



Potential of Non-Timber Forest Products to Livelihood Support of Village People In Ranchi, Jharkhand

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ABSTRACT

The study is based on some selected villages viz. Getalsud and Soso villages of Angara Block, Nagri and Naro Villages of Nagri Block, Lalkhatanga and Tunju villages of Namkum Block and Kanijari and Naro villages of Mandar Blocks of Ranchi district. As these villages are situated near by the forest, their livelihoods are fully or partly dependent upon the collection of NTFP products from the forest. The dependency and collection of NTFPs was mainly from ST, SC and OBC communities and peoples of General cast were not involved in NTFPs collection. The average age group involved in collection of NTFPs was observed as 36.5 years in all the study blocks. The maximum time spent for collection of NTFP for Livelihood support was from the month of October to January followed by the month of June to September and February to May. It is also noticed that village people of Mandar block travel maximum distance of about 8 to 10 Km. Bamboos and Sal products have been collected by the villagers throughout the year for their daily uses and sale in the local market. The Bamboo products such as bamboo Basket, Soop, broom and datman of Karanz & Sal, Dona & Pattal of Sal leaves etc. are sold out throughout the year. Aonla, Bamboo, Imli, Karanz, Kusum, Mahua, Piar, Rugra, Sal, Kendu, etc. are the main tree species from which NTFPs are collected from the forests. Almost in all the study blocks, all types of NTFPs products are found except Kusum seed and Lac, as it is not found in Mandar and Nagri block.

Keywords: Village, NTFP, Bamboo, Sal, Karanj, Kendu

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INTRODUCTION

The self employment in forestry is looked in the form of people's livelihoods through the Sale of fuel wood and fodder, grazing, lopping and grass cutting, forest based handicrafts and cottage industries, sericulture, lac cultivation, bee keeping, charcoal burning, leaf plate making, liquor making, rope making and basketry, medicines, collection, processing and marketing of Non-Timber Forest Products (NTFPs), cultivation of agricultural crops under agri-silvicultural practices, livestock rearing, social and farm forestry and availing of rights and concessions. The application of local skills and village-level technology in wood-based and small-scale forest-based enterprises provide secondary employment and livelihood opportunities for tribal people, main amongst are saw milling, rayon, pulp and paper, ply wood and panel products, wood seasoning and preservation, tanning, sports goods, match splints, veneers, wooden boxes, Bamboo and cane products, agricultural implements, furniture, structural wooden items, musical instruments, *bidi* making, educational goods, wood carving, wooden utensils etc. [1], [2]. The livelihoods among tribal communities in India is complex, dynamic and multidimensional phenomenon, the perception of which varies with geographic location, type of community, age, gender, education, fluctuations in resources, services and infrastructures and social, economic, cultural, ecological and political determinants [3]. They also provides timber as raw materials for various industries like pulp and paper, news print, board, furniture items packing materials, matches, sports goods etc.

The important forest products derived from different species are lac, fibers, floss, medicines etc. The tribal people often procure their food (tuber, root, leave, fruit, protein from birds and other animals, and medicines) from the forest in which they live. Forests provide significant social and economic benefits at all level, especially in developing countries. Economics of people living in the vicinity of forest has

traditionally been dominated by subsistence agriculture. However, non-timber forest products (NTFPs) play vital role among the tribal people and provide a source of income and substance living [4], [5].

MATERIAL AND METHODS

The study is based on pre-designed questionnaire [6] to collect/obtain specific information to meet a particular need related to research on a pertinent topic. The study area included selected villages, source forest areas and nearby market. They were surveyed in each block which includes house hold interviews, focus group discussions and participatory rural appraisal, forest surveys and market surveys. Household survey was to determine socio-economic condition and qualitative surveys of forests were done to evaluate the current status of the livelihood pressure on the existing forest. For quantification of NTFPs produces markets were also surveyed through Sales of different NTFPs.

For data collection on socio-economic status survey on household survey participant group meetings were conducted and semi-structured interviews were undertaken with members of the participating households to validate and provide additional information. Market survey, covering local market over the study period of 12 months was performed to collect data about local and seasonal variations in product prices and supply and also to provide price data has been done to generate data of annual income by the sale of NTFPs. Details about the products collected, the quantity harvested, the forest origin of those products and the final use (consumed or traded), were all recorded.

RESULTS AND DISCUSSION

Social Profile of the Respondent

In table 1 gender profile and age of the respondent in the study areas are shown. Perusal of data indicated that male respondents were more in all the blocks except in Angara, where female respondents were more in number. Percentage of male respondent was 58.33% and female respondent was 41.67%. The maximum number of male was 15 in the Nagri block followed by Mandar block 14 and least in Angara block 7.

