

Collection and Marketing of Non-Timber Forest Products by Tribals in Sirsi Forest Division of North Canara District

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ABSTRACT

The present study was carried out in four tribal villages of Sirsi Division in North Canara district during 2014-15 to analyze the annual income and employment status of NTFP collectors and to identify the marketing channels of NTFPs. Data were collected from 90 tribals engaged in the collection of NTFPs through personal interview method. It was found that 35.55 per cent of the tribals had travelled 4 to 6 km inside the forests for collecting the NTFPs and 66.66 per cent of the tribals had travelled 1 to 3 km for marketing the collected NTFPs. Cent per cent of the tribals were engaged in NTFP collection, while, 88.88 per cent and 20.00 per cent of the respondents were engaged in agriculture and wage labour, respectively for their livelihood. Nine NTFPs were extracted by the tribals in the study area and the tribals were supplying the collected NTFPs to the Joint Forest Management Committee for marketing the same. Perishable nature of NTFPs (93.33%), seasonal availability of NTFPs (82.22 %), scattered distribution of NTFPs (76.66 %), long distance to collect NTFPs (74.44 %), remote areas (68.88 %), lack of processing facilities (equipments etc.) (64.44 %), exploitation from the middlemen (55.55 %) and lack of storage facilities (54.44 %) were the major problems faced by a majority of the tribals in the collection, processing and marketing of the NTFPs.

THE forest products are classified into two broad categories, viz., Timber and Non-Timber Forest Products (NTFPs). The NTFPs encompass all biological materials (food, fodder, gums, resins, berry / fruits, honey, seeds, lac, oils, fibre etc.) which are extracted from natural forests for human use (Bhat *et al.*, 1992). Since there is a great diversity in the ecological habitats the NTFP species also differ from region to region. It is reported that there are more than 3000 plant species of economic importance yielding products that provide food, cloth, shelter, medicines and others including income for the well being of the tribal communities living in and around the forests and beyond.

The NTFPs play a key role in the life and economy of tribal communities living in and around forests. For a vast majority of tribal people the extraction, procession and marketing of NTFPs is a source of employment throughout the year. Without much capital investment and with little skill, it provides employment opportunities to all groups of tribals. The income generated by NTFPs significantly contributes to the household income in tribal areas (Campbell, 1993). Excluding the value of NTFPs used by the forest

dwellers themselves, the Government generates a revenue of approximately \$135 million per year from NTFP alone. The NTFPs contribute to over 50 per cent of the forest revenue and to 70 per cent of the export income from forests in India. On global basis, the value of NTFPs is estimated to be approximately \$50 per hectare (Rs.2350 / ha) (Bhaskar and Lakshminarayan, 2005).

Extraction, processing and marketing of NTFPs is the source of employment and income for a vast majority of the tribal people. Very often NTFPs are collected haphazardly without looking into the quality and sustainability of the produce. It is also common that many of the collectors do not know where and whom to sell the NTFPs due to lack of information. They sell the produce locally at whatever price is offered to them with the consequent low revenue to the collectors (Ganapathy *et al.*, 2000). The economic weakness, social observatism and uncertainty of market of NTFPs have made tribal life vulnerable and prone for exploitation by middleman or private traders (Satheesh Kumar and Jayashree, 2014). Against this background, the present study is carried out with the following specific objectives :

1. To know the profile of NTFP collectors
2. To analyze the annual income and employment status of NTFP collectors
3. To document the NTFPs collected by the tribals
4. To identify the marketing channels of NTFPs
5. To enlist the collection, processing and marketing problems encountered by NTFP collectors.

METHODOLOGY

The present study was carried out in Sirsi Forest Division of North Canara district in Karnataka state during 2014-15. Ninety tribals engaged in the collection of NTFPs from four tribal villages (Gotehalli, Kurgi, Kosre and Mensi) of Sirsi Forest Division were randomly selected for the study. Relevant data was collected using a pre-tested interview schedule. The collected data was analyzed using frequency and percentage. The number of NTFP collectors sampled village-wise is presented below :

NTFP collectors sampled for the study

Villages selected	No. of tribals sampled
Gotehalli	20
Kurgi	24
Kosre	24
Mensi	22
Total	90

RESULTS AND DISCUSSION

1. Profile of NTFP collectors : A close observation of Table I indicates that most of the NTFP collectors (42.23 %) were of middle age, followed by old age (37.77 %) and young age (20.00 %). Regarding the educational level of NTFP collectors, a considerable number of NTFPs collectors had studied up to primary school (32.25 %), followed by middle school (17.77 %), high school (18.88 %) and PUC (16.69 %), while 14.44 per cent of the NTFP collectors were illiterates.

It is observed from Table I that a vast majority of NTFP collectors were married (95.55 %) and the remaining 4.45 per cent of them were unmarried. A vast majority of the NTFP collectors were having nuclear family (95.55 %) and the other respondents were living in joint family (4.45 %). A greater number (44.44 %) of NTFP collectors were having less than

TABLE I

Profile of NTFP collectors

Characteristics	NTFP Collectors	
	Number	per cent
Age		
Young	18	20.00
Middle	38	42.23
Old	34	37.77
Education		
Illiterate	13	14.44
Primary education	29	32.25
Middle school	16	17.77
High school	17	18.88
PUC	15	16.69
Marital status		
Unmarried	4	4.45
Married	86	95.55
Type of family		
Joint family	4	4.45
Nuclear family	86	95.55
Land holding		
Landless	10	11.11
Up to 1 acre	40	44.44
2 to 3 acre	35	38.88
More than 3 acre	5	5.57
Distance travelled for collecting NTFP (km)		
1 to 3	18	20.00
4 to 6	32	35.55
7 to 9	19	21.11
More than 9	21	23.34
Distance travelled for marketing NTFPs (km)		
1 to 3	60	66.66
More than 3	30	33.34

one acre of land, whereas, 38.88 and 5.57 per cent of the NTFP collectors were having 1 to 2 acre and more than 2 acre of land, respectively. A little over one-tenth of the NTFP collectors were landless (11.11 %).

It is also seen from Table I that 35.55 per cent of the NTFP collectors had travelled 4 to 6 km inside the forests for collecting NTFPs, whereas, 23.34, 21.11 and 20.00 per cent of the respondents had travelled more than 9 km, 7 to 9 km and 1 to 3 km inside the forests to collect NTFPs, respectively. A majority (66.66 per cent) of the NTFPs collectors had travelled 1 to 3 km for marketing the NTFPs and the remaining 33.34 per cent of the respondents had travelled more than 3 km for marketing the collected NTFPs.

It could be inferred from the above study results that a greater proportion of sampled NTFP collectors were of 36 to 50 years of age (42.23 %), studied up to primary school (32.25 %), married (95.55 %) and were living in nuclear family (95.55 %). As high as 35.55 per cent of the respondents had travelled 4 to 6 km inside the forests for collecting the NTFPs and a majority of the respondents (66.66 %) had travelled 1 to 3 km for marketing the collected NTFPs

2. Annual income and employment status of NTFP collectors : Table II depicts the data on the annual income and employment status of NTFP collectors. All the respondents (100.00 %) were engaged in NTFP collection, while, 88.88 and 20.00 per cent of the respondents were engaged in agriculture and wage labour, respectively for their livelihood.

A greater majority of the respondents (88.89 %) who possessed land were engaged in agriculture. It is seen from Table II that a greater number of NTFPs collectors (34.44 %) were earning an annual income of Rs. 40,001 to Rs. 60,000 from agriculture. Over one-third of NTFP collectors (36.66 %) were annually earning Rs. 10,001 to Rs. 15,000 from the sale of NTFPs and 6.66 per cent of the NTFP collectors were annually earning Rs. 20,001 to Rs. 30,000 through wage labour. With respect to the employment status, it is seen that 33.33 per cent of the NTFP collectors engaged in agriculture and 8.88 per cent of NTFP collectors engaged in wage labourers were getting the employment of 51 to 100 man days per year, while

TABLE II
Annual income and employment status of NTFP collectors
(n = 90)

Particulars	NTFP Collectors	
	Number	Per cent
A. Sources of Income (Rs)		
1. Agriculture (n=80)		
Less than 20,000	5	5.55
20,001 to 40,000	25	27.77
40,001 to 60,000	31	34.44
60,001 to 80,000	16	17.77
More than 80,000	3	3.33
2. NTFP collection (n=90)		
Less than 5,000	10	11.11
5001 to 10,000	30	33.33
10,001 to 15,000	33	36.66
15,001 to 20,000	12	13.33
More than 20,000	5	5.55
3. Wage labour (n=18)		
Less than 10,000	4	4.44
10,001 to 20,000	3	3.33
20,001 to 30,000	6	6.66
More than 30,000	5	5.55
B. Sources of employment (Man days / family / year)		
1. Agriculture (n=80)		
Less than 50	27	30.00
51 to 100	30	33.33
101 to 150	15	16.66
More than 150	8	8.88
2. NTFP collection (n=90)		
10 to 20	12	13.33
21 to 30	29	32.22
31 to 40	40	44.44
41 to 50	9	10.01
3. Wage labour (n=18)		
Less than 50	5	5.55
51 to 100	8	8.88
101 to 150	3	3.33
151 to 200	2	2.22

44.44 per cent of NTFP collectors engaged in NTFP collection were getting the employment of 31 to 40 man days per year.

The respondents are engaged in more than one occupation because a vast majority of the NTFPs collectors (88.88 Per cent) have limited land holding (less than two acres of land) cultivating crops for a period of 3-4 months and 11.11 per cent of the respondents have no land. The NTFP collectors have engaged themselves in more than one occupation (agriculture, NTFP collection and wage labour) as a source of income and employment. More or less similar findings were reported by Bhaskar and Lakshminarayan (2005) and Lakshminarayan *et al.*, (2013).

3. *Major NTFPs collected by the respondents* : All the species are not available in a particular locality nor commercially exploited in a single locality. Likewise, the availability and relative importance of NTFPs in a particular area varies from region to region depending on the type of forests existing in the area. A number of NTFPs extracted by the tribals are used for household consumption which do not enter the market. These include food item such as tuber, root, fruit and seeds, mushrooms, bamboo sprouts and

variety of medicinal plants. NTFPs such as gum, broomstick, grass, amla etc., are extracted and marketed from the forests by the tribals.

As many as nine NTFPs were extracted and marketed by the tribals in Sirsi division of North Canara district. These include, *Gancinia cambogia* (fruits), *Phyllanthus emblica* (fruits), *Terminalia chebula* (nuts and flowers), *Acacia concinna* (pods), *Semecarpus anacardium* (nuts), *Mammea surga* (flowers), *Mangifera indica* (fruits), honey and bee wax. The NTFPs collected and marketed by the respondents are available throughout the year and are extracted for both medicinal, food and non-medicinal uses (cleansing, detergents, candles, paint, marking the clothes and perfumes).

4. *Marketing channels used by NTFP collectors* : The nine NTFPs collected by the respondents were marketed through three channels (Table IV).

Marketing channel-1: The collected NTFPs were supplied by the respondents to the Joint Forest Management Committees (JFMCs). The JFMCs in turn marketed the NTFPs to the end user / industry.

TABLE III

Major NTFPs collected by the tribals

Local name	Botanical name	Parts used	Period of Collection	Economic use
Uppage	<i>Gancinia cambogia</i>	Fruits	July-August	Pickles
Nelli	<i>Phyllanthus emblica</i>	Fruits	September -February	Food, Medicine
Alalekai	<i>Terminalia chebula</i>	Nuts, flowers	June-May	Medicine
Shikakai	<i>Acacia concinna</i>	Pods	November-December	Cleansing, detergents
Honey	-	-	November-April	Food, Medicine
Bee wax	-	-	November-April	Candles, Paint
Marking nuts	<i>Semecarpus anacardium</i>	Nuts	April-June	Marking the clothes
Suragi nuvu	<i>Mammea surga</i>	Flowers	April	Perfumes
Appemidi	<i>Mangifera indica</i>	Fruits	February- May	Pickles

Marketing channel-2: NTFPs collected by the tribals were sold to village merchants. The village merchants marketed the NTFPs to the end user / industry via wholesaler or retailer.

Marketing channel-3: The collected NTFPs were supplied to the wholesaler or retailer by the tribals. The wholesaler or retailer sold the NTFPs directly to the end user / industry.

The research data in Table V reveals that two-third (66.66 %) of the respondents used to supply the collected NTFPs through marketing channel-1, whereas, 23.34 and ten per cent of the respondents used to sell the collected NTFPs through marketing channel-3 and marketing channel-1, respectively. The NTFP collectors have received a fair price for the NTFPs when they have sold the NTFPs through JFMCs, hence majority (66.66 %) of the tribals were marketing the NTFPs through JFMCs (marketing channel-1).

TABLE IV
Channels used for marketing of NTFP by the respondents (n=90)

Channels	NTFP Collectors	
	Number	per cent
Marketing channel-1	60	66.66
Marketing channel-2	9	10.00
Marketing channel-3	21	23.34
Total	90	100.00

TABLE V
Marketing channels for NTFP

Marketing channel-1	Collectors → JFMCs → End - user / industry
Marketing channel-2	Collectors → Village - Merchants merchants → Wholesaler cum retailer → End - user / industry
Marketing channel-3	Collectors → Wholesaler cum retailer → End- user / industry

5. *Collection, processing and marketing problems encountered by NTFP collectors :* Seasonal availability of NTFPs (82.22 %), scattered distribution of NTFPs (76.66 %), long distance to

collect NTFPs (74.44 %), remote areas (68.88 %), lack of training to extract NTFPs (44.44 %), lack of proper equipments for extraction of NTFPs (27.77 %), inadequate availability of NTFPs (13.33 %), low price for NTFPs (11.11 %), lack of demand for NTFPs (6.66 %), attack by wild animals (4.44 %) and restriction from forest authorities (2.22 %) were the problems of the NTFP collectors during the collection of NTFPs (Table VI).

TABLE VI
Collection, processing and marketing problems encountered by NTFP collectors (n=90)

Problems	NTFP Collectors	
	Number	Per cent
Collection problems		
Seasonal availability of NTFPs	74	82.22
Scattered distribution of NTFPs	69	76.66
Long distance to collect NTFPs	67	74.44
Remote areas	62	68.88
Lack of training to extract NTFPs	40	44.44
Lack of proper equipments for extraction of NTFPs	25	27.77
Inadequate availability of NTFPs	12	13.33
Low price for NTFPs	10	11.11
Lack of demand for NTFPs	6	6.66
Attack by wild animals	4	4.44
Restriction from forest authorities	2	2.22
Processing problems		
Lack of processing facilities (equipments etc.)	58	64.44
Lack of storage facilities	49	54.44
Lack of training on processing technologies	41	45.55
Marketing problems		
Perishable nature of NTFPs	84	93.33
Exploitation from the middlemen	50	55.55
Lack of transportation facilities	20	22.22
Faulty measurements	10	11.11
Long distance of procurement/ marketing points	7	7.77
Delayed payment or non-payments	6	6.66

* Multiple responses are possible

Lack of processing facilities (equipments etc.,) (64.44 %), lack of storage facilities (54.44 %) and lack of training on processing technologies (45.55 %) were the problems faced by NTFP collectors during the processing of the NTFPs.

The marketing problems faced by the NTFP collectors are perishable nature of NTFPs (93.33 %), exploitation from the middlemen (55.55 %), lack of transportation facilities (22.22 %), faulty measurements (11.11 %), long distance of procurement / marketing points (7.77 %) and delayed payment or non-payments (6.66 %).

The forest department should motivate the NTFP collectors to sell the NTFPs through Joint Forest Management Committee for realizing a fair price for the NTFPs. Strict and legal actions against the middlemen or private contractors who are engaged in the illegal collection of NTFPs from the tribals should be taken to prevent the exploitation of tribals. The Forest Department should also impart training on scientific extraction and processing of NTFPs and supply proper equipment for extraction and processing of NTFPs. As NTFPs will not be able to meet the ever financial needs of the tribals, alternative income generation activities (agriculture, horticulture, animal husbandry, vocational training etc.,) should be promoted by the Government and Non-government agencies to reduce the pressure on NTFPs.

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