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CURRENT STATUS OF NON-TIMBER FOREST PRODUCTS AND ITS USE PATTERN BY VILLAGERS OF TIRORA TEHSIL OF GONDIA DISTRICT MAHARASHTRA, INDIA

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ABSTRACT

Non-timber forest products (NTFPs) are much important worldwide for their significant role in livelihood, which include any forest product other than timber like medicinal plants, dyes, mushrooms, fruits, nuts, bark, leaves, flowers, seeds, honey, roots and tubers, resins, fibers such as bamboo, rattans, palm and grasses. The present investigation scrutinized the most abundant NTFPs, their use pattern and current status of NTFPs in different villages of Tirora Tehsil. 45different plant species extracted as most abundant NTFPs, which were used for food, fodder, fuel, medicine, household and commercial purpose. The present study reveals that among the entire 45 plant species, 26 (57.00%) are food products, 4(8.88%) intended for construction purpose, 15(33.33%) for commercial use,31(68.88%) plants having medicinal importance and all the forest dwellers depend on forest product other than timber at varying degrees. The estimated was done by using the method of survey and interaction with villagers where survey was directed for independency of timber and sustainable income source for people living in forest and nearby forest.

INTRODUCTION

Non-timber forest products (NTFPs) serve the valuable products for enhancing the rural development, expands economic growth, cultural endurance, and environmental health in local, national and international markets [1]. Depends on the commercial value, some of the NTFPs are used for consumption, rather than for sales, due to the low cost. NTFPs are significant especially for poor peoples, which provide the alternative to food as well as income source. Out of 3000 forest product, 126 forest species were identified as a potential market product [2]. As per the socio-economic value of NTFPs, almost all tropical countries depend on collection of NTFPs for their financial activity [3,4,5,6]. In this respect, it is noteworthy to uncover that around 500 million peoples surviving in forest or adjacent to forest are totally governed by NTFPs for their livelihood needs [7].In India, more than half of its population lives in rural areas and a large tribal population are dependent on NTFPs for their sustenance and cash income [8].

From an investigation of Indian forest history, it is clear that NTFPs had a great influence on Forest community's livelihoods [9, 10, 11, 12, 13]. During the colonial period, only timber and a few non-wood forest products (like, bamboo, grass, resin, gum etc.) got priority for commercial purposes. Previously forest plants in India were used for medicinal purposes, but because of present restrictions on NTFPs collection by native people the new generation of tribal communities do not know the efficacy of several medicinal herbs like their ancestors [14].Through the implementation of the National Forest Policy 1988, the Central Government of India planned that the NTFPs should be used first of all for the improvement of forest peoples socio-economic condition with the rest being used as raw material for different industrial products. Studies in India have revealed that, NTFPs provide substantial inputs to the livelihoods of forest dependent population, many of whom have limited non-agricultural income opportunities [15, 16]. About 70 % of the NTFP collection in India takes place in the tribal belt of the country [17]. NTFPs have gained global attention due to its contribution to the household economies and food security. In order to understand that lifestyle of peoples belonging to forest region with respect to NTFPs, here it was plan to study the use pattern of the NTFPs in Tirora Tehsil of Gondia District, Maharashtra. The Tirora tehsil is surrounded by 6612.085 ha. Forest area. The population is around 176254, out of which 14381 lives in forest and nearer to forest. To our surprise, Tribal peoples from Tirora Tehsil of Gondia district are depend on these forest products for commercial, Medicinal, Edible and Construction purposes.

MATERIALS AND METHODS

Study Area

Geographically, Tirora Tehsil is located in north-western part of Gondia district, Eastern Maharashtra of Central India. It lies between 21 22'03" to 21 38'09"N latitude and 80 00'00" to 80 21'24" E longitudes. Area: 626.0 Km^2. The elevation of the Tehsil ranges from 280m to 620m above mean sea level (MSL) (Figure 1)

The Forest Project Division has total area of 31503.730 ha. in Gondia district. This includes 31492.430 ha. Out of this, 132 comptt. is Reserved Forests and 11.300 ha. is Revenue land. However, the Tirora Tehsil has consisting with 125 villages and has a 6612.085 ha. total area of forest, out of which 98 villages covered by forest area. People of the region are mostly dependent on various products of the forest.

