

THE ROLE OF NON-TIMBER FOREST PRODUCTS IN POVERTY REDUCTION IN INDIA

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Abstract - *Non-timber forest products (NTFPs) also known as Minor Forest Products. NTFPs refers to all biological materials other than timber extracted from natural forests for human and animal use. Non-Timber Forest Products play an important role in the livelihoods of the rural poor, as a source of food, medicine, construction materials, and income throughout the world. The vast natural resources of India's forests including NTFPs, such as medicinal and aromatic plants, leaves, fruits, seeds, resins, gums, bamboos, and canes, offer employment that provides up to half the income of about 26 per cent of the country's rural labour force. It is difficult to estimate the contribution of NTFPs to national or regional economies as there is a lack of broad-based systems for tracking the combined value of the hundreds of products that make up various NTFP industries. This paper analyses the role of NTFPs in livelihoods-improvement initiatives and considers recent initiatives intended to enhance their conservation and sustainable management. It recommends policies to optimize the potential of NTFPs, both to support rural livelihoods and to contribute to India's social, economic, and environmental development. If the Government has to promote policy and regulatory changes, that will enable small producers to have access to forest resources and services such as credit, so that they can effectively manage their natural resources, participate in markets and move out of poverty.*

Key words - *NTFPs use and management, Economic importance, views on NTFPs conservation and development, forest droughts and problems, NTFP Policy Changes, Sustainable development.*

I. INTRODUCTION:

Non-timber Tree and Forest Products (NTFPs) comprise a broad category of natural products and include a large group of medicinal and aromatic plants (MAPs). There is a wide variety of NTFPs, including mushrooms, huckleberries, ferns, transplants, seed cones, pinon seeds, tree nuts, moss, maple, cork, cinnamon, rubber, tree oils and resins, and ginseng. The UK's Forestry Commission defines NTFPs as "any biological resources found in woodlands except timber". NTFPs are commonly grouped into categories such as floral greens, decoratives, medicinal plants, foods, flavors and fragrances, fibers, and saps and resins. NTFPs

include special, non-wood, minor, alternative and secondary forest products. NTFPs in particular highlight forest products which are of value to local people and communities. In India NTFPs contribute about 50 percent of forest revenue and 70 percent of income through exports. The existence of a monopsony in marketing NTFPs in tribal areas has led to inefficiency in marketing. For example, the Large Agriculture Multipurpose Societies (LAMPS) pay poorly to even as low as 7 to 15 percent of consumer's price. This indicates that government marketing agencies are less efficient in assisting farmers in marketing. In a competitive market environment, it is difficult for any government agency or non-government organization to play a major role in marketing. The prices and services as well as the friendship of the existing middlemen are far more attractive than the restricted services provided by the government agency. In addition, where markets have developed, the state's influence on production and consumption behavior is dramatically reduced. The demands of the market that will ultimately determine the success of small enterprises and the viability of forest products as a means for poverty reduction. The private sector has to be engaged as a partner in poverty reduction.

II. IMPORTANCE OF NTFPs:



Non timber resources have great potential for enhancing sustainable rural development and diversified economic growth, cultural endurance, and environmental health. Few NTFPs have low cash values and hence are used for consumption, rather than for sales. Whereas rest NTFPs have highly commercial value. NTFPs are significant especially for poor, because they are available at low cost on common property lands. They are used by 3 people because they have less alternative access to food and income. In a country like India, which has more than half of its population in rural areas and a large tribal population reliant on forest produce for their sustenance, NTFPs play a major role. At the same time, NTFPs collection should not hamper the environmental objectives such as conservation of forest and biological diversity.

In India, out of the total land area of 329 million ha, only 77 million h are classified as forests. This represents only 22% of the total geographic area as against the recommended forest coverage of 33%. However, the actual green cover is confined to only 12% of the geographic area. Due to such reduction in the forest cover, there has been severe scarcity of fodder, fuel wood and water and destruction of flora and fauna. Forests provide year round employment to 20 million people. For over 50-60 million people representing over 250 tribal

communities, forests form a part of the culture and natural way of life. With fast depletion of the forest resources, the livelihood of the rural poor and the tribal families living in and around the forests is further threatened, while creating an ecological imbalance and loss of bio-diversity. Generally, forests have been providing substantial support to rural economy.

III. MATERIALS AND METHODS:

This is a theoretical research paper, where secondary information produced by different authors and researchers has been used. For obtaining necessary information, various books, journals as well as websites have been explored by the researcher which has been mentioned in the reference section.

