

The role of non-timber forest products in poverty reduction in India: prospects and problems

Golam Rasul, Madhav Karki, and Ram P. Sah

The vast natural resources of India's forests, including non-timber forest products (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 25 per cent of the country's rural labour force. However, poor harvesting practices and over-exploitation in the face of increasing market demand are threatening the sustainability of these resources, and thus the livelihoods of forest-dependent tribal communities. This article 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 optimise the potential of NTFPs, both to support rural livelihoods and to contribute to India's social, economic, and environmental well-being.

KEY WORDS: Policy; Institutions; Environment; Labour and livelihoods; South Asia

Introduction

Despite significant economic growth in India's recent past, poverty remains a major development challenge. More than 380 million people in the country live below the poverty line (SAARC 2005). The role of non-timber forest products (NTFPs) in alleviating poverty, particularly that of forest-dependent people, is now well recognised. Forests provide rural communities with diverse products for subsistence and cash income: about 100 million people living in and around forests in India depend heavily on the collection and marketing of NTFPs (Saxena 2003). They also serve as a 'safety net' during seasonal food shortages and other economic crises: about 60 per cent of the harvest of NTFPs goes unrecorded and is consumed by households themselves (Shiva 2001).

India's forests are endowed with vast natural resources, including non-timber forest products, such as a large variety of medicinal and aromatic plants (MAPs), leaves, fruits, seeds, resins, gum, bamboos, and canes (MoEF 1998; Darlong and Barik 2005). More than 3000 plant species produce economically useful NTFPs in India (Dubey 2007). NTFPs provide diverse

employment and economic opportunities to support rural livelihoods and protect the environment. Small-scale forest-based enterprises, many of which rely on NTFPs, provide up to half the income of about 25 per cent of India's rural labour force (Tiwari and Campbell 1995; Singhal 1999). Nearly half of the country's forest revenue and 70 per cent of export forest revenue comes from NTFPs (Tiwari and Campbell 1997; Prasad *et al.* 1996). The export potential of NTFPs is growing as the scope of globalisation increases and recognition of the health benefits of herbs becomes more widespread.

Despite the significant role of NTFPs in supporting rural livelihoods and the rural economy in India, their potential is still grossly underutilised (Saxena 2003; Darlong and Barik 2005), and their contribution to poverty alleviation has remained minimal (Choudhury 2007; Gubbi and MacMillan 2007). The people who collect and process NTFPs receive very little income, even sometimes less than they would earn from wage labour (Saxena 2003; Choudhury 2007; Gubbi and MacMillan 2007). This calls for a detailed investigation. Drawing on secondary information, we analyse the critical policy and institutional issues that hinder the full realisation of the potential of NTFPs in livelihood improvement and poverty reduction. We recommend policies and reforms geared to optimising the potential of NTFPs to support rural livelihoods and enhance India's social, economic, and environmental well-being.

The role of NTFPs in livelihoods improvement and poverty reduction

The role of NTFPs in alleviating poverty, particularly for forest-dependent people, is now well recognised. They provide subsistence and cash income to millions of tribal and forest dwellers in India, as a major source of fuel, fodder, food, medicines, construction materials, and livelihoods. Studies in Orissa, Madhya Pradesh, Himachal Pradesh, and Bihar show that more than 80 per cent of forest dwellers depend entirely on NTFP; 17 per cent of the landless depend on daily wage labour, mainly consisting of the collection of NTFPs; and 39 per cent are engaged in NTFP collection as a subsidiary occupation (Negi 1993). The collection of NTFPs is also a source of cash income, because of their increasing commercial importance. The proportion of household income earned by the sale of NTFPs varies from State to State and from one area to another: at a rough estimate, it ranges from 5.4 per cent to 55 per cent (Khare 2000). In tribal areas of Orissa more than 60 per cent of all households depend on forests for between 15 per cent and 50 per cent of their incomes every year (Vasundhara 2005). Average income derived from various NTFPs in the Sathy Forest Range of Western Tamil Nadu was found to be Rs. 9000 per household (Sekhar *et al.* 1993).