Methods:

The Present Study was carried out during the month of January to November 2013. Extensive Village survey was conducted to capture information on aspects of NTFPs dependence and use and its available quantities in the village. The data collection team also contained knowledgeable older individuals and youths from each village. Interaction with the local Villagers helped to find the use pattern as well as current status of NTFPs in different villages and finding of most abundant NTFPs for their use in have been demonstrated.

Primary as well as secondary source was used for collection of data and information. We found, almost similar variation in the extent and type of forest dependence and occupation between household, which were relatively similar in economy, use pattern of NTFPs in Tirora Tehsil. Thus, a simple random sampling technique was used to select household respondents from the villages in and around the forests of Tirora Tehsil. The sampling technique involved interview and questionnaire of the following criterion such as Use pattern, Socio-Economic & Demographic information of the collectors (i.e. age, gender, origin, literacy level, land holding, community background, total annual earnings, collection timings and availability). A total of 180 individual, 20 individuals from each village actively involved in collection of NTFPs were interviewed through the household survey.

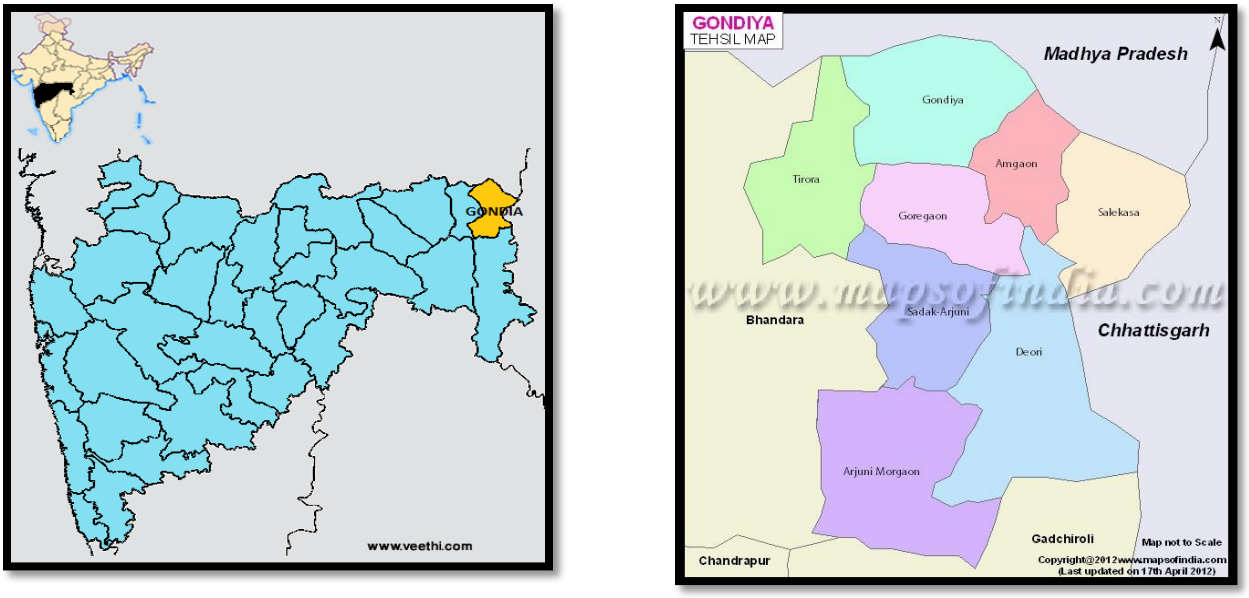

Figure 1. Map of Tirora Tehsil in Gondia district, Maharashtra.

