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ROLE OF NON-TIMBER FOREST PRODUCTS IN TRIBAL LIVELIHOODS: A SOCIO-ECONOMIC STUDY OF GHATSHILA BLOCK, EAST SINGHBHUM DISTRICT, JHARKHAND

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ABSTRACT

Most of the people of Jharkhand depend on forest land. Forests and forest resources have a significant impact on the livelihoods of the local dwellers. The majority of the inhabitants of this region are tribal communities, and they are heavily dependent on timber and non-timber forest products. The present study emphasizes the role of Non-Timber Forest Products (NTFPs) on the livelihood of tribalcommunities through a sample of 110 respondent randomly selected from seven villages in Ghatshila block of East Singhbhum District. The main objective of this study is to assess the importance of NTFPs in the daily life of tribal inhabitants and their economic uses. This entire study is based on intensive fieldwork. Women play the most important role in NTFPs collection. Mainly, Santhal and Munda tribes play vital role in the collection of NTFPs. The analysis reveals that the tribal communities are deprived of receiving full economic value of the NTFPs which affects the quality of livelihood. This study explores all the problems and challenges faced by tribal communities in NTFPs collection and emphasizes the need for sustainable practices.

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INTRODUCTION

Forests and tribal people complement each other, and their interdependence maintains the balance of the environment. The forest is like a second home for the tribes as they spend maximum time in the forest to earn and secure their livelihood (Tomar, 2017). This forest serves as an outline of the economic and cultural progress of the tribal communities. Forests and tribals are ethically, culturally and traditionally linked to each other. Forests being a permanent abode for the tribals, they think of it as their ancestral home and there exists an emotional attachment between tribal and forest landscape (Sinha, 1993). Primarily their livelihood lies within the sustainable harvest of forest timber and NTFPs. Tribal entrepreneurs collect and process forest resources innovatively and in advanced ways, making it an opportunity for self-employment. Entrepreneurship provides various social and economic benefits to tribal households (Acharya, 2018). Tribal people in India enjoy customary rights to collect non-timber forest products. At first, they collected these products for their own consumption, and later they sold them to earn their own income. The forest area of East Singhbhum, which is occupied by tribal communities, is rich in Non-Timber Forest Products like Mahua Flowers, Kendu Leaves, Kusums, Sal seeds, Gum, Neem, Palash flower etc. Also, many types of medical plans are available in the forest area of East Singhbhum like Papuravi, Bahera, Satwar, Harra, Amralata, Kalmegh. The two main forest products of this region are Lac and Tussar, which provide income opportunities to thousands of tribal communities. Hence the tribals and forests can be understood to be interdependent and interrelated. (Verma and Paul, 2019). Deforestation and forest degradation have a devastating impact on forest-dependent tribal communities. The dependence of all these tribes on forests for their livelihoods makes the relevance of forest sustainability even more important to them. To protect and conserve forests and forest resources and maintain biodiversity, the active participation of tribal communities is very much needed to keep the forest livelihood option alive.

Forest and Tribal People: Forests and tribal communities complement each other. In this case, it can be said that they are intrinsically linked to each other. Just as this forest plays a major role in sustaining the existence of tribal communities, this tribal community also plays the biggest role in conserving the forest.But gradually, as the Forest Department and some unscrupulous individuals started using these tribal communities as forest labourers for their own profit, the forest land faced a crisis of existence, and it became difficult for them to survive on the NTFPs obtained from the

forest land. Even in the present era, this tribal community is largely dependent on these NTFPs. It is estimated that 75% of tribal and indigenous people in East Singhbhum district depend on forest land for their subsistence and livelihoods.

According to Section 2(4) of Indian Forest Act, 1927, 'forest produce' is legally defined to includethe following whether found in, or brought from, a forest or not:

a) Timber, charcoal, caoutchouc, catechu, wood-oil, resin, natural varnish, bark, lac, mahua flowers, mahua seeds;b)Trees and leaves, flowers and fruits, and all other parts or produce, of trees not hereinbefore mentioned;c) Plants not being trees (including grass, creepers, reeds and moss), and all parts or produce of such plants;d) Wild animals and skins, tusks, horns, bones, silk cocoons, honey, and wax, and all other parts or produce, and,e)Peat, surface soil, rock, and minerals (including limestone, laterite, mineral oils and all products of mines or quarries).

