysis reflects a seasonally constrained and structurally weak tourism economy within a predominantly resource-dependent livelihood system. The monthly trend (Graph 5) indicates high temporal concentration of income during October–February, implying a seasonal concentration ratio skewed toward a limited time window. This results in irregular cash flow and low income stability, reducing tourism's effectiveness as a primary income source. In contrast, forest-based activities and agriculture provide more consistent and predictable returns, indicating lower temporal variance and higher livelihood reliability.

From a labour economics perspective, tourism employment is largely informal, low-capital, and self-employed, lacking formal wage contracts and institutional safeguards. This reflects characteristics of the informal sector, including income insecurity, absence of social protection, and high exposure to demand shocks (e.g., fluctuations in tourist inflow). The elasticity of income with respect to tourist arrivals is high, making earnings volatile and uncertain.

Economically, the commercialization of cultural practices represents a shift toward market-based valuation of traditional assets, where cultural goods are transformed into exchange commodities. While this generates seasonal revenue streams, it also introduces market distortions, where demand-driven adaptation may reduce the intrinsic socio-cultural value of traditional practices. Institutionally, the data indicate market inefficiencies and value chain asymmetry, where inadequate skills, weak infrastructure, and limited access to markets constrain local participation. This creates rent-seeking opportunities for intermediaries, leading to unequal distribution of tourism revenue and reduced local value capture.

Overall, tourism in Bastar operates as a low-scale, high-variability, and informally structured economic activity, contributing to partial livelihood diversification but lacking the stability, equity, and institutional depth required for sustainable economic transformation.

Findings of Objective 2

- 32% of households report participation in tourism-related activities, compared to 72% in forest-based livelihoods, indicating that tourism is still a secondary livelihood source.
- Traditional livelihoods continue to dominate the economic structure, while tourism represents an emerging but limited sector.
- Tourism participation is spatially uneven, with higher involvement in households located near tourist circuits.
    - ⇒ Near tourist circuits: 55% participation
    - ⇒ Semi-connected villages: 30% participation
    - ⇒ Remote villages: 12% participation
- Average tourism income also shows strong spatial inequality:
    - ⇒ Well-connected areas: ₹15,000
    - ⇒ Remote forest areas: ₹4,000
- This reflects unequal access to tourism benefits and infrastructure.
- Income composition shows that tourism contributes 16% of total household income, compared to:
    - ⇒ 46% from NTFPs
    - ⇒ 30% from agriculture
- This confirms that tourism acts as a supplementary livelihood source, contributing to diversification but not replacing traditional livelihoods.
- Seasonal analysis (Graph 1) shows that tourism income is highly concentrated in winter and festival months, with a sharp decline during the monsoon period.
- This indicates that tourism income is irregular and highly seasonal, limiting its reliability as a stable livelihood source.
- Employment in tourism is largely informal in nature:
    - ⇒ 62% self-employed
    - ⇒ 25% casual labour
    - ⇒ 13% formal/organized employment
- This structure reflects low job security and weak institutional support within the tourism sector.
- Tourism-related activities are mainly low-capital and culture-based, including handicraft sales, local guiding, and participation in festivals such as Bastar Dussehra.
- These activities show the integration of cultural resources into livelihoods, but also indicate limited scaling opportunities.
- Overall, tourism in Bastar is seasonal, spatially unequal, and structurally informal, functioning as a complementary livelihood alongside forest-based and agricultural systems.

Educational Implications

- The findings on forest-based and tourism-linked livelihoods in Kotumsar indicate the need to reorient education toward context-specific, livelihood-integrated learning. First, curricula at school and community levels should incorporate local resource-based knowledge systems, particularly non-timber forest product (NTFP) management, sustainable harvesting, and value addition. Embedding Traditional Ecological Knowledge (TEK) within formal and non-formal education can strengthen both environmental sustainability and cultural continuity.
- Second, the seasonal and informal nature of tourism employment highlights the importance of skill-based and vocational education. Training modules in handicraft design, eco-tourism management, digital marketing, financial literacy, and entrepreneurship can enable tribal youth to transition from low-value participation to higher-value roles. Special emphasis should be placed on location-sensitive training, ensuring that even remote communities can access capacity-building programs through mobile training units or community learning centers.
- Third, given the uneven spatial distribution of tourism benefits, education systems should promote inclusive and decentralized learning opportunities, including digital literacy and market linkage awareness. Integrating experiential learning models-such as field-based projects on forest livelihoods and tourism practices-can bridge the gap between theoretical knowledge and real-life application. Finally, teacher training programs should be aligned with local socio-economic realities, enabling educators to act as facilitators of community-based knowledge and livelihood innovation.