As the market for natural products is growing, particularly for medicinal and aromatic plants and organic mountain products, the sustainable harvesting and management of these products offers an immense opportunity to improve livelihoods of local communities as well as conserving resources in India. Besides supporting livelihoods, the NTFP sector provides employment for the unskilled and semi-skilled rural poor. It is estimated that 1.6 million person-years of employment in India are derived from NTFPs, while the forestry sector in total provides 2.3 million person-years of employment (Shiva and Mathur 1996). In certain seasons, when there are no regular work opportunities, the NTFP sector provides alternative sources of livelihoods. This sector also contributes heavily to the rural health-care system.

NTFPs: policy reform

Until recently, the NTFP sector in India was neglected and its economic and ecological potential largely underutilised. Since the early nineteenth century, when so-called scientific forestry was introduced in India, only timber was considered to be of major economic importance. All

other forest products were categorised as 'minor forest produce' (MFP). In recent years, however, there have been concerted efforts to promote the conservation and judicious use of NTFPs to support local livelihoods and the national economy. Significant policy changes have taken place. The National Forest Policy, 1988, India, assigned the highest priority to the livelihood needs of the people and to the environmental functions of forests, and the lowest priority to the commercial production of timber. This policy for the first time recognised the significance of the role of the 'minor forest produce'. The MFPs have now been recognised as major economic assets and livelihood sources across rural India, with the new nomenclature of 'non-timber forest products' (NTFPs). Recent legislation (Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006) (GoI 2007) has granted more rights to scheduled tribes and other forest dwellers in the use of NTFPs. Communities living within protected areas were granted the legal right to collect NTFPs (Gubbi and MacMillan 2008).

In line with national policy shifts, new policy initiatives have been taken in various States of India. Policies are being developed to enable NTFPs to promote India's social, economic, and ecological development. The enactment of State Bamboo Policies in North Eastern Region and the preparation of Bamboo Vision 2000 are positive steps, while the establishment of the National Bamboo Mission and the National Medicinal Plant Board are major policy landmarks. A few other policies and pieces of legislation are in the process of finalisation and enactment, such as the North East Forest Policy 2000 (draft), the National Biodiversity Act 2002 and Rules 2004, the draft National Biotechnology Development Strategy, the 1999 National Forestry Action Plan, and Panchayat Raj Acts, which include provisions for NTFPs.

Despite this progress, the NTFP sub-sector still suffers from a multitude of problems which constrain poor people from adequately benefiting from the products that they collect or grow. The following section briefly analyses the policy and institutional issues that thwart the full growth of this sector and limit the resultant benefits for the poor.

Issues related to marketing and income

Livelihood improvement based on NTFPs primarily depends on strengthening marketing opportunities and resultant income and employment opportunities. Given the growing market for natural products, it is expected that NTFPs will provide greater opportunities to poor and disadvantaged groups through increased value addition and higher prices. This expectation, however, has not been fulfilled, for several reasons. The key policy and institutional issues that hinder the achievement of the desired goal are briefly discussed below.

- *Exploitation by traders.* Most of the important NTFPs, with certain exceptions in Northeast India, are nationalised, and the marketing of NTFPs has been regulated by different mechanisms. Under the Forest Produce (Control and Trade) Act 1981, trading is largely controlled through public institutions, such as State development corporations, federations, co-operatives, and tribal societies. Some States have granted monopoly rights for NTFP items to private companies (Prasad *et al.* 1996; MoEF 1998). For example, in Orissa one company has been granted exclusive rights to collection and marketing. The local collectors are obliged to sell at low prices – less than half what they could get on the open market – to government institutions or company agents.¹ The price paid by the company to the local people who do the collecting is not controlled; thus they are exploited for the services they perform in the conservation, management, and harvest of the NTFPs. Table 1 shows that the share of the profits taken by commission agents is much greater than the share taken by the primary collectors. However, the share of primary collectors is even lower if

Table 1: Trade in selected NTFPs (figures in Indian Rupees/kg)

NTFP items	Selling price by primary collector within the village	Selling price by primary collector within the village weekly market	Selling price by primary collector to village-level sub-agent	Sale by sub-agent to commission agent	Sale by commission agent to TDCC*/OFDC**	% appreciation by agents of OFDC/TDCC over the price paid by village sub-agent	% share of price received by primary collectors
Harida	1.5	2	2	2.75	3.5	133	43
Khandakhai	1.5	2	1.75	2	2.5	67	60
Patal garuda	3	4	3.5	3.75	4.5	50	67
Padma chakra (rate per bundle)	2.2	2.5	2.5	2.75	3	36	73
Char seed	120	150	150	200	220	83	55
Mahua flower	3	4	4	4.25	4.5	50	67
Amba sadha	8	12	14	16	18	125	44

Source: adapted with permission from Saxena 2003: 28.