Table 1: Gender profile and age of the respondent

Sl. No.	Block	Gender Profile (Numbers)			Age (Years)
		Male	Female	Total	
1	Angara	09 (42.86)	12 (57.14)	21 (100.00)	37.6 (20-55)
2	Nagri	15 (71.43)	06 (28.57)	21 (100.00)	38 (21-55)
3	Mandar	14 (66.67)	07 (33.33)	21 (100.00)	37 (22-52)
4	Namkum	11 (52.38)	10 (47.62)	21 (100.00)	33.6 (19-48)
	Total	49 (58.33)	35 (41.67)	84 (100.00)	36.60 (19-55)

(Percent value in parenthesis)

In case of age group, an average age of the respondents were 36.60 years in which older age of the respondents were found in Nagri 38 years followed by Angara 37.60 years, Mandar 37 years and younger age were found in Namkum 33.60 years. Among the age group, minimum age was 19 years and maximum age was 55 years.

Caste of the Respondent

Perusal of data of table 2 showing caste profile has indicated that three castes namely SC, ST and OBC are involved in collection of NTFP in all the blocks. Out of which ST 44 people were maximally involved in collection of NTFP followed by OBC 29 and least by SC 11 people. Persons belonging to General groups were not observed in collection of NTFP. The maximum number of ST Caste was thirteen 13 in Namkum block followed by twelve (12) in Mandar block, Ten (10) in Angara block and Nine (09) was in Nagri block.

Table 2: Caste of the respondent

Sl. No.	Block	SC	ST	OBC	Total
1	Angara	03 (14.29)	10 (47.62)	08 (38.10)	21 (100.00)
2	Nagri	01 (4.76)	12 (57.14)	08 (38.10)	21 (100.00)
3	Mandar	06 (28.57)	09 (42.86)	06 (28.57)	21 (100.00)
4	Namkum	01 (4.76)	13 (61.90)	07 (33.33)	21 (100.00)
	Total	11 (13.10)	44 (52.38)	29 (34.52)	84 (100.00)

(Percent value in parenthesis)

Qualifications of the respondents

The literacy of respondents of study blocks shown in table 3 indicated much variations starting from illiterate to primary school, middle school and matriculation level. The perusal of data has indicated that illiterate were more *i.e.* 30.95% followed by middle school 28.57% and minimum was found having matriculation 13.10%.

Table 4.3: Qualifications of the respondents

Sl. No.	Block	Matriculation	Middle School	Primary School	Illiterate
1	Angara	03 (14.29)	07 (33.33)	04 (19.05)	07 (33.33)
2	Nagri	02 (9.52)	04 (19.05)	07 (33.33)	08 (38.10)
3	Mandar	00 (0.00)	05 (23.81)	09 (42.86)	07 (33.33)
4	Namkum	06 (28.57)	08 (38.10)	03 (14.29)	04 (19.05)
	Total	11 (13.10)	24 (28.57)	23 (27.38)	26 (30.95)

(Percent value in parenthesis)

Employment Status of the Respondent

The dependency of respondents for livelihood is noticed in terms of daily wage labourers, government jobs or forest based (Table 4). Out of 21 randomly selected respondents, the livelihood of maximum number of respondents Eighteen (18) of Nagri block is fully depended on the Forest resources *i.e.* Non Timber Forest Products (NTFPs) followed by thirteen (13) in Angara block, Eleven (11) in Mandar block and eight (08) in Namkum block. The percentage wise employment was found in 59.52%, 30.95% and 9.52% in dependency on forest, daily wages and Government, respectively.

According to [7] extensive research on the importance of NTFPs on forest peoples' cultural, social and economic life in tropical forests might change with time in the perspective of the surrounding socio-physical environment. There are several socio-cultural practices performed by forest dwellers to protect plant species that produce NTFPs. [8] have undertaken comprehensive work on the identification of forest dwellers 'household characteristics' and their dependency on NTFPs for livelihood and/or cash income purposes for the formulation of forest and NTFPs conservation policies in Vietnam.

Table 4: Employment status of the respondent

Sl. No.	Block	Govt.	Daily wages	Dependency on forest
1	Angara	01 (4.76)	07 (33.33)	13 (61.90)
2	Nagri	00 (0.00)	03 (14.29)	18 (85.71)
3	Mandar	03 (14.29)	07 (33.33)	11 (52.38)
4	Namkum	04 (19.05)	09 (42.86)	08 (38.10)
	Total	8 (9.52)	26 (30.95)	50 (59.52)

(Percent value in parenthesis)

While [9] have concentrated on the NTFPs based socio-cultural life; [10] were more concerned about the sustainable harvesting of NTFPs to save the forest ecology. Less attention has been paid to a more holistic perspective on NTFPs and forest livelihoods.

Time Spent and Distance Travelled

The Time spent for collection of NTFPs by the respondent is presented in the table 5 which varies from block to block. The three seasons such as June to September, October to January and February to May, are taken in consideration for the study purpose. In all the blocks, the livelihood is supported by both male and female. In Angara, Mandar and Nagri block, the maximum time spent for support of Livelihood was in the month of October to January followed by the month of June to September and February to May whereas in Namkum block maximum time spent in the month of June to September and February to May. The male respondents spent more time than female respondent in all the blocks. In Angara block on an average male respondent time spent for Livelihood support was 5-6 hours/day whereas female respondent were spent time 4-5 hours/day. In Mandar block, the male respondent time spent was 6 hours/day, whereas female respondent were spent time 5 hours/day. In Nagri block, the male respondent time spent was 5 hours/day whereas female respondent were spent time 4 hours/day. In Namkum block, the male respondent time spent was 5 hours/day whereas female respondent were spent time 4 hours per day.

The average distance travelled from 3-4 km to 8-10 km (one way) by the respondents was observed in study blocks (Table 5). The maximum distance travelled by the respondent of Mandar block (8-10 km) followed by Nagri (5-7 km), Namkum (4-5 km) and the least distance travelled by the respondent of Angara (3-4km). As forests provide timber and non-timber forest products which are important sources of livelihood for households and communities, in addition to environmental benefits such as water and soil conservation and recreation.

Table 5: Time spent and distance travelled for livelihood support

Sl. No.	Block	Gender	Time spent (Hours/day)			Distance Travelled (km)
			June-Sept.	Oct.-Jan.	Feb.-May	
1	Angara	Male	4-5	5-6	4-5	3-4
		Female	4	4-5	4	
2	Mandar	Male	5	6	4-5	8-10
		Female	4	5	4	
3	Nagri	Male	4-5	5	4-5	5-7
		Female	3-4	4	4	
4	Namkum	Male	5	4-5	4-5	4-5
		Female	4	3-4	4	

Seasonal Calendar for Availability of NTFPs

The seasonal calendars of the availability of NTFPs studied in selected blocks are presented in Table 6.

Table 6: Seasonal calendar for availability of NTFPs

Types of NTFPs	Month											
	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Aonla	♣	♣	♣	♣	--	--	--	--	--	--	--	♣
Bamboo Basket	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Bamboo Broom	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Bamboo Karil	--	--	--	--	--	♣	♣	♣	♣	--	--	--
Bamboo Soop	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Fuel Wood	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Imli	--	--	♣	♣	♣	♣	--	--	--	--	--	--
Karanj Datman	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Kendu Fruits	--	--	♣	♣	♣	--	--	--	--	--	--	--
Kusum Seed	--	--	--	--	--	♣	♣	♣	--	--	--	--
Lac Seed	--	--	♣	♣	♣	♣	♣	♣	♣	♣	--	--
Mahua Flower	--	--	♣	♣	♣	--	--	--	--	--	--	--
Mahua Fruit	--	--	--	--	♣	♣	--	--	--	--	--	--
Piar	--	--	--	--	--	♣	♣	♣	--	--	--	--
Rugra	--	--	--	--	--	--	♣	♣	--	--	--	--
Sal datman	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Sal Dona	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣	♣
Sal Leaf	♣	--	--	♣	♣	♣	♣	♣	♣	♣	♣	♣

Due social heterogeneity, various NTFPs are collected for different reasons by farmers. Bamboos and Sal products have been collected by the villagers throughout the year for their daily uses and Sale in the local market to earn some money. The Bamboo products such as Bamboo Basket, Soop and Broom, Karanj and Sal datman, Sal dona and Pattal etc. are preferred throughout the year. While Sal leaves were available from the month of April to January. Lac available in the study area from March to October. Aonla was available from months of December to April. Kendu fruits were available from April to May. Imli were available from March to June. Mahua flower was available from March to May while Mahua fruit was available from May to June in the studied areas. Kendu fruit is collected in the month of March to May, while the Ber fruit is collected in the month of February to March.

Sal and Kendu leaves, grasses, medicinal herbs, honey, gums and resins, oil seeds *etc.* are significant sources of livelihood for rural communities [11]. As per [3], in India, more than 41 million tribals and forest dwellers derive their earnings from these products after consuming about 60% of collected NTFPs for personal use.

Types of NTFPs collected from the forest based on respondent

Types of NTFPs collected from the forest based on respondent are presented in the Table 7. Perusal of data has indicated that Aonla (*Emblica officinalis*), Bamboo (*Dendroclamus Bamboosa*), Imli (*Tamarindus indica*), Karanj (*Pongamia pinnata*), Kusum (*Schleichera oleosa*), Mahua (*Madhuca indica*), Piar (*Buchanania lanzan*), Rugra (*Lycoperdon*), Sal (*Shorea robusta*), Kendu (*Diospyros melanoxyton*), *etc.* are the main plant species from which the NTFPs products are collected from the forests. Almost in all the selected blocks, the all types of NTFPs are found except Lac seed which are not found in Mandar and Nagri blocks.

Table 7: Types of NTFPs collected from the forest based on respondent

Sl. No.	NTFPs	Angara	Mandar	Nagri	Namkum
1	Aonla	√	√	√	√
2	Bamboo Basket	√	√	√	√
3	Bamboo Broom	√	√	√	√
4	Bamboo Karil	√	√	√	√
5	Bamboo Soop	√	√	√	√
6	Fuel Woods	√	√	√	√
7	Imli	√	√	√	√
8	Karanj datman	√	√	√	√
9	Kendu Fruits	√	√	√	√
10	Kusum Seed	√	√	√	√
11	Lac Seed	√	---	---	√
12	Mahua Flower	√	√	√	√
13	Mahua Fruit	√	√	√	√
14	Piar	√	√	√	√
15	Rugra	√	√	√	√
16	Sal datman	√	√	√	√
17	Sal Dona	√	√	√	√
18	Sal Leaf	√	√	√	√

Quantity of Collected NTFPs

The block-wise collection of NTFPs during a season is presented in the Table 8. The major NTFPs collected were Mahua Flower, Mahua Fruit, Sal Leaf, Sal Daatun, Sal Dona, Rugra, Bamboo Karil, Bamboo products, Lac Seed, Kusum Seed, Piar, Aonla, Kendu Fruits and Imli. Perusal of data has indicated that the collection of NTFPs is varies from block to block and also from products to products. The average quantity of Aonla collected (kg/tree) varied from 15 kg/tree to 30 kg/tree. The Bamboo products were also varied from product to product. In Mandar block, Bamboo products such as basket, broom and sup was found maximum. The Bamboo Karil was found maximum in Angara block. In case of Imli, it was found maximum in Namkum followed by Angara and least was found in Mandar and Nagri block.

Table 8: Quantity of NTFPs collected

Sl.no.	NTFPs	Unit	Angara	Mandar	Nagri	Namkum
1	Aonla	Kg/week	15	8	25	30
2	Bamboo Basket	Pieces/week	25	40	20	30
3	Bamboo Broom	Pieces/week	35	50	32	40
4	Bamboo Karil	kg/week	17	15	12	20
5	Bamboo Sup	Pieces/week	30	40	35	30
6	Fuel Wood	Bundle/week	15	18	20	15
7	Imli	kg/week	7	5	5	8
8	Karanj datman	Bundle/week	30	28	25	32
9	Kendu Fruits	Dona/week	20	25	10	22
10	Kusum Seed	Kg/season	5	5	5	5
11	Lac Seed	Kg/season	2.5	3
12	Mahua Flower	kg/season	20	22	25	18
13	Mahua Fruit	kg/season	100	100	80	125
14	Piar	Dona/week	35	45	30	35
15	Rugra	kg/week	6	5	4	5
16	Sal Datman	bundle/week	55	50	45	42
17	Sal Dona	bundle/week	250	300	280	350
18	Sal Leaf	Bundle/week	40	35	50	40

In Angara block, Karanj datman, Rugra, Sal datman and Mahua fruits are found maximum. Kusum seed and Lac seed are found only in Angara and Namkum block. The maximum quantity of Mahua flowers collected from Nagri block followed by Mandar and minimum quantity collected from Namkum. In case of Kendu fruits, Mandar had maximum followed by Namkum and least at Nagri block. [12] have estimated that total value of Non-Timber Forest products per household was around Rs. 6287 per annum. [13] has also examined distributional implications of benefits' sharing among the communities under 'Joint forest Management' regime. It has been emphasized that equitable distribution of benefits is a pre condition for sustaining the collective action type of participatory approach to management.

CONCLUSION

Exploitation of NTFPs such as Mahua, Sal leaf, Bamboo, Rugra, *etc.* were observed in all the studied blocks. Availability of Lac Seed, Kusum seed, Piar fruit was noticed only in the Markets of Angara and Namkum blocks. The dependency and collection of NTFPs was found from ST, SC & OBC. No General cast were involved in NTFPs collection. The average age group of different cast involved in collection of NTFPs was observed as 36.5 years of all the selected blocks. Maximum time spent per day in the collection of NTFPs was noticed as 4 to 5 hours per day. Collections of NTFPs are done mainly from nearby forest areas.

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