

13. Scope and Challenges in Collection and Marketing of Non-Timber Forest Products (NTFPs) in Jharkhand

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Introduction:

India has about 21.17% of the forest cover out of the total geographical area, in terms of area total forest cover is 1540 sq. KM million hectares. According to the Forest Survey Report 2021-22, seventeen states have a forest cover of over 33 %. The forest area is divided into very dense, moderate, and open forest areas, very dense areas when all lands with tree canopy density of 70 % (0.7 tree density) and above. Moderately dense include all lands with tree canopy density of 40% and more but less than 70 % and open forests have all lands with tree canopy density of 10 % and more but less than 70%.

The majority of Indian states have forest cover more than 25 % of total land area. All Indian states have their own geographical and climate characteristics like the Himalayan region, North East region, eastern, southern, and central regions, and their climatic characteristics are most likely different from each other's. Therefore, varieties of plants and trees are presented all over India like fruits, fuelwood, medicine plants, etc. So, in India, there is huge potential for Timber and non-timber forest products or Minor Forest products. In this case, Large-scale exploitation of timber leads to deforestation and it heavily impacts climate change or environmental degradation which is dangerous for human civilization as well excess deforestation will make it exhaustible even if it is a renewable resource.

Cutting down forest need to be optimal as their maximum sustainable yield capacity because once the forest is gone, they create the exact forest level, humans can plantation certain kinds of trees and plants or artificial forests but do not rehabilitate all biodiversity or flora and fauna of the previous one. So, it is the biggest concern about the use of timber products for the environment and livelihood and employment of the rural people which directly or indirectly depends on forest resources, especially for tribal people.

However, the use of Non-Timber Forest Products (NTFPs) is more eco-friendly, useful for the environmental quality, and sustainable sources of livelihood and employment generation of rural people. There is no homogeneity among the researchers about the categories of NTFPs. It may vary with institutional arrangements, local and national levels, products used from area to area, and even between households within a community because of this variation, it is the toughest work to abstract generalizations about NTFP use (Pandey A.K. et. al 2016). The NTFPs may be classified into different categories for example,

- **Based on the purpose of use: -**
 - (1. Food
 - (2. Fuel
 - (3. Medicine
 - (4. Household utensils and
 - (5. Farm implements
- **The part of plants harvested: -**
 - (1. Leaf,
 - (2. Fruit,
 - (3. Stem
 - (4. Roots
 - (5. Tree skin (Chhal)
- **Level of use: -**
 - (1. Self-supporting
 - (2. Commercial

NTFPs provide green social security to billions of people all over the world in different ways as food supplements, traditional medicines, fuel and fodder, low-cost building materials, and sources of employment and income generation. In some circumstances, the revenues earned from NTFPs are the only source of cash income. Hence, increases the dependency of people on commercially interesting NTFP resources.

Jharkhand is home to a wealth of natural resources (about 40% of the total natural resources in India). It is rich in forest reserves, water, land, and minerals. Several types of timber and non-timber forest produce from the forests of the state are the lifeline of many industries that are forest similarly, minerals like coal, iron ore, manganese, chromite, bauxite, uranium, and limestone are available in abundance at different places of the state. Jharkhand is also one of the leading states in the country for the production of coal.

This article is only concerned with the endowment of NTFPs in Jharkhand. At present, about 29.76 percent of the state's geographical area is under forest cover which includes about 3.26 percent of very dense forest (VDF), about 12.15 percent of moderately dense forest (MDF), and about 14.34 percent of open forest (OF) (forest-report-2021). Nature has endowed Jharkhand with rich forest resources. Tropical moist deciduous and tropical dry deciduous forests are commonly found in the state. The different varieties of trees which dominate the forests of Jharkhand include sal (*shorea robusta*), tendu (*diospyros melanoxylon*), vijaysar (*pterocarpus marsupium*), agnishikha or glory lily (*gloriosa superba*), Palash (*butea monosperma*) and mahua (*madhuca longifolia*).