According to Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 the forest dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs. The Act encompasses Rights of Self-cultivation and Habitation which are usually regarded as Individual rights; and Community Rights as Grazing, Fishing and access to Water bodies in forests, Habitat Rights for PVTGs, Traditional Seasonal Resource access of Nomadic and Pastoral community, access to biodiversity, community right to intellectual property and traditional knowledge, recognition of traditional customary rights and right to protect, regenerate or conserve or manage any community forest resource for sustainable use. It also provides rights to allocation of forest land for developmental purposes to fulfil basic infrastructural needs of the community. In conjunction with the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Settlement Act,

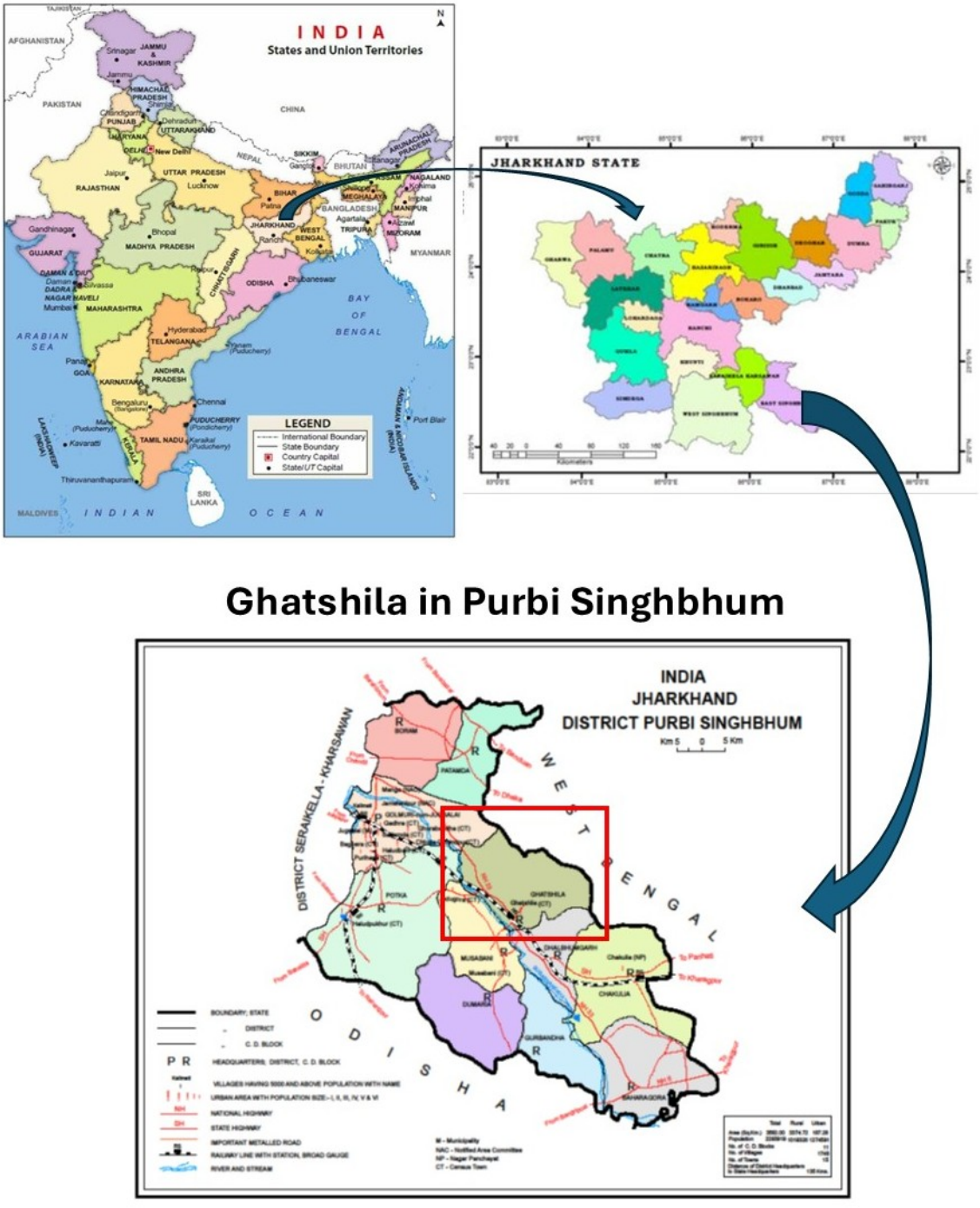

Figure-1. Location of the study area

2013 FRA protects the tribal population from eviction without rehabilitation and settlement (Ministry of Tribal affairs, Govt. of India). Even in the state of Jharkhand, despite this implementation of Act, tribal communities and other forest dwellers are still facing various problems in collecting, marketing and profiting from NTFPs collections. They are still suffering from proper information about the collection and the exact value of NTFPs. As a result, these issues create obstacles to the development of this region.

MATERIALS AND METHODS

Study Area: East Singhbhum district is located in the southeast corner of Jharkhand state. Initially, East Singhbhum district was part of Singhbhum district, later this district was bifurcated in 1990 to form Paschimi and Purbi Singhbhum. Occupying an area of 3533 sq. km and located in the Chotanagpur Plateau in Jharkhand, the district spread over 86° 04' and 86° 54' East Longitudes and 22°12'and 23 °01' North latitudes. The district is bounded on the east by Midnapore district on the north by Purulia district, both of West Bengal, the west-by-West Singhbhum district of Jharkhand state, and on the south by Mayurbhanj district of Odisha. The present study was carried out in Ghatshila Block, situated in the East Singhbhum district of Jharkhand, India (figure-1). Geographically, the block is located at approximately 22.60° N latitude and 86.40° E longitude, with an average elevation of around 103 meters above mean sea level. According to Census 2011(India)this block consists of 176 villages under 25 Gram Panchayats, reflecting its predominantly rural administrative framework. It has a total population of 129,905, with a