*Tribal Development Cooperative Corporation, **Orissa Forest Development Corporation.

we consider the price charged to end users. It is estimated that primary collectors' share of end-use price varies from 10 to 33 per cent (Subrat *et al.* 2001 in Saxena, 2003). Such measures are creating private monopolies, encouraging favouritism, and leading to a lack of transparency. Elsewhere, this state of affairs discourages local people from conserving NTFPs.

- *Access to trade licences.* There are no set regulations or criteria for awarding licences, which are granted at the discretion of the Forest Department Officials in a process that is seldom accessible to the local community (Saxena 2003). Local trading is monopolised by company agents without any effective price monitoring. The marketing process is similarly monopolised and hence is not attractive to local people.
- *Restrictions on harvest and product movement.* There are occasional blanket bans on the inter-State movement of timber and NTFPs, and on the collection and trade of many valuable NTFPs. Paradoxically, this has promoted the illegal extraction and trade of many prohibited NTFPs, particularly medicinal plants, herbs, and orchids, from the community and reserve forests (Darlong and Barik 2005). Local people who collect such products in order to survive may then face harassment.
- *Tax and transit rules.* The lack of uniform transit regulations complicates the movement of NTFPs within and across States. For example, no import duty is payable on forest produce transported from Tripura and Manipur to Assam, but a transit pass is needed for NTFPs; while in Manipur, no transit pass is required for bamboo. Similarly in Meghalaya (Gar

Hills), there are two types of permit: trade and Gurkati. While trade permits cover the removal of forest produce without paying royalties, the Gurkati permits are issued to locals for household use. Conversely, in Nagaland there is a special rule for orchids, whereby licences are granted for collection, and a transit pass is issued on payment of the fees, while in Arunachal and Tripura traditional and customary rights still prevail.

- *Processing and value addition.* So far no consistent measures have been taken to encourage value addition at the lower level. Moreover, certain policies restrict value addition at collectors' and community level. For example, broom-grass collectors are not allowed to bind the grass into brooms, nor sell it in the market. Thus the poor are prevented from adding value to their produce and are denied the right to get a better price in the open market.
- *Quality and quantity of harvest.* To reach the international market it is necessary to ensure proper processing and value addition. The quality and quantity of the produce seriously affect the chances of local producers and harvesters. There is little or no opportunity for local semi-processing or standard-setting to enhance their value. This state of affairs is exacerbated by the involvement of too many intermediaries, the lack of regulated market information and networks, and the limited capacity of the local people, all of which further contribute to their vulnerability and exploitation (Murthy *et al.* 2005).