RESULTS AND DISCUSSION

Fig I: Shows the percentage of pattern of use of NTFPs by Villagers

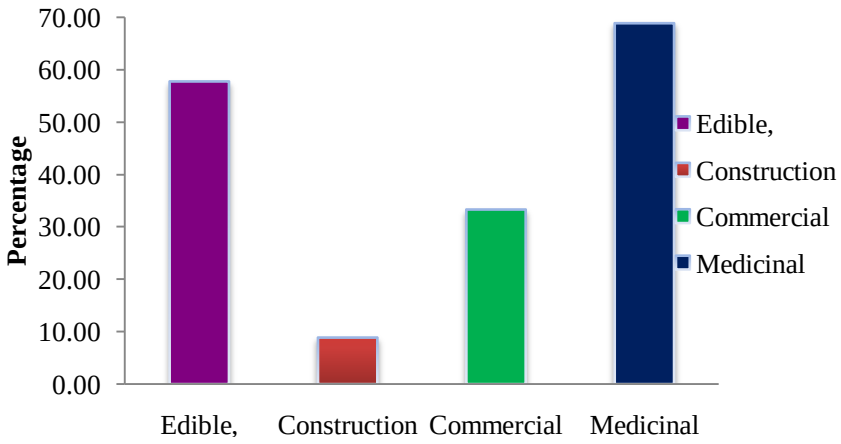

Table I and Fig I shows that 68.89% and 57.78% NTFPs are used as Edible and Medicinal purpose, respectively. However, only 8.89% and 33.33% are used for construction and commercial purposes, respectively.

In the present investigation, total 45 different NTFPs were found in villages of Tirora Tehsil and their reserved forest areas. During the investigations, total 45 plants were identified as NTFPs. Generally these NTFPs are used as Edible, Construction, Commercial and Medicinal purposes.

Out of 45 plants, 26 plants were observed as Edible, 4 plants were used for construction purposes, and 15 and 31 plants are used for commercial and medicinal purposes, respectively.

CONCLUSION

During the investigation it was observed that, the people of the region are living in remote areas which covered by large forest and therefore they are more dependent on the NTFPs. The present study suggests that, Tribal peoples are more dependent on NTFPs. The collectors are most in need of income support from NTFPs are least able to benefit from an NTFP-based development strategy as they have the poorest developed skills, lack resources to store, process and market their product, and face intolerance and unfair treatment because of their social status.

Thus the forest resources in the form of NTFPs play an important role in the socio-economic safety net of the forest dwellers. The study reveals that almost all of the forest dwellers depend on the forest products other than timber to varying degrees. The rich NTFP resource, therefore, calls for further research on various aspects and a framework for sustainable utilization. Thus, on the one hand, systematic harvesting of NTFPs will increase employment opportunities among forest dwellers .At the same time, it will also reduce their over dependence on timber collection which might be efficient to resolve the problem of forest degradation.

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Table I: Shows the different type of NTFPs and their pattern of use by Villagers

Sr. no.	Botanical Name	Family	Local Name	Parts Collected	Edible	Construction	Commercial	Medicinal
1	*Buchanania lanzan* Spreng.	Anacardiaceae	Charoli	Seed, Leaves	√	√	√	√
2	*Semecarpus anacardium* L.	Anacardiaceae	Bhelau	Fruits, Seed	√			√√
3	*Mangifera indica* L.	Annacardiaceae	Aam	Fruits	√		√	
4	*Annona squamosa* L.	Annonaceae	Sitaphal	Fruits	√		√	√
5	*Amorphophallus campanulatus* (Roxb.)	Aracaeae	Suran	Tuber	√			√
6	*Asparagus racemosus* (Kunth) Baker	Asparagaceae	Shatavari	Tuber				√
7	*Cassia tora* L.	Caesalpiniaceae	Tarota	Leaves, Flower	√			√
8	*Terminalia chebula* Retz.	Combretaceae	Hirda	Fruits	√		√	√
9	*Terminalia bellerica* (Gaertn.) Roxb.	Combretaceae	Behada	Fruits	√		√	√
10	*Diospyros melanoxylon* Willd.	Ebenaceae	Tendu patta	Leaves			√	
11	*Embilca officinalis* Gaertn.	Euphorbiaceae	Aola	Fruits	√		√	√
12	*Bauhinia vahlii* Wt.&Arn.	Fabaceae	Mahur	Leaves			√	
13	*Butea monosperma* (Lamk.) Taub.	Fabaceae	Palas	Leaves, Flower			√	
14	*Pongamia pinnata* (L.) Merr.Interpr.	Fabaceae	Karanja	Fruits				√