sex ratio of 971 females per 1000 males. A substantial proportion of the population (68.7%) resides in rural areas, whereas 31.3% live in urban settlements. The Scheduled Tribe (ST) population accounts for 54,663, representing 42.07% of the total population. The overall literacy rate in the block is reported to be 70.72%. The region is predominantly inhabited by tribal communities, including the Santhal, Munda, Oraon, Sabar, and Bhumij groups. These communities maintain a close association with forest resources for their subsistence and livelihoods, making the area particularly significant for studies focusing on Non-Timber Forest Products (NTFPs) and tribal economies (Ministry of Tribal Affairs, 2014). Approximately 22% of the total geographical area in this block is covered by forests. The vegetation is mainly characterized by tropical mixed dry deciduous forest types, which support a range of biodiversity.

OBJECTIVES

The main objective of this study is to determine the important role played by Non-Timber Forest Products (NTFPs) in maintaining the livelihood of the tribal people of Ghatshila block. Moreover, to get an idea of the socio-economic conditions of the region and to consider the contribution of NTFPS in terms of income and employment of these tribal communities.

METHODOLOGY

Ghatshila block was chosen as the study area because the tribal people of this block are heavily dependent on NTFPS for their income and employment generation. Seven villages, namely Makrakalaphar, Hiraganj, Edelbera, Asna, Kanimahuli, Rangbhandand Mahatam were selected from different parts of Ghatshila block on the basis of their adjacent gradient from the forest land. A sample of 110 respondents responded to sample were collected by random selection from the seven villages who depend on the NTFPs to maintain their livelihood. The present study is based on empirical field surveys that integrate both quantitative and qualitative approaches, emphasized on primary as well as secondary sources of data. Primary data was collected through a combination of participatory and survey-based techniques, including organised household surveys, interviews of the target groups, Focus Group Discussions (FGDs), and personal observation. These methods enabled a comprehensive understanding of local socio-economic conditions and community perspectives. In addition to primary data, relevant secondary information was gathered from district-level annual reports and official publications issued by the Ministry of Forest, Government of India. These sources were systematically reviewed and analysed to supplement and validate the field-based findings.