The forest of Jharkhand is very productive and the commonly extracted forest products in the state are timber, fuel wood, fodder, and a range of Non-Timber Forest Products (NTFPs) such as fruits, nuts, edible fungi, vegetables, animals, and medicinal plants, resins, essences

and a range of barks and fibers such as bamboo, rattans, palms, and grasses (M.A. Islam and S.M. S. Quli 2017). Therefore, there is a huge potential for NTFPs in Jharkhand to exploit in different ways like creating employment opportunities for the local people and saving the forest (D. Saha & R.C. Sundriyal 2012).

Objective:

The purpose of this article is to explore the various scope of NTFPs to enhance the livelihood of rural people through the commercialization of its products and food processing. Therefore, rural people get more employment and cash earnings by installing, cottages, small-scale industries, and NTFPs-based industries.

Another purpose is to identify challenges in collecting and marketing NTFPs in Jharkhand. This article also helps beginner students/scholars to get fundamental ideas about NTFPs in one short. The information was gathered from previous studies, government reports, and websites,

Scope of NTFPs:

Jharkhand has a nature-gifted state in terms of forests and here variety of NTFPs are available, some products are identified but not all. There is a need to explore and identify such relevant plants and trees to generate local employment for rural peoples because out of the total population of Jharkhand, 24.05% of people live in urban regions, and around 75.95 percent live in the villages. According to the government website, jhamfcofed.com, the major NTFPs are mentioned and the annual production and their areas, MSP declared BY the government of India, market rate, products-related areas, and harvesting period.

Table No. I: Major Non-Timber Forest Products in Jharkhand

Name	The popular name of MFP	Annual Production (approx. in MT)	MSP declared by GOI	Approx. Rate in Market	Main Focus Area	Availability Period (Season)	Produces and Uses Value Added
Tamarindus Indica	Tamarind	50000	22.00	20-22	Simdega, Chaibasa, Lohardaga, Khunti	February – May	Seedless bricks, Paste
Bee sap	Madhu/Honey	5-10	132.00	140	Palamu, Gumla, Simdega, Chaibasa		Food
Pongamia pinnata	Karanj	10000	21.00	18-22	Gumla, Simdega, Chaibasa, Lohardaga	May – June	Antibiotics oil, Ointment, Spray, etc

Scope and Challenges in Collection and Marketing of Non-Timber Forest Products (NTFPs) in Jharkhand

Name	The popular name of MFP	Annual Production (approx. in MT)	MSP declared by GOI	Approx. Rate in Market	Main Focus Area	Availability Period (Season)	Produces and Uses Value Added
Sterculia urens	Karaya gum		108.00				
Madhuca indica seed	Dori	50000	22.00	20-24	Gumla, Simdega, Chaibasa, Khunti, Lohardaga, Palamu, Garhwa, Khunti	June – August	Oil / Soap
Shorea robusta	Sal Seeds	More than 100000M.T	10.00	8-12	Gumla, Simdega, Chaibasa, Lohardaga, Khunti	April– June	Oil / Feed
Shorea robusta	Sal Leaves		21.00		All-season except for summer		
Buchanania lanzan	Chironji guthli	1000	100.00	100-110	Palamu, Garhwa, Khunti, Simdega, Giridih, Bokaro	March-May	Dry fruit, Used confectionary
Terminalia chebela	Mrobalan (Harra)	500	11.00	15-20	Gumla, Simdega, Chaibasa, Lohardaga, Latehar, Ranchi	January-February	Harra powder & Triphala churna
Cassiatora	Chakvar	50000	--	10-15	Palamu, Garhwa, Latehar, Ranchi	January-March	Medicine
Hyoscyamus niger	Niger Seed	1000	--	40-50	Gumla, Simdega, Chaibasa, Hazaribhag, Palamu, Latehar	December-January	Medicine
Mangifera indica	Mango Pulp (Amsi)	500	--	60-70	Hazaribhag, Gumla, Simdega, Bokaro, Khunti	May- June	Food
Madhuca-longifolia	Mahua Flower	More than 100000 M.T	--	22-30	Gumla, Simdega, Chaibasa,	March- May	Wine /Medicine