15	*Chlorophytum tuberosum* Baker.	Liliaceae	Musali	Tuber	√			√
16	*Phoenix sylvestris* (L.) Roxb.	Palmae	Sindi	Leaves, Fruits	√	√	√	
17	*Tamarindus indica* L.	Papilionanceae	Chinch/ Imali	Fruits, Leaves	√		√	√
18	*Bambusa*	Poaceae	Bamboo	Stem		√	√	
19	*Ziziphus sp.*	Rhamnaceae	Ghoti	Fruits	√			√
20	*Ziziphus jujuba* Lamk.	Rhamnaceae	Ber	Fruits	√		√	
21	*Ziziphus oenoplea* L.	Rhamnaceae	Aeroni	Fruits	√			
22	*Aegle marmalos* (L.) Corr.	Rutaceae	Bel	Fruits	√			√
23	*Madhuca longifolia* (Koen.) Mac.	Sapotaceae	Mahua	Flowers, seeds	√		√	√
24	*Sterculia urens* Roxb.	Sterculiaceae		Gum	√			√
25	*Curcuma aromatica* L.	Zingiberaceae	Ranhalad	Rhizome	√			√
26	*Tinospora cordifolia* (Willd)	Menispermacea e	Guduchi/ Gudwel	Whole plant				√
27	*Carissa carandas*	Apocynaceae	Karvanda	Fruits	√			
28	*Helicteres isora* L.	Sterculiaceae	Murad-sheng	Friuts				√
29	*Curculigo orchioides* (Gaertn.)	Amaryllidaceae/ Hypoxidoideae	Kali-musali	Roots				√
30	*Andrographis paniculata* (Burn.F.) Wallich	Acanthaceae	Bhuinimb	Whole plant				√
31	*Dioscorea bulbifera* L.	Dioscoriaceae	Matalu	Tubers &	√			

				bulbils				
32	*Costus sp.* Koenig	Costaceae	Dukar-kanda	Bulbils				√
33			Padar	Leaves		√		
34	*Lawsonia inermis* L.	Lythraceae	Mahendi plant	Leaves			√	
35	*Hemidesmus indicus* (L.) R.Brown	Periplocaceae	Anantmud /Khoberwell	Roots				√
36	*Cassia fistula*	Caesalpinaceae	Bahawa	seeds	√			√
				Flower				
37	*Moringa oleifera*	Moringaceae	Shevaga	Fruits	√			
38	*Ricinus communis*	Euphorbiaeae	Eranda	Fruit oil	√			√
39	*Spilanthes paniculata Wall. ex DC.*	Asteraceae	Akkalkhada	Leaves				√
40	*Bombax ceiba*	Bombacaceae	Katesawar	Bark				√
41	*Nerium indicum Mill*		Kanher	Seed				√
42	*Ficus racemosa*	Moraceae	Umber		√			√
43	*Manilkarazapota (L.) P. van.*	Sapotaceae	Chiku	Fruits	√			
44	*Terminalia arjuna*	Combretaceae	Arjun-Ajn	Bark				√
45	*Abrus precatorius L.*	Fabaceae	Gunj	seeds				√
				Total	**26**	**4**	**15**	**31**