Issues related to unsustainable production of NTFPs

- *Declining resource base.* According to Agramee (1997), over a period of ten years the collection of NTFPs declined from between two per cent (tendu leaves) to 70 per cent (sal seeds) in Madhya Pradesh. Similarly, reduced collections have been reported in broomstick grass, gums, mahuwa (*Madhuca latifolia*), and other species (Prasad 1999). The degradation of NTFPs is primarily due to overexploitation and unsustainable harvesting practices. So far, few efforts have been made to involve the local people who have a stake in these resources in the planning and management of NTFPs, including improving harvesting practices and controlling overexploitation, as well as promoting domestication of NTFPs on private land. The indifference of local people, combined with increased demand for NTFPs, has accelerated the degradation of valuable resources.
- *State control and Acts.* Where the NTFPs have been nationalised at the State level, regulations mainly focus on collection and marketing. No effective policy measures have been introduced to control the unsustainable harvest, protection, and conservation of NTFPs, and those provisions that have been made have been too poorly implemented to make a tangible impact (Darlong and Barik 2005).
- *Exploitation due to market pressure.* Increased market demands for some NTFPs have led to over-exploitation of resources such as medicinal plants, herbs, catechu, and others. This has depressed local livelihood opportunities, while providing greater returns to the intermediaries and pushing up consumer prices (Saxena 2003). These pressures have intensified local unemployment (Singhal 1999) and poverty, with all the attendant consequences.
- *Unscientific harvesting and conservation.* Unsustainable harvesting and excessive collection also lead to degradation of the natural resources, such as soils and animal and plant biodiversity; and they impede the regeneration of the most sought-after species (Darlong and Barik 2005). Increasing soil erosion also affects the environment that supports the fauna and flora, and ultimately affects local livelihoods (Mahapatra and Mitchell 1997; Prasad 1999).
- *Poor socio-economic conditions.* In the tribal areas, people lack employment opportunities, due in part to their poor education and limited awareness. In the face of economic uncertainty, their poverty and marginalisation will deepen and continue to the next generation, to the detriment of Indian society as a whole (Saxena 2003). Poverty, low incomes, and immediate survival needs often force local people to overharvest, at the expense of sustainability.

Conclusions

NTFPs are an integral element of the livelihoods of millions of rural poor in India. The growing local and global markets for natural products have created great opportunities for improving the lives of poor and disadvantaged groups who are largely bypassed by India's rapid urban-based economic growth. Having recognised this potential, the government of India has recently made a policy shift by according a higher priority to NTFPs than to timber. In view of that, several initiatives have been taken by State governments, particularly in Northeast India, in order to better utilise these resources for improving the livelihoods of forest-dependent people, as well as for environmental conservation.

In spite of the present shift towards NTFPs, the situation has not been changed much in favour of poor communities who are engaged in the collection and processing of NTFPs. Primary collectors still receive very low returns from NTFPs. Because of these constraints, official policy changes cannot deliver adequate benefits for poor people. In order to bring changes in the lives and livelihoods of forest-dependent people, more concerted efforts are needed to improve the market structure, as well as creating enabling conditions for the sustainable harvesting and management of NTFPs. The following policy recommendations are offered as means of enhancing the sustainable conservation and use of NTFPs, marrying the interests of forest-dependent people with better economic and ecological security for all.

Policy recommendations

Devolve NTFP management to local communities

As the custodians of NTFP resources, local communities are best placed to manage them in ways that will guarantee them a sustainable livelihood. This can be achieved through policy support for devolution, enabling the community to harvest judiciously, with better market information and connections, and preventing exploitation by public and private institutions. Under community management, conservation and harvesting are better regulated (as exemplified by community forestry projects in Nepal), and benefits are shared equitably. An established community organisation can also contribute to other development initiatives.

Diversify markets for NTFPs

The nationalisation of NTFPs should be halted in order to prevent a market monopoly and subsequent exploitation of the collectors and producers. Private entrepreneurs should be encouraged, as has already happened in the case of MAPs via Dabar and others, who develop direct links with the producers and set fair prices. The government should also compete with a base price to improve market stability. Promotion of co-operatives and federations may also be advantageous.

Standardise taxes and transit regulations

With the increasing development of NTFPs for domestic and international markets, there is a need to standardise transit policies and tax regulations across the country, thus abolishing the arbitrary differences between one State and another. However, this also calls for the correct identification of the products and the quality standards that are so vital in business marketing, and therefore for a more scientific certification system.

Support processing and value addition

The form, volume, and quality of their products partly explain why the collectors and producers get low prices. In general, the NTFPs are sold after harvest or collection without any processing and therefore barely earn 30 per cent of the potential price. The lack of knowledge, infrastructure, and information about how to process the products in such a way as to increase their value means that intermediaries reap most of the profits. Up-to-date technologies, such as community-level processing units, are required if local collectors are to compete in national and global markets. Training and capacity building are also essential, and government support for the development of NTFP-based micro-enterprises could make a crucial contribution: by developing groups and co-operatives, helping to build working capital, upgrading skills, and providing storage and transport infrastructure and market information and access. These inputs would help to bring about a dynamic shift in the status of, and prospects for, NTFPs in both domestic and international markets.