Name	The popular name of MFP	Annual Production (approx. in MT)	MSP declared by GOI	Approx. Rate in Market	Main Focus Area	Availability Period (Season)	Produces and Uses Value Added
					Lohardaga, Latehar, Palamu, Garhwa, Khunti (most area of Jharkhand)		
Boswellia serrata	Tawar Gond	100	--	75	Palamu, Garhwa	March-June	Food
Boswellia serrata	Gijan Gond	500	--	100	Palamu, Garhwa	June-August	Medicine & Food
Andrographis paniculara	Kalmegh (Chiraita)	50	--	80-100	Palamu, Latehar	November-January	Medicine
Woodfordia fruticosa	Dhawai phool	20	--		Palamu	December-February	Medicine
Asparagus racemosus	Satawari	50-60	--	140-160	Palamu, Gumla, Khunti	All-season	Medicine
Rauwolfia serpentine	Sarpagandha	10-20	--		Palamu, Simdega, Giridih	September-December	Medicine
Withania somnifera	Aswagandha	10-20	--		Gumla, Lohardaga, Palamu	November-December	Medicine
Butea monosperma	Palas/ Tesuphool	1000 MT	--		Palamu, Khunti, Simdega, Giridih	March-May	Medicine
	Bantulsi	400-500	--	10-20	Palamu, Latehar, Garhwa	November-March	Medicine
Schleichera oleosa	Kusum	5000	--		Gumla, Simdega	June - October	Oil / Feed
Mucuna pruriens	Kaunch beej	40-50	--		Palamu, Chaibasa		Medicine
Aegle marmelos	Bael giri	50-100	--		Palamu	March-May	Food / Medicine
	Amla		--				Oil

Source: <https://jhamfcofed.com/reso/index.htm>

The NTFPs can collect directly from the forest and earn cash but other than that, there is a huge possibility to drive forest-based industries in local regions in Jharkhand. Some forest-based industries are mentioned below.

1. Sericulture (Silk) Industry: Jharkhand continues to be the leading producer of Tasar silk in the country. About 70 to 80 percent of the country's total production of silk comes from Jharkhand. Through sericulture, the textile industry can be established because of the low cost of raw materials and this industry is also most likely labor-intensive. Therefore, large employment opportunities will be created.

2. Lac Industry: Lac cultivation is an important livelihood option for the forest dwellers in Jharkhand. The state also has many lac processing units. Lac culture, being a labor-oriented activity, provides employment opportunities for local people. Jharkhand is the biggest lac producing state in India and accounts for more than 50 percent of the national produce. Out of seven major lac-producing districts of Jharkhand, Ranchi holds the top position followed by Simdega, Gumla, West Singhbhum, Palamau, Garhwa, Latehar, and others.

3. Kendu Leaves Based Industries: Kendu is one of the most valuable NTFPs found in Jharkhand. In Jharkhand, JSFDC (Jharkhand State Forest Development Corporation) is responsible for the collection and trading of kendu leaves in an organized manner. There needs to be more commercialization of kendu leave industry in these areas.

4. Herbal and Medicine Industry: Jharkhand lacks a herbal medicine industry and major quantities of herbal plants and produce are supplied to the industries located in West Bengal. More than 1500 ethno-medicinal plants are found in Jharkhand. Some of the popular medicinal plants of Jharkhand are Tulsi, Amla, Ashok, Ashwagandha, Bael/Bilva, Guluchi/Giloe, Calihari/Panchangulia Glori, Makoi/Kakamachi, SarpaGandha, Satavari, Gritkumari, Vringraj, Neem, etc. If related industries will install in a Jharkhand state, then it will create primary as well as secondary wave of employment.

5. Sal Plates Manufacturing Industry: Sal leaf is one of the most important NTFPs collected and processed in Jharkhand. Plate making with sal leaves is a popular and widely practiced household activity for livelihood sustenance among the tribal and other rural households in the state. Sal leaves plate is also an eco-friendly product. It can replace plastic products through modification with the help of modern technology. It is an all-weather-demandable product.