IV. OBJECTIVES:

General objectives of this paper are,

1. To study the contribution of NTFPs to income for ensuring food and livelihood security.
2. To estimate the contribution of NTFPs to tribal income and employment.
3. To study the economic benefits of NTFPs collection by tribal's
4. To analyze the main factors affecting tribal's' livelihoods and possible coping mechanism.
5. Development of good harvesting techniques to enhance the quality of NTFP and reduce cost of collection and harvesting.
6. Develop techniques to increase the shelf life of different NTFP
7. Documentation and revalidation of traditional knowledge on usage of NTFP, particularly for medicinal purposes.

Some of the NTFPs are shown in the following table

TREE AND FOREST PRODUCTS	
➤ Fibres and Flosses:	bamboo and rattan (furniture, woven products), handicrafts, toothpicks, fibres for weaving Fabrics
➤ Edible Plant Products:	fruits (fresh, dried, packaged), bamboo and rattan shoots, vegetables and ferns, nuts, mushrooms, juices, liquors, teas, spices
➤ Resins and gums:	pine oleoresin for chemical industry, damar (<i>Dipterocarpus</i> spp.), benzoin (<i>Styrax tonkinensis</i>) for perfumes
➤ Tannin and dyes:	many forest plants are used in natural pigments for dyeing cloth
➤ Industrial oils:	Varnish etc.
➤ Essential oils:	Vetiver oil (<i>Vetiveria zizanioides</i>) and eucalyptus oil for fragrance and industry; cinnamon oil and star anise (<i>Illicium verum</i>) for the food and beverage industry
➤ Insecticides:	Sassafras (<i>Cinnamomum parthenoxylon</i>), neem (<i>Azadirachta indica</i>)
➤ Medicinal plants:	for both human and livestock health
➤ Ornamental Plants:	Orchids, palms for floral arrangements, etc.
➤ Animal Products:	foods such as frogs, crabs, lizards, snakes, insects, ant eggs, fish, small rodents and mammals; honey, horns, scales and bones used as medicines; feathers for ornamental purposes; sticklac (<i>Laccifer Lacca</i>) used in paints, varnish, dyes, electrical insulation; and mulberry for silkworm production

➤ Wood products:	Fuel wood, charcoal, briquettes, construction timber, handicrafts, furniture, coffins, bee hives and specialized markets such as musical instruments.
➤ Spices	Clove, Hazelnut, Malva nut, Nutmeg, pine nut, Vanilla.
➤ Sap / Gum / etc.	Coconut sugar, Date sugar, Fruit syrup, Gum arabic, Gutta-percha, Kino, Latex, Male sugar, Maple syrup, palm sugar, palm wine, akpeteshie, Bamboo, edible, musical instruments, Birch bark, Birch beer, Ferns, Forage, Gambier, Moss.

Contribution of income from different sources to average household income:

The collection of NTFPs by tribal households is a traditional activity for their livelihoods for a long time. Earlier, these NTFPs had only value in use. Of late, due to commercialization, most of these products have additionally acquired exchange value. Due to this, NTFPs collected by forest dwellers are not only meeting their subsistence needs but also for earning cash income. Thus, collection and selling of NTFPs is an important source of income. In this way, NTFPs contribute to food security by increasing their purchasing power, which increases their economic access to food.

EMPOWERING OUR TRIBALS



Forest foods have higher nutritional value than domestic animals or garden foods. A chemical analysis proved that many wild plants and animals provide food with greater nutrient densities than alternative foods imported through market networks in remote mountain areas.

Key nutrients of NTFPs		
Food groups	Examples	Key nutrients
Leaves, stems and sprouts;	Leaves, ferns, bamboo, rattan, etc.	Carbohydrates, beta-carotene, iron, zinc, calcium
Mushrooms;	Polyporaceae and Russulaceae species, etc.	Calcium, iron, protein
Fresh water snails, crabs, shrimp;	Thiara aspernata	protein, fat, calcium, iron, Vit E
Insects;	Termites, dung and long horn beetles	proteins, fat, iron, calcium



V. PROBLEMS OF PROMOTING NTFPs FOR LIVELIHOOD:

In spite of huge forest resources and abundant production of NTFP, most of these products are not optimally utilized by the local communities. In case of non-edible oilseeds such as Neem, hardly 20% of the total production is collected and utilised while the remaining quantity is wasted. With regard to aromatics, dyes and medicinal plants, there has been total neglect about their utilization in general, barring a few species, which have been over exploited. It is therefore necessary to understand the problems of NTFP and develop a strategy to optimize their collection and utilization. Major factors affecting the collection and optimum utilization of NTFP are given below.