RESULT AND DISCUSSION

While Ghatshila block is home to various indigenous groups, including the Santhal, Bhumij, Ho, Munda, Oraon, Savar, Mahli, and Kharia, our empirical sample focused primarily on active NTFP collectors belonging to the Santhal and Munda communities.

Socio-Economic Structure of studied village: The demographic information of the respondents in this region is shown in Table 1. There is a massive gender disparity in NTFP collection, with Females making up 76.20% of the workforce compared to just 23.80% Males.This strongly indicates that NTFP collection is primarily a livelihood strategy for women in these communities. It suggests that while men may migrate for other work or engage in different labour, women remain the backbone of the local forest-based economy. Respondents between the ages of 30 and 45 years are mostly involved in NTFPS collection work.Also, 35% of NTFPS collectors are between the ages of 30 and 45. Overall, about 82.7% of the total respondents were between the ages of 15 and 45. In terms of education system, about 50% of the people are educated in primary education and very few people are educated in higher education (16%) who has studied up to high school. Regarding the income, 71.88% of the total respondents, i.e. the majority of people, have an income between Rs. 6000 and Rs. 12000. The tendency of NFPS accumulation increases significantly during the months when annual agricultural work is not usually done.In this regard, the role of women is very relevant, and they play a huge role in everything from collection to processing and marketing. Figure 2 shows the seasonal variation of NTFPs collection by respondents. Most of the NTFPs collections are in winter, but some NTFPs are also collected during the rainy season and summer, but during that time most of the tribal people are engaged in agricultural work.The 100% engagement in winter points to the availability of high-value or high-volume forest produce during this time (such as specific seeds, leaves, or medicinal plants common to the Ghatshila/Jharkhand region). This extreme spike implies that winter is their primary economic window, and they likely face severe cash crunches during the dry summer months.

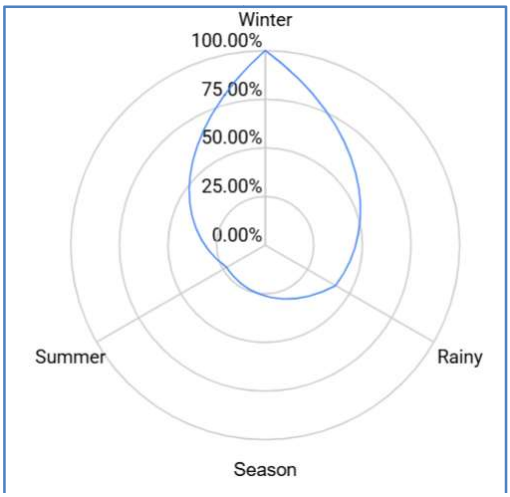

Figure 2. Seasonal variation in NTFPs collection

Tribal people are involved in five types of economic activities that are essential for their daily life, food and income. (figure-3). Like NTFPSs collection, agriculture, livestock rearing, wages earning and service and other activities. Usually, people from this community are involved in NTFPs collection throughout the year. Also, 78% of the people are involved in agricultural activity only during specific times

in the year. Some people are involved in livestock rearing (47%) and wage earning (39%) throughout the year. A very small percentage of people are involved in service and other activities. Basically, NTFPs collection is considered the most important activity of the community.

Table-3 highlights the seasonal availability, collection duration, annual volume, and level of tribal participation in major Non-Timber Forest Products (NTFPs) in the study area. It clearly reflects the significant dependence of local tribal households on forest-based resources for livelihood and subsistence.