6. Bamboo-Based Industries: Groves of bamboo clumps are relatively common in Jharkhand and largely found in the forest areas on the hilly slopes of the plateau region. People use these bamboos for making beds, carpets, baskets, tori, sup, hand-fans, prasad, and flower carriers for temples, packing cases for vegetables and fruits, as fencing in the fields to protect the crops from grazing, hut making, roof making, thatching, lathi, etc.

Bamboo is found in abundance in the Dumka, Gumla, and East Singhbhum districts of Jharkhand. Across the state, mainly in Giridih, Goda, Dumka, Pakur, Sahibganj, and Jamtara, training-cum-production centers have provided livelihoods for some 2,000 families.

7. Timber Industry: Timber is a renewable, sustainable, attractive, strong, durable, and cost-effective natural building material that combines beauty, superior performance, and environmental advantage. The timber resources support the daily livelihood needs of the tribal and rural people of Jharkhand in terms of housing and fencing materials, poles, utensils, ornamental and decorative purposes, musical instruments, agricultural implements, carving woods, furniture, fuel wood, charcoal, kindling, medicines, etc.

Through the NTFPs, huge employment opportunities can be created for the local people directly and indirectly. Some minor forest products are directly usable for vegetables or as healthy food products and they can be produced as value-added products through the establishment of NTFPs industries (Mirjam et al. 2014). In short, there are the following scope of NTFPs.

- Sustainable livelihoods
- Forest-dependent livelihoods
- Sources of food
- Sources of fuel wood
- Sources of medicine
- Sources of employment
- Sources of cash income.

Issues and Challenges:

Non-timber forest products (NTFPs) play a crucial role in the livelihoods of many communities in Jharkhand. However, the collection, marketing, and management of NTFPs face several challenges.

Challenges in Collection: Several challenges arise during the collection of NTFPs in Jharkhand, regarding legal issues, ownership, health risks, etc. Most of the dwellers are from rural areas or indigenous tribes (Sujit K. Soren, 2023). Some challenges are as follows.

1. Land Ownership and Access Rights: Many forest areas are under state control, and the local communities often lack formal rights to access and collect NTFPs, leading to conflicts and restricted access. However, during collection, there are several conflicts faced by the dwellers.

2. Legal and Regulatory Barriers: The Forest Rights Act (FRA) of 2006 aims to address these issues. However, its implementation has been inconsistent, and many eligible communities have not received their due rights.

3. Deforestation and Degradation: Illegal logging, mining activities, and agricultural expansion contribute to forest degradation, reducing the availability of NTFPs.

4. Hazardous Conditions: Collecting NTFPs often involves working in hazardous conditions, including exposure to wildlife, harsh weather, and unsafe terrain, which poses health and safety risks.

5. Migration: Local communities or people are gradually migrating to urban areas to look a better job opportunity because traditional occupation has low returns and they are lacking sufficient cash flow to meet their basic needs. Therefore, the young generation is distracted from such occupations.

6. Marginalization of Indigenous Communities: Indigenous communities, who are primary collectors of NTFPs, often face social marginalization and exclusion, limiting their ability to effectively manage and benefit from forest resources.

7. Deforestation and Degradation: Illegal logging, mining activities, and agricultural expansion contribute to forest degradation, reducing the availability of NTFPs. However, they walk a long distance spend maximum time in the forest to collect NTFPs, and then get the minimum amount.

Challenges in Marketing:

The challenges in marketing Non-Timber Forest Products (NTFPs) are multifaceted and can significantly impact the livelihoods of those dependent on these resources. but various challenges arise during its marketing. Here this article mentioned some following important challenges.

1. Fluctuation in Production- Due to irregular seasons and being an unorganized sector, the production of MFPs sees a huge fluctuation range from 4% to 500% whereas despite irregular monsoons, the agricultural production varies in range of 20% to 50% only.