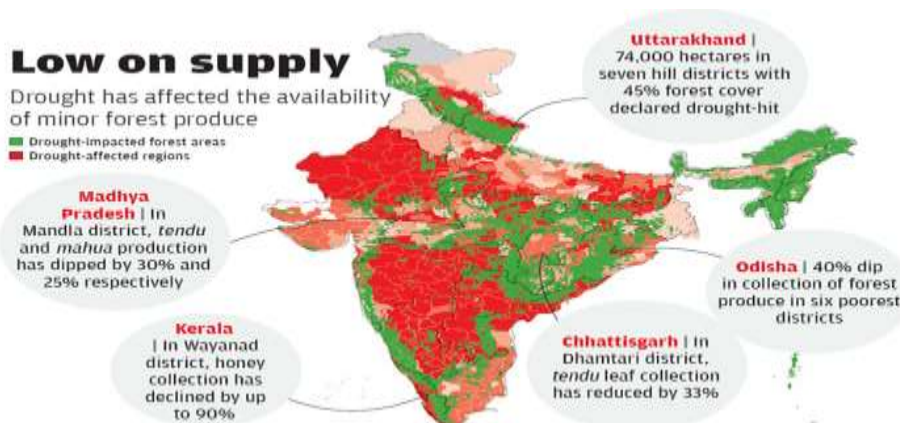
- Unfavorable Government policies.
- Lack of awareness and techniques about harvesting, storage, processing and marketing;
- Wide gap between the NTFP collectors and users due to physical distance and unfair trade practices by several tiers of middlemen;
- Uncertain demand and competition from alternative synthetic products.
- Lack of awareness among the public about the advantages of using NTFPs.

VI. RESULTS AND DISCUSSIONS:

FOREST DROUGHTS – CAUSES FOR PROBLEMS:

- Almost 220 million Indians are dependent on forests, most of them are among the country's poorest
- Their livelihood depends largely on minor forest produce (MFP), a Rs 6,000-crore informal economy
- MFP contributes 40 per cent of their annual income and 25-50 per cent of their food requirement
- Drought impacts earnings from agriculture; a forest drought drastically reduces MFP collection
- Government drought management policy neither recognizes forest drought nor compensates loss of income from MFP
- Climate change is further changing forest ecology, disrupting growth of MFP

Drought impacted forest areas and Drought affected regions in different states of the Country are shown in the following Map



Source: Government of Uttarakhand, April 2016; Indian Institute of Forest Management, 2013; IGSSS, 2015



Beehives have disappeared from the forest adjoining Jabarra village in Chhattisgarh. Mahua flower collection is also dismally low (Photo: Purushottam Singh Thakur)

For more than five months, residents of Jabarra village have been foraging the forests for minor forest produce (MFP). The forest in Chhattisgarh's Dhamtari district is abundant with more than 200 types of forest produce and the district is known as Asia's biggest trading centre for MFP. The economy of the residents revolves around produce like *tendu* leaf and *mahua* flower more than it does around subsistence agriculture. But at a time when agriculture has failed due to a severe drought and the next harvest is still five months away, the forest is their only source of livelihood. Every day, the residents spend almost 8 hours in the forest collecting MFP and take stock of how much they have collected in the evenings. The drastic decline in their recent collections has

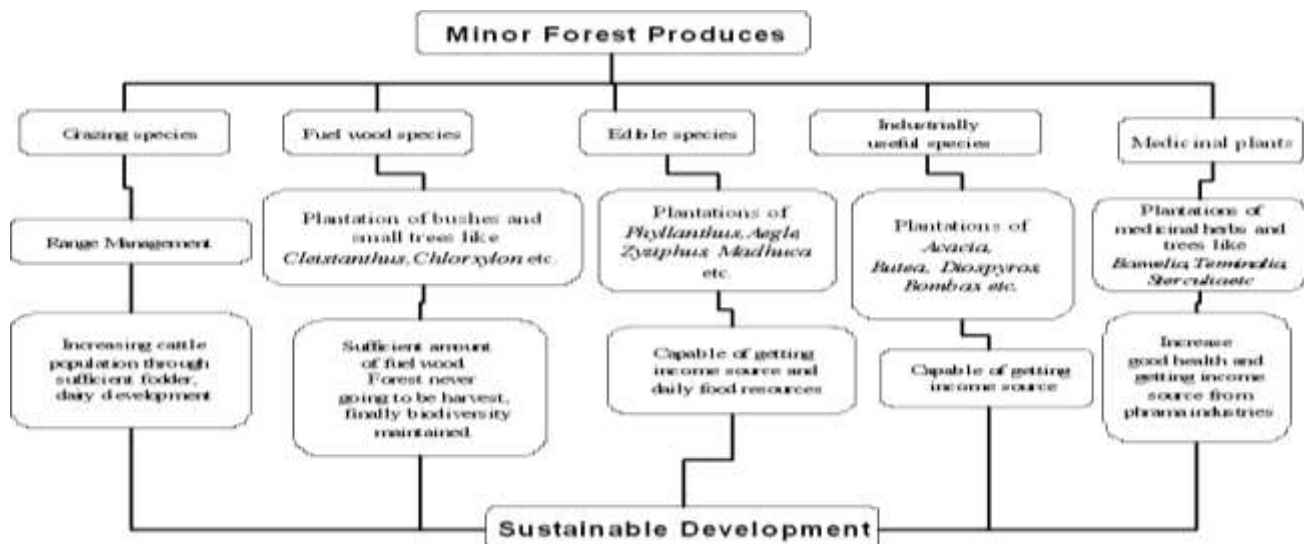
left them overwhelmed. They have enough rice from the government food supply scheme, but that might not be sufficient to ensure wholesome food for all.