Develop micro-enterprises

NTFPs face increasing market competition in terms of quality and price. While modern technologies are needed for processing and product diversification, local-level processing can bring immediate incentives to the local community, in turn generating more employment, better prices, and less exploitation (Darlong and Barik 2005). Micro-enterprise development based on NTFPs may facilitate employment generation through forward and backward linkages. Financial incentives may encourage conservation.

Promote sustainable production

Sustaining production of the NTFPs is another important challenge. Growing population, migration, and urbanisation put increasing pressures on natural resources. Efforts to manage their conservation and protection from erosion and even extinction have so far been inadequate. In the absence of enabling policies and legislation, not only have these valuable resources been lost or degraded, but the livelihoods of millions of people are threatened. The following policy measures may be considered.

- *Controlling unsustainable harvests.* Excessive harvesting has been the way in which collectors respond to market demands and the need to earn more money. The resulting decline in the resource base calls for measures such as (a) devolving the management of NTFPs to the community level, where community-based regulations and decisions will set criteria for judicious harvesting, and penalties for destruction; (b) promoting conservation; and (c) strengthening monitoring by the Forest Department and the community.
- *Community capacity building.* Although the forest-dependent communities have indigenous skills and knowledge of NTFP management and use, they are poorly equipped to seize opportunities in wider domestic and global markets. They need better information in order to increase their earning capacity. In the present context, where the products have to compete with substitutes in terms of quality and price, the critical challenge is to promote and upgrade the NTFPs, as well as making them more competitive. Few efforts have been made in this area so far, so there is an urgent need to develop community capacity in relation to (a) conservation and management of NTFPs; (b) new production technologies for new species and varieties; (c) micro-enterprise infrastructure and the necessary skills for processing, adding value, and storage; (d) market information and connections; and (e) development of co-operatives and societies. The government and civil-society organisations

(CSOs) can play a key role in these areas and bring in other support in the form of credit, insurance, and promotion (Darlington and Barik 2005; Murthy *et al.* 2005).

- *Diversifying NTFP cultivation.* Although the new Forest Policies and Acts include provisions to promote NTFPs, they have yet to produce momentum and impacts. More rigorous plans and programmes are needed. There is a need to conserve genetic resources; a large-scale plan is required to propagate the plantation of elite, high-demand species in government, community, and private forests and lands. It will be necessary to link these production projects with research and development institutions and industries, backed up with enabling policies and regulations.

Promote technology development and dissemination

With the increasing potential for NTFPs to support rural livelihoods, as well as India's economic and ecological welfare, there is a need to modernise their production, processing, and marketing systems in order to capitalise on the growing domestic and global demand for organic and herbal products. However, these products must compete in terms of quality and price. New research and technologies are needed to integrate indigenous knowledge with modern science to add value to these products.

Promote domestication of NTFPs

Given the increasing demand and returns from NTFPs, as suggested by recent studies, there is an opportunity to promote their domestication on private and community land. Concerted efforts, therefore, should be made to expand the cultivation of promising NTFPs in government, community, and private forests/lands. Large-scale cultivation will require support for research and development, processing, value added, credit, and marketing networks. The development and strengthening of community organisations is crucial for tangible efficiency and impacts (Saxena 2003).

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Note

1. The Rajasthan Scheduled Tribe Area Development Cooperative Corporation Ltd. Udaipur has a monopoly over designated NTFPs. It buys *tholi musli*, a medicinal herb, at Rs 250–400 per kg, although tribals could easily get Rs 500–1000 in the open market. Similarly, the corporation pays only Rs 18 per kg for honey, as against the market price of Rs 50 per kg (Saxena 2003).

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Golam Rasul, Madhav Karki, and Ram P. Sah

The authors

Golam Rasul (corresponding author) is Policy Development Specialist at the International Centre for Integrated Mountain Development (ICIMOD), PO Box 3226, Kathmandu, Nepal. <grasul@icimod.org.>

Madhav Karki is Deputy Director General Programmes, International Centre for Integrated Mountain Development (ICIMOD), PO Box 3226, Kathmandu, Nepal. <mkarki@icimod.org>

Ram P. Sah is Technical Adviser to Honourable Minister, Ministry of Agriculture and Cooperatives, Government of Nepal, Kathmandu.