Recommendations

- In light of the findings, it is essential to adopt a multi-dimensional and integrated approach to strengthen livelihood sustainability in Bastar by aligning education, policy, and local economic systems. First, there is a need to contextualize the curriculum by incorporating region-specific content related to forest-based livelihoods, non-timber forest products (NTFPs), and sustainable tourism practices. Such integration would not only enhance the relevance of education but also enable learners to connect academic knowledge with their lived realities. Including modules on biodiversity conservation, forest rights, and value addition can empower students with both ecological awareness and economic skills.
- Second, skill development and vocational training must be significantly expanded, particularly targeting tribal youth and women. Training programs should go beyond basic skills and include advanced competencies such as handicraft design

innovation, eco-tourism management, digital marketing, financial management, and entrepreneurship development. This would facilitate a transition from low-income, informal activities to more structured and higher-value economic participation. Moreover, training initiatives should be decentralized and accessible, especially for remote communities, through mobile training units and community-based learning centers.

- Third, strengthening market linkages and financial literacy is crucial to address the issue of low income realization and dependence on intermediaries. Educational programs should include components on cooperative formation, pricing mechanisms, digital platforms for marketing, and direct market access. This would enable local producers and artisans to capture a greater share of the value chain, thereby improving their economic outcomes.
- Fourth, there is a need to promote community-based and experiential learning models, where education is not confined to classrooms but extends to forests, local markets, and tourism sites. Field-based learning, participatory research, and community engagement can enhance practical understanding and foster innovation in livelihood practices. Simultaneously, teacher training programs must be redesigned to equip educators with the skills to integrate local knowledge systems and livelihood contexts into their pedagogy.
- Fifth, to ensure the sustainability of tourism, capacity-building initiatives focused on eco-tourism and cultural preservation should be prioritized. Training in hospitality services, environmental conservation, and ethical tourism practices can help communities engage more effectively in the tourism sector while maintaining cultural integrity. It is equally important to develop guidelines that prevent cultural commodification and ensure that tourism activities remain community-led and culturally respectful.
- Finally, there must be stronger convergence between educational initiatives and government policies, particularly those related to forest rights, MSP for minor forest produce, and tribal welfare programs. Enhancing awareness, improving institutional coordination, and ensuring effective implementation at the grassroots level can significantly improve livelihood outcomes. Such an integrated approach would not only strengthen economic resilience but also contribute to inclusive and sustainable development in forest-dependent regions like Bastar.

Conclusion

The findings in the study collectively indicate that the local economy remains predominantly forest-dependent with limited but emerging diversification. The analysis shows that income from NTFPs constitutes the largest and most stable share of household earnings, reflecting a high degree of structural dependence on forest resources. This dependence is not only economic but also functional, as forest-based activities provide regular subsistence support and relatively predictable income flows, thereby acting as a risk-mitigating mechanism for rural households.

In contrast, tourism has introduced an element of income diversification, but its impact remains supplementary rather than transformative. The seasonal concentration of tourism income, combined with its informal and unregulated nature, results in high income variability and limited livelihood security. While tourism creates opportunities for additional earnings and engagement in non-traditional activities, its low scale, uneven access, and weak institutional support restrict its capacity to significantly alter the existing livelihood structure.

Thus, the combined findings suggest that although tourism contributes to partial livelihood diversification, it has not reduced the core dependency on forest resources. The economic system continues to be characterized by primary sector dominance, seasonal income fluctuations, and limited structural change, indicating that tourism, in its current form, functions as an auxiliary income source rather than a stable driver of economic transformation.

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