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### Income generated through minor forest products of tribal farmers in Gadchiroli district

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#### Abstract

The present study was conducted in Gadchiroli district of Maharashtra state. In India, Minor Forest Products are an important livelihood source for several communities, particularly those living in forest fringe village. According to census 2011, the tribal population in India was 104 million people which accounts for 8.6 percent of the total population of the country. It is estimated that, there is one tribal man for every fourteen Indians. In India, nearly 31.00 percent of them are directly dependent on MFPs for their livelihood. In the present study entitled assess marketing of selected minor forest products in Gadchiroli district, was undertaken with a view to study the various channels of marketing of MFPs and to analyse the problems faced by the tribal farmers in transacting MFPs. Dhanora tahsil is a tribal dominated tahsil which was selected purposively on the basis of maximum area under forest. Random sampling techniques was followed regarding selection of the villages and tribal farmers. In present study represents marketed and marketable surplus of selected MFPs, in case of charoli and gum, marketed surplus is 100.00 percent means whatever products were collected, the whole quantity was sold to the market. But in case of mohaflower only 7919 kg quantity which was account to 78.26 percent sold by collector and 2200 kg quantity which account 21.74 percent kept for family consumption, for making liquor to family consumption Minor Forest Products (MFPs) are seen as crucial in improving the livelihood of tribal poor and to promote sustainability as there is immense potential of these product in value added in national and international market. Tribals farmers obtained employment and additional income trough out the year from the collection of MFPs.

**Keywords:** Income generated, minor forest, products

#### Introduction

In India, Minor Forest Products are an important livelihood source for several communities, particularly those living in forest fringe village. About 400 million people in India depend on Minor Forest Products (MFPs). According to census, the tribal population in India was 104 million people which accounts for 8.6 percent of the total population of the country. It is estimated that, there is one tribal man for every fourteen Indians. In India, about 53 percent of total tribal population lives in rural areas and nearly 31 percent of them are directly dependent on MFPs for their livelihood. Minor Forest Products (MFPs) technically defined as all vegetables and animals products other than firewood and timber obtained from the forest. Forest produce mainly divided into two categories i.e.. major and minor product. Major forest products are timber, small wood and fire wood. Minor forest products(MFPs) is defined as non-wood forest produce, which can be exploited without harming the forest and will not include minerals as well as forest animals or animals part. Schedule Tribes (STs) are indigenous, have their own distinctive culture, are geographically isolated and are low

in socio economic conditions. For centuries, the tribal groups have remained outside the realm of the general development process due to their habitation in forest and hilly tracts. The word 'Minor' applied to these types of products is, however is misnomer, because over the years such products are contributing in much significant way to the national economy. So that, in some of the state as much as 50 percent of the forest revenue is derived from MFPs. It is also reported that MFPs contributed 30-50 percent of the total forest revenue of the country. Minor Forest Products (MFPs) are seen as crucial in improving the livelihood of tribal poor and to promote sustainability as there is immense potential of these product in value added in national and international market. The Gadchiroli district of Maharashtra constitutes of 11299 km of the forest lands making a home for a variety Non Timber Forest Produce (NTFPs) including gum plants, oil seeds. In the Gadchiroli, 13 crucial NTFPs were found among 10 were dominated. The major species are Bamboo, Tendu, Mahua, Charodi, Triphala (Amla, Hirda, Behda), Karanj, Palas, Gum, etc.

**Methodology**

**Sampling Frame work for Collection and Marketing of MFPs:** In the present study entitled “Marketing analysis of minor forest product in Gadchiroli district”, was undertaken with a view to study the various channels of marketing of MFPs and to analyse the problems faced by the tribal farmers in transacting MFPs. Dhanora tahsil is a tribal dominated tahsil which was selected purposively on the basis of maximum area under forest. Random sampling techniques was followed regarding selection of the villages and tribal farmers. The details of selected sample are given below.

**Table 1:** The details of selected sample from Dhanora Tahasil

Sr. No.	Name of Village	No of sample
1	Kanartola	10
2	Menda	10
3	Lekha	10
4	Girola	10
5	Horekasa	10
6	Hulondi	10
Total no. of Tribal farmer Selected for the study		60

In order to fulfil the objectives of study, necessary primary data were collected from the tribal farmers by the personal

interview. For this purpose a pre tested questionnaire, specially designed for the present study was used. Three important MFPs i.e. Charoli, Gum, and Mohaflower were considered for the study. In addition to this information on marketing cost and marketing margin of wholesalers, retailers were collected from 10 market functionaries by the personal interview method using a structured schedule. The data collected pertains to the agricultural year 2020 and the survey was conducted in the month of January 2021. Information regarding organizations involved in marketing and processing of MFPs in Gadchiroli district were collected from the office of Mavim (MahilaArthik Vikas Mahamandal, Gadchiroli), Maharashtra State Rural Livelihood Mission(MSRLM), Godwana Harbs, Science and Technology Research Centre(STRC). Vandhan Vikas Gat, Dhanora etc.

**Results and Discussion**

**Socioeconomics characteristics of tribal farmers**

The distribution of tribals according to size of land holding was workout and presented in Table 1. The distribution of tribals in three categories i.e. small, medium and large, according to their size of land holding. Out of 60 selected tribalfarmers 71.33 percent belong to small holding groups, 25.00 percent tribals belonged to medium group and only 3.33 percent tribals belonged to large group of land holdings.

**Table 2:** Distribution of Tribal's according to land holding

Sr. No.	Size of holding	Size limit (ha)	Tribals selected	Average size of holding (ha)
1	Small	Upto 2.00	43 (71.66)	1.28
2	Medium	2.01 to 4.00	15 (25.00)	2.21
3	Large	Above 4.01	02 (3.33)	4.16
4	Total		60 (100.00)	2.55

(Figure in parenthesis indicate the percent to total)

Average size of land holding in case of small, medium and large group were 1.28 hectares, 2.21 hectares and 4.16 hectares respectively. Overall land holding was 2.55 hectares.

Education is the important factor affecting the standard of living of tribals. Table 3. Indicates the distribution of tribals according to education.

**Table 4:** Distribution of selected tribal according to education level

**Table 3:** Average size family of selected Tribal farmer

Sr. No.	Small	Medium	Large	Overall
Male	1.88 (36.36)	1.86 (39.57)	1.81 (40.04)	1.85 (38.54)
Female	1.27 (24.56)	1.58 (33.62)	1.56 (34.51)	1.47 (30.63)
Children	2.02 (39.07)	1.26 (26.81)	1.15 (25.44)	1.48 (30.83)
Total	5.17 (100.00)	4.7 (100.00)	4.52 (100.00)	4.80 (100.00)

(Figure in parenthesis indicate the percent to total)

The detailed of average size of family of sample tribal’s is presented in table 2. Overall average number of family members were 4.80 which comprised of 1.85 males 1.47 female and 1.48 children.

It is essential to study the average size of family to get an idea about per person income obtained from MFPs collection. The tribals were divided according to size of land holdings. In general, the size of family for small, medium and large was 5.17,4.7 and 4.52 members respectively.

Particulars	Land holding size			
	Small	Medium	Large	Overall
Illiterate	1.09 (21.08)	0.67 (14.26)	0.22 (4.87)	0.66 (13.75)
Primary	2.09 (40.43)	1.49 (31.70)	0.60 (13.27)	1.39 (28.96)
Secondary	1.12 (21.66)	1.25 (26.60)	1.03 (22.79)	1.13 (23.54)
Junior college	0.81 (15.66)	1.04 (22.13)	1.51 (33.41)	1.12 (23.33)
UG college	0.06 (1.16)	0.25 (5.32)	1.16 (25.66)	0.69 (14.38)
Total	5.17 (100.00)	4.7 (100.00)	4.52 (100.00)	4.80 (100.00)

(Figure in parenthesis indicate the percent to total)

It was observed from table 3 that, overall average proportion of illiterate members was highest in small group of tribals i.e. 21.08 percent followed by medium group which accounts 14.26 percent while it was lowest in large group i.e. 4.87 percent. Highest percent of education level was observed in primary group i.e. 40.23 percent in small group,

31.70 percent in medium group and 13.27 percent in large group. Percent of overall total education was observed high in primary group i.e. 28.96 per to total education level. Percent level of education in junior college and UG college was found more in large group than small and medium group and percent of illiteracy was found more in small group of tribals.

### Land utilization pattern

The information about land utilization indicated the area of land actually utilize in different purpose like crop production, irrigation etc. It can be seen from Table 4 that, the overall.

**Table 5:** Land Utilization pattern (ha)

Sr. No.	Particulars	Land holding size			
		Small	Medium	Large	Overall
1.	Total land holding	1.28 (100.00)	2.21 (100.00)	4.16 (100.00)	2.55 (100.00)
2	Fallow land	0.16 (12.5)	0.3 (13.57)	0.22 (5.29)	0.23 (9.01)
3	Net cultivated land	1.12 (87.5)	1.91 (86.43)	3.94 (94.71)	2.35 (92.17)
4	Area under irrigation	0.62 (48.44)	1.03 (46.60)	2.10 (50.48)	1.25 (49.02)
5	Gross cropped area	1.74 (135.94)	2.94 (133.03)	6.04 (145.19)	3.57 (140.00)
6	Cropping intensity	155.36	153.93	153.30	154.20

Land holding of selected tribal farmers was found to be 2.55 hectares. The overall fallow land was 9.01 percent of total land holding, whereas net cultivated land was 92.17 percent. It can be revealed from above table that, the average net cultivated land was highest in large group 3.94 hectare

which account 94.71 percent of total land holding area of large farmer, followed by medium group 86.43 percent and small group 87.5 percent. The gross cropped area was highest in large group.

**Table 6:** Cropping pattern of selected tribals

Sr. No.	Particular	Land size holding			
		Small	Medium	Large	Overall
<b>1.</b>	<b>Kharif crops</b>				
a.	Paddy	0.95 (54.60)	1.58 (53.74)	3.55 (58.77)	2.02 (56.58)
b.	Soybean	0.12 (6.89)	0.16 (5.44)	0.20 (3.31)	0.16 (4.48)
c.	Tur	0.03 (1.72)	0.08 (2.72)	0.11 (1.82)	0.07 (1.96)
d.	Mung	0.02 (1.15)	0.09 (3.06)	0.08 (1.32)	0.06 (1.68)
	<b>Total</b>	1.12 (64.36)	1.91 (64.97)	3.94 (65.23)	2.35 (65.82)
<b>2.</b>	<b>Rabi crop</b>				
a.	Gram	0.28 (16.09)	0.46 (15.65)	0.66 (10.93)	0.46 (12.88)
b.	Linseed	0.29 (16.67)	0.41 (13.95)	0.67 (11.09)	0.45 (12.61)
b.	Wheat	0.04 (2.30)	0.06 (2.04)	0.42 (6.95)	0.17 (4.76)
	<b>Total</b>	0.61 (35.06)	0.93 (31.63)	1.75 (28.97)	0.71 (19.89)
<b>3.</b>	<b>Summer crop</b>				
a.	vegetables	0.01 (0.57)	0.10 (3.40)	0.35 (5.79)	0.15 (4.20)
4.	Gross cropped area	1.74 (100.00)	2.94 (100.00)	6.04 (100.00)	3.57 (100.00)

(Figure in parenthesis indicate the percent to total)

Table 5 described the cropping pattern of selected tribal farmers and it was found that paddy was dominating crop in kharif season whereas gram and linseed were major crop in rabi season. In kharif season, the overall area allocated under paddy crop

was 2.35 hectares which accounts 65.82 percent, area under soybean was 0.16 hectares which accounts 4.48 percent and area under tur and mung were 0.07 hectares and 0.06 hectares respectively. The area under paddy were 0.95 ha, 1.58 ha, 3.55 ha in small, medium and large group of tribals

respectively which accounts 54.60 percent, 53.74 percent, 58.77 percent

In rabi season, gram and linseed were important crops grown by selected tribals farmers. It was observed that at overall level the area under gram and linseed were 0.46 ha and 0.45 ha respectively which was 12.88 percent and 12.61 percent. Area under wheat crop was very less as compare to gram and linseed crop, the overall area under wheat was 0.17 ha which account 4.17 percent to total gross cropped area.

**Employment and income generated through collection and marketing of MFPs**

**Table 7:** Employment (days/year) through MFPs

Sr. No.	Particular	Small	Medium	Large	Overall
1.	Charoli	42.56 (25.50)	44.25 (27.33)	36.45 (27.90)	41.09 (26.83)
2.	Gum	56.10 (33.61)	45.26 (27.96)	25.27 (19.35)	42.21 (27.56)
3.	Mohaflower	68.26 (40.89)	72.36 (44.70)	68.89 (52.74)	68.84 (44.96)
	Total	166.92 (100.00)	161.87 (100.00)	130.61 (100.00)	153.13 (100.00)

(Figure in parenthesis indicate the percent to total)

It is observed from Table 9 that the overall employment was available from MFPs collection was 153.13 days of which employment from charoli was 41.09 days which accounts 26.83 percent, employment from collection of mohaflower was 68.94 days i.e. 44.96 percent and from gum, 42.21 days which accouts 27.56 percent to total. Annual employment generated from MFPs was highest in small group i.e. 166.92 days followed by medium group 161.87 percent, and lowest for the large group 130.61 days

It is seen that highest employment available from mohaflower i.e. 68.84 days followed by gum and charoli and in small group i.e. 166.92 days followed by medium and large group. It means in study area maximum employment available from collection of Mohaflower and small group tribals and medium group of tribals were received maximum employment through collection of MFPs.

**Table 8:** Income generated through MFPs

Sr. No.	Particular	Small	Medium	Large	Overall
1.	Charoli	2187.5 (22.99)	1875 (23.11)	1750 (26.19)	1937.5 (23.91)
2.	Gum	2062.5 (21.67)	1540 (18.99)	1182.5 (17.70)	1595.00 (19.68)
3.	Mohaflower	5266.8 (55.34)	4695 (57.89)	3750 (56.11)	4570.6 (56.41)
	Total	9516.8 (100.00)	8110.00 (100.00)	6682.5 (100.00)	8103.1 (100.00)

(Figure in parenthesis indicate the percent to total)

It was observed that, an average overall annual income per household obtained from charodi, gum and mohaflower were 8103.1 rupees. Overall annual income from collection of mohaflower was 4570.6 rupees i.e. 56.41 percent which was highest as compared with charoli 1937.5 rupees i.e. 23.91 percent and gum 1595 rupees which account 19.68

percent.

The total income obtained from collection of charoli, gum and mohaflower were found to be highest in small group tribals i.e. 9516.8 rupees followed by medium group and large group which contributes 8110 rupees and 6682.5 rupees respectively.

**Conclusion**

Tribals farmers obtained employment and additional income trough out the year from the collection of MFPs. Therefore Govt should provide them storage and transportation facilities so that the tribals farmers efforts can be minimize at some extend.

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