2. Lack of Uniformity- Non- timber Forest Products (NTFPs) face significant challenges due to inconsistent management practices. The lack of advanced technology and the use of non-organic seeds in the cultivation and promotion of these products exacerbate these issues. The production of MFPs is highly dependent on local conditions, including location, temperature, and seasonal rainfall, leading to considerable variability. Consequently, the shape, size, colour, and other properties of MFPs can vary significantly from year to year

and from one location to another. This inconsistency negatively impacts the selling price, as traders and industries that rely on these products require uniform quality and quantity. This lack of standardization poses a major obstacle to effective marketing and the establishment of MFPs in the marketplace (Sujit K. Soren, 2023).

3. Irregular collection- The MFPs collection is irregular as it is found in a scattered form. The quantity available at far-off places makes collection and transport uneconomic. The low and irregular supply of MFPs reduces the bargaining power of the sellers causing lower returns.

4. Seasonal Collection- Most MFPs are collected seasonally. Whereas the demand for some MFPs may be throughout the year. Local selling in the peak season depresses the price. Lack of proper transportation and storage causes damage to the product. So, the vendors allow low selling prices for MFPs in the market.

5. Competition with Substitutes- Many MFPs have lost their natural market due to competition with packaged synthetic products. These products look nice in packets and are long-lasting. For example, Awala available in the forests is cheaper than its synthesized by-products like muraba and achar. Another example is of Chironjee available in market is cheaper (80-90/kg) than packaged products (1000-1200/kg).

6. Fluctuation in Demand- The business trends are changing and an export environment is being created for these products. Due to uncertain production and uncertain demands, sometimes it is advantageous for small gatherers but disadvantageous for big traders.

7. Discrimination in Gender- The women of the village are traditionally assigned and burdened with other roles in the family so their activities in the market are restricted. Irregular collection, poor quality, and low production provide small gains from these products.

8. Poverty of Gatherers- The villagers involved in the collection of Minor Forest Products (MFPs) are mostly impoverished and heavily reliant on middlemen, often working under the instructions of vendors. This dependency, coupled with the unorganized nature of rural markets and the extreme poverty of the villagers, results in the consumption of Non-Timber Forest Products (NTFPs) at very low prices.

8. Too Many Intermediates- There is a complex supply chain between gatherers and consumers of Minor Forest Products (MFPs). Local traders often work on a commission basis for vendors, supplying products to wholesalers who then distribute them to other wholesalers both within and outside the state. Despite this extensive network of intermediaries, gatherers have limited options when it comes to choosing buyers.

Ideally, a competitive market should offer multiple buyers to ensure fair pricing for these products, but this is not currently the case.

9. Nature of Buyers- The middlemen are capable of maintaining a very strong chain in the marketing network. Sometimes they meet the personal requirements of primary gatherers. Due to this ability, the bond between the two is very strong. The payment is normally made by middlemen at the time of delivery. Mostly MFPs are collected from the gatherer's point. Different factors affect middleman's control on gatherers like poverty of the gatherers, language and transportation facilities, poor communication, ineffective agencies etc. strengthening the middleman. Unorganized and unbalanced bargaining power between sellers and buyers makes middlemen more profitable.

Conclusion:

In short marketing challenges include remote locations with poor infrastructure, limited market information, and reliance on middlemen, which reduces bargaining power and income. Collectors also struggle with branding and integrating into the value chain, facing competition and price volatility. Other than problems in the collection and marketing of NTFPs, processing, storage, and management of NTFPs are also a big concern. The management of Non-Timber Forest Products (NTFPs) faces numerous challenges. Inadequate storage facilities lead to spoilage due to NTFPs' perishable nature and climate sensitivity. Poor storage conditions also invite pests, and many collectors lack preservation knowledge. Traditional storage methods are often ineffective compared to modern technologies like refrigeration. Processing issues arise from limited local facilities and the high costs of setting up processing units, forcing collectors to sell raw products at lower prices. Collectors often lack the technical skills for value addition, and regulatory hurdles make compliance costly and complex.

Suggestion:

Solutions require a holistic approach, investing in infrastructure for storage and processing, providing training and technical assistance, developing market linkages, simplifying regulations, and promoting NTFPs through branding and marketing campaigns. These steps can improve quality, access, and profitability for NTFP collectors (Sanjay Verma, 2019). The government also needs to provide sufficient financial support and legal rights to access forests.

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