Table 1. Socio-Economic Status of NTFP Collectors

Sl No.	Particulars	Category	Frequency	Percentage %
1.	Village Name	Makrakalapthar	18	16.61
		Hiraganj	16	14.38
		Edelbera	15	13.42
		Asna	20	18.53
		Kanimahuli	14	13.10
		Rangbhand	14	12.46
		Mahatam	13	11.50
2.	Age	15-30 Years	39	35.78
		30-45 Years	52	46.96
		> 45 Years	19	17.25
3.	Sex	Male	26	23.80
		Female	84	76.20
4.	Education	Illiterate	38	34.44
		Primary	56	51.02
		High School	16	14.54
5.	Employment	Daily Wage	79	71.84
		Self -Employed	16	14.42
		Unemployed	15	13.74
6.	Monthly Income (In Rupees)based on daily wage	6000-12000	79	71.88
		12000-18000	27	24.92
		>18000	4	3.19
7.	Monthly Expenditure (In Rupees)	<3000	44	39.94
		3000-8000	54	48.88
		>8000	12	11.18
8.	NTFP (Years of experience in collection)	<10	52	47.60
		11-20	27	24.92
		21-30	19	17.57
		>30	12	10.91
9.	Season of Collection	Summer	25	22.73
		Rainy	46	41.82
		Winter	110	100.00

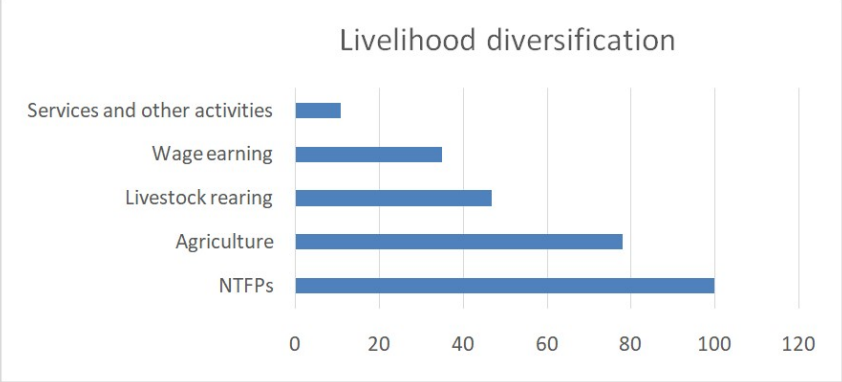

Figure 3. Livelihood diversification in respect of engagement in economic activities

Table 2. Percentage of sample respondents in different sectors

Sl No.	Economic Activities	Number of respondents	Percentage
1.	NTFPs	110	100
2.	Agriculture	86	78
3.	Livestock rearing	52	47
4.	Wage earning	39	35
5.	Services and other activities	12	11

Status of NTFPs collection: Tribal people generally collect NTFPs for two purposes: one is to meet some of their own living needs and the other is to use NTFPs commercially as a means of earning money. Currently, the excessive population growth and the increase in the amount of NTFPs collection have had a negative impact on the forest. Yet, the collection of this NTF has been established as one of the needs of the people of this tribal community.

Among all the NTFPs, Mahua flower emerged as the most important forest product in terms of collection volume, contributing about 45.1% of the total NTFP volume. The collection season extends from March to April for nearly 45–60 days, during which 82 respondents were actively engaged. The high collection volume of 1834 units indicates the economic and cultural importance of Mahua among tribal communities.

Table 3. Different types of NTFPs and Annual Collection

Sl No	Major NTFPs	Collection Period	Number of days	Total Collection (in Quintals)	Respondent Engaged (in No.)	% of NTFPs based on Volume
1.	Mahua Flower	March to April	45-60	1834	82	45.1
2.	Mahua Seeds	June-July	20-30	575	46	14.1
3.	Sal Leaves	May-February	260-290	1510	78	37.1
4.	Kendu Leaves	April-May	25-30	5	30	0.1
5.	Tamarind	April-May	15-20	112	58	2.8
6.	Lac	October to December	65-85	32	34	0.8

Table 4. Market price and annual income earned from NTFPs

Sl No.	Major NTFPs	Total Collection /year (Quintals)	Market Price of Total NTFPs/ Quintals (in Rupees)	Income from NTFPs (in Rupees)	Average monthly income (in Rupees)
1.	Mahua Flower	1834	2500	4585000	4660
2.	Mahua Seeds	575	2100	1207500	2188
3.	Sal Leaves	1510	3400	5134000	5485
4.	Kendu Leaves	5	1500	7500	20.83
5.	Tamarind	112	6300	705600	1014
6.	Lac	32	2800	89600	220

*Note: Avg. Household Income/Month is calculated by dividing the total annual product income by 12 months, distributed across the specific number of households engaged in collecting that respective NTFP item (as outlined in Table 3).

Mahua flowers are widely used for food preparation, traditional liquor production, cattle feed, and local trade, thereby providing both subsistence support and cash income to rural households. The second major NTFP is Sal leaves**,** accounting for 37.1% of the total volume. Collection activities continue almost throughout the year, from May to February, for nearly 260–290 days. About 78 respondents were involved in this activity, indicating its importance as a regular source of livelihood. Sal leaves are primarily used for making leaf plates and bowls, which have strong market demand in rural and urban areas. The long collection period makes Sal leaf collection one of the most reliable income-generating forest activities for tribal families, particularly women.

Mahua seeds contribute approximately 14.1% of the total NTFP volume. Collected during June and July for around 20–30 days, this activity involved 46 respondents. Mahua seeds are economically valuable because they are processed for oil extraction, soap making, and medicinal purposes. Although the collection volume is lower than Mahua flowers, the product still provides seasonal supplementary income.

Tamarindcollection represents 2.8% of the total NTFP volume and involves 58 respondents during April and May. Tamarind is an important edible forest product consumed locally and sold in nearby markets. Its moderate participation level suggests that it plays a supplementary role in livelihood diversification.

Lac cultivation and collection, carried out between October and December for about 65–85 days, contributes only 0.8% of the total volume, with 34 respondents engaged. Despite the lower production volume, lac has relatively high commercial value in comparison to several other NTFPs. It is used in the production of varnish, polish, cosmetics, and handicrafts. The limited involvement may be due to lack of technical knowledge, host tree availability, and market accessibility.

In contrast, Kendu leaves contribute only 0.1% of the total volume, with merely 5 quintals collected annually despite the involvement of 30 respondents. Kendu leaves are mainly used in bidi manufacturing, but declining forest availability, reduced market demand, and regulatory restrictions may have limited their contribution in the study area. Overall, the analysis demonstrates that NTFPs form an integral component of tribal livelihood systems. Products such as Mahua flowers and Sal leaves dominate both in collection volume and household participation, highlighting their role in ensuring food security, seasonal employment, and supplementary cash income. The seasonal nature of NTFP collection also reflects the close relationship between tribal communities and forest ecosystems.

However, unequal contribution among different NTFPs indicates the need for better forest management, value addition, market linkage, and sustainable harvesting practices to enhance livelihood security and economic benefits for tribal populations.

Contribution of NTFPs in the economy of the tribal people: Studies in this region revealed that the amount of NTFPs collections made by the tribal communities in this region also leaves a surplus after their own consumption expenditure.So, they use it as one of their means of livelihood.They market their surplus products, but in most cases the marketing is individual rather than collective. That is why it is a benefit to buyers in many cases. Of the income they earn from selling all these NTFPs, the highest income comes from selling Sal Leaves. They earn Rs.5485/- per month by selling the Sal leaves because they collect the Sal leaves for about 8 to 9 months in a year. Among all NTFPs, Sal Leaves and Mahua Flower emerged as the most significant sources of income. Sal Leaves recorded a total annual collection of 1510 quintals, generating an income of Rs.51,34,000 with an average monthly income of about Rs.5,485 per respondent household. Similarly, Mahua Flower contributed substantially with 1834 quintals collected annually and a total income of Rs.45, 85,000, providing an average monthly income of Rs.4,660. These products are highly important because they are available seasonally in large quantities and have steady market demand.

Mahua Seeds also played an important supplementary economic role. The annual collection of 575 quintals generated Rs.12, 07,500, contributing around Rs.2,188 per month to household income. Mahua products are closely linked with the livelihood systems of tribal communities, as almost every part of the Mahua tree is utilized for food, oil extraction, and local trade. Although the quantity of Tamarind collection was comparatively lower (112 quintals), its high market price of Rs.6,300 per quintal resulted in a significant annual income of Rs. 7,05,600 and an average monthly income of Rs.1,014. This indicates that certain NTFPs with lower volume, but higher market value can still provide meaningful economic support to forest-dependent households. On the other hand, Lac and Kendu Leaves contributed relatively less to the annual income. Lac generated Rs.89, 600 annually with an average monthly income of Rs.220, while Kendu Leaves provided only Rs.7, 500 annually and Rs.21 per monthas the total volume of Kendu leaves collected is very small (0.1%). The lower income from these products may be due to limited availability, seasonal fluctuations, reduced market access, or declining dependence on these resources.

Issues and Challenges: From the above discussion it is clear that the tribal communities generally sell the collected NTF individually, which is very beneficial for buyers and traders. They are generally

disadvantaged by the lack of any organizational or institutional infrastructure and are deprived of real benefits. People in this community are generally very poor and sell their collected goods out of financial need. As a result, traders took advantage of this situation and bargained to buy their products at a lower price. The lack of market and competition experience among people in this region acts as a barrier. Lack of technical knowledge and proper storage facilities greatly reduce their production levels. In addition, they lag behind due to their inexperience about various government policies and lack of education. Irregular and seasonal collections are also one of the reasons for their lagging behind. Infrastructural difficulties such as lack of proper roads and difficulty in storing produce are considered as major challenges. Their processing systems are usually so underdeveloped that they sell most of their products as raw materials. As a result, they have to sell their products at very low prices during the peak production season of the year, which are unable to give them any profit. The community's financial profile is highly volatile due to an extreme reliance on daily wage labour (71.88%) and seasonal winter collection (100%), combined with low educational leverage (34.44% illiteracy) to pivot into higher-paying economic sectors. Proper and efficient planning is needed to solve all these problems, so that this tribal community can earn at least a little profit by selling their produce. First, they need real management systems so that they can properly preserve their collected materials. They need to be properly trained so that they can process their products properly. It is very important for them to have accurate knowledge about what a product might cost or how a product should be marketed. Knowledge of scientific methods for collecting and cultivating NTFPs is also essential for the people of this community and for the conservation of the Forest. Overall, better management of NTFPs collection and processing will greatly reduce their seasonal unemployment. It will also increase their income opportunities and ensure food security. Ultimately, through proper management, their overall socio-economic conditions will be developed.

CONCLUSION

The lifestyle and culture of tribal communities are deeply intertwined with the forest. They complement each other. Forests play a significant role in shaping the socio-economic, cultural and political aspects of their lives. Along with collecting timber, fuel, bamboo, etc. from the forest, they also collect various types of NTFPs which affect their daily lives. Many tribal communities are currently choosing NTFPs collection as a source of income and employment. People from this community usually collect NTFPs throughout the year. In addition, agricultural activities, livestock rearing, services and wage earning are used as a means of financial gain. Women play a key role in the collection, processing and sale of NTFPs. Among NTFPs Mahua Flower, Mahua Seeds,Sal Leaves,Kendu, Leaves Tamarind and Lac are important. However, they cannot collect and process NFPTs well due to lack of proper training and knowledge. In addition, their limited knowledge of marketing is considered a barrier to income. Because of this, they do not get the right price for their products. Therefore, it is necessary to make all these tribal communities aware of the correct method collection, processing and use of NTFPs. Since 76% of collectors are women, empowering female-led cooperatives would maximize income distribution.Instead of selling raw NTFPs at low prices, local processing units (e.g., for making plates from Sal leaves, processing Mahua, or packaging honey) should be established to fetch higher market rates.Providing basic financial literacy and vocational training to the 15–45 age bracket to diversify their income streams beyond basic manual labour.Their awareness and proper planning seem to play a major role in the conservation of forest lands and the development of tribal communities.Therefore, the main consideration is to carry out scientific plantation and collection of forest products and to ensure overall development of the tribal community within it.

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