PROPOSALS FOR ENHANCING THE INCOME AND POVERTY REDUCTION THROUGH NTFPS

POLICIES: To increase the capacity of the primary collectors to bargain for better prices and to collectively take up processing and marketing of NTFPs, it is essential to promote and support collective entities such as Thrift and credit groups, user groups and Primary cooperatives of collectors. It is important to create facilitative environment for such organizations. Till now such groups are even legally unable to collect and trade in most NTFPs due to the existing Government NTFPs policies. The Government needs to consciously support and facilitate such group activities by the primary collectors as a primary poverty alleviation measure. This dovetails with its policy on rural Non-farm sector development and schemes like DWCRA etc. There exists great scope for Micro-enterprises based on NTFPs for local level processing. There exists potential for encouraging Mahua Storage and marketing enterprise, oil extraction from Mahua Seed, decorticating of Char seed etc. Medicinal plants are another area whose potential has not been tapped till now. Support for Micro-Enterprise development can be a crucial part of the Government NTFP policy. For encouraging micro-enterprises the following inputs would be required:

- Stronger linkages should be developed between the primary producer and the final consumer through better retail network and marketing support.
- Social inputs for facilitating for organizing women and men forest gatherers into User Groups and Cooperatives.
- Provision of Working Capital, as credit is a critical input needed for these enterprises other than social organizing inputs.
- Skill Up-gradation programmes for value addition, packaging, stocking, accounts and other management skills.
- Provision of storage and transport infrastructure of the government agencies to primary collectors' organizations on rent.
- Provision of help for better Marketing of output by higher order cooperatives and Government institutions.
- Reorientation , Restructuring of Existing Government Institutions
- Skill Up-gradation
- Development and extension of Appropriate Technology for NTFP processing
- Compilation and Dissemination of Market Information
- Finding alternatives for better and more profitable uses of NTFPs
- There needs to be shift in focus from timber to NTFP, and this shift needs to be supported by research in the direction of NTFP based forest management systems.

There is a need to encourage involvement and active role of NGOs, Experts, research institutions for marketing and training support to the primary collectors and their Cooperatives for improving production and processing methods. It will leads to **Sustainable development** as shown in the following figure.



VII. CONCLUSION:

Monopoly leases also leave the primary collectors totally at the mercy of the lease holder, who either don't collect the products or pay very low prices. Any other trader or even groups of primary collectors trading in the product is liable to be hauled up for indulging in illegal activities. Thus the monopoly leases usually lead to depression in the price paid to the primary collectors. The royalty amounts in some cases are arbitrarily fixed (for example hill brooms) by the Forest Department wherein sometimes the royalty could be higher than even the purchase prices to the collectors. The Royalty, in effect, is obtained out of the margin/income of the primary collectors. It also induces many other distortions which affect the welfare of the poor primary collectors. To enable NWFPs to be addressed in national policies as a component of agricultural biodiversity, it is important that all NWFP activities, particularly forest management, be linked to all national development programmes such as the National Forestry Strategy 2020, National Growth and Poverty Eradication Strategy, National Socioeconomic Plan 2006-2010 etc.

It is important to build capacity and extension programmes at all levels to raise awareness and encourage action by promoting and expanding successful cases of NWFPs. In general, NWFPs play an important role for national economics and the livelihoods of rural people. Particularly during the periods of rice shortages, NWFPs are an essential source of food and income for people living in rural areas. Currently, there are few government officials responsible for NWFP development, and these are split among a number of agencies with limited capacity, in terms of both human resources and equipment, to undertake the tasks required. Therefore, the implementation of policies regulating the marketing and development of NWFPs resources will require substantial capacity building both within government and with respect to other

stakeholders, including villagers, traders and processors. The NGOs could approach various donor agencies for financial support for these activities keeping in view the high impact these would have on the livelihood and the welfare of the poor.

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