

## NTFPs in India: Rhetoric and Reality

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### INTRODUCTION

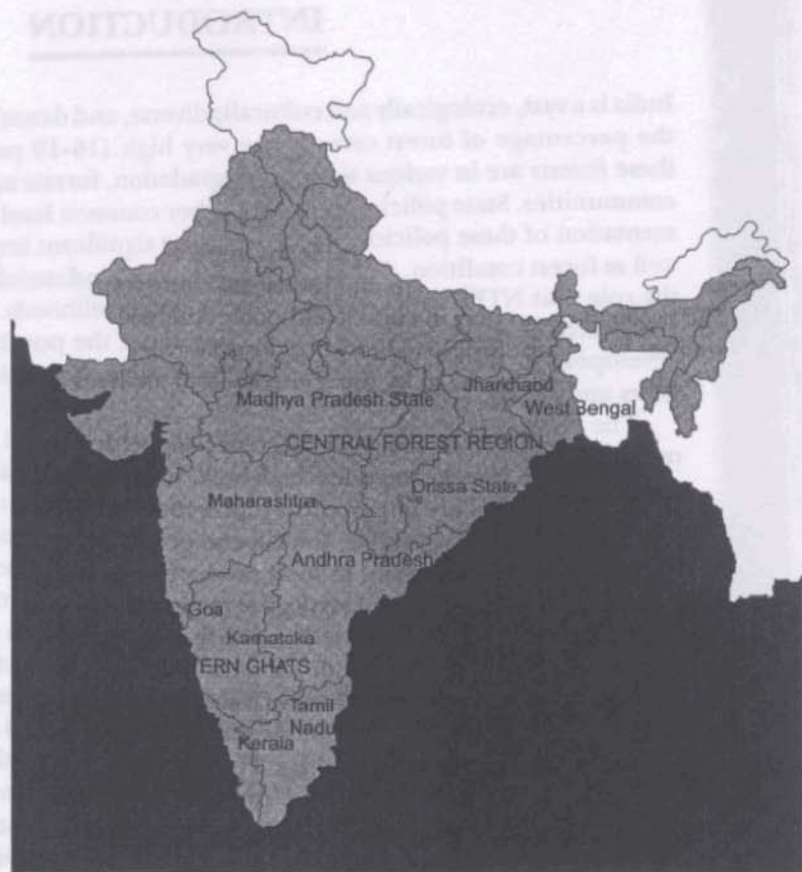
India is a vast, ecologically and culturally diverse, and densely populated country. While the percentage of forest cover is not very high (16–19 per cent) and many parts of these forests are in various stages of degradation, forests are a vital resource for many communities. State policies on forests, other common land and NTFPs, and the implementation of these policies, therefore have a significant impact on rural livelihoods as well as forest condition. A changing agrarian and industrial context further influences the role that NTFP collection can play in rural livelihoods. Analysing current policies and practices provides important insights about the possible role for NTFPs in rural development. This chapter seeks to do so by using macro-level analyses across several states and detailed case studies.

The term 'NTFP' can mean different things to different people.<sup>1</sup> In south Asia, it is useful to distinguish between two broad categories: high-bulk, low-value products such as firewood, grass and leafy matter that are important as inputs to the domestic, livestock and agricultural sectors; and relatively high-value, low-volume products such as specific fruits, nuts, leaves and herbs that are important in food products, medicines, cosmetics or other applications.<sup>2</sup> Although, in ubiquity and ecological impact, the former are more important, most discussions on 'NTFP policy' tend to focus on the latter. The reason could be that high-value, low-volume products can provide significant direct incomes, even to marginal landholders or the landless, and their collection is simultaneously seen as potentially less ecologically 'damaging'. Reconciling livelihoods and conservation through such NTFP-based enterprises has thus elicited much debate. Further focus is given to these high-value income-generating NTFPs by the shorthand 'commercial NTFPs'.

Policies on commercial NTFPs may seek very different objectives (or a balance between them): the generation of revenue for the state, meeting the demands of NTFP-based industries, protecting harvesters from exploitation by middlemen, enhancing the livelihoods of poorer communities, promoting resource sustainability and meeting broader biodiversity conservation goals. The instruments deployed to achieve these

objectives include the manner in which harvesting and marketing rights are assigned, the organizational set-up through which harvesting and marketing are carried out, fiscal strategies such as taxation and subsidies, and investments made in harnessing traditional and modern knowledge and generating market information. Our analysis of NTFP policies in India seeks to critically examine the objectives pursued (both stated and implicit), the instruments used and the impacts on collector livelihoods and ecological sustainability.

We begin this chapter with a brief summary of the role of NTFPs in rural livelihoods in India that indicates how important commercial NTFP collection is, for whom and in which regions. After giving a broad history of state intervention in the NTFP sector in India, we focus on two major regions – the central-eastern dry forest region that straddles the states of Orissa, Madhya Pradesh (including Chhattisgarh), Andhra Pradesh, Jharkhand and small parts of Bengal and Maharashtra, and the Western Ghats moist forest region that spreads across the states of Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu (Figure 3.1). For the central-eastern forest region, we cover several states, but focus on Orissa and Madhya Pradesh. For the Western Ghats region, we present



Source: Forest Survey of India, 2003.

**Figure 3.1** Location of central dry forest region and Western Ghats region in India



case studies from two parts of Karnataka that highlight issues specific to a mixed tribal and non-tribal context, in one case providing insights into the ecological complexities around NTFP extraction.

## **SIGNIFICANCE OF NTFPS IN RURAL LIVELIHOODS, REGIONS AND THE NATIONAL ECONOMY**

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Some 3000 wild plant species in India are used for purposes including food, fodder, medicines, spices and condiments, dyes, fibres, gums and resins, essences and oils, plates and furniture (Tewari, 1994). Estimates of the contribution of NTFPs to rural incomes vary widely. Tewari and Campbell (1995) estimate that about 25 per cent of India's rural labour force derives up to 50 per cent of its income from NTFPs, which translates into around 100–150 million persons. Between 55 and 70 per cent of the wage employment in the forestry sector is attributed to NTFPs (Gupta and Guleria, 1982). Other estimates of the rural employment obtained through NTFP collection and processing range from 3.3 million person-years (Mitchell et al, 2003) to 'significant' employment for 50 million persons a year (MOEF, 2001). What accentuates the importance of NTFPs is the fact that their collection often complements agriculture-based livelihoods, as it is largely carried out during the dry season.

NTFPs play an even more important role in the livelihoods of communities near or in forests. These communities, invariably among the poorest, may be broadly called 'forest-dwelling tribal communities', a subset of the ethnic groups designated as Scheduled Tribes in the Indian constitution.<sup>3</sup> They depend on NTFPs not just for income (Malhotra et al., 1991; Prasad, 1999; Hegde et al., 1996), but also for subsistence (MoEF, 2001), and forests are an integral part of their cultures.

The region where commercially valuable NTFPs play the most significant role in rural livelihoods is undoubtedly the central-eastern forest belt, where the dry deciduous forests are rich in various industrially important oil seeds (such as sal), soap nuts (myrobalans) and cigarette leaves (tendu), and where most of the country's tribal population is located.

Finally, it is worth noting that these so-called 'minor' forest products represent a significant source of revenue for certain governments. In 1986, NTFPs accounted for nearly 40 per cent of the revenue of state forest departments and 75 per cent of net export earnings from the forest sector (Mitchell et al, 2003, quoting M. P. Shiva). With several states banning the felling of timber in natural forests, the importance of NTFPs as a source of state revenue may be increasing.

## **NATIONAL OVERVIEW<sup>4</sup>**

### **Historical shifts in NTFP policy**

Systematic state intervention in forestry was initiated by the British colonial government. The objective of British forest policy was primarily the maximization of state



Source: RCDC, Bhubaneswar, India.

**Figure 3.2** *Collection of Kalabhalia seed by the villagers of Kalasulia, Boudh*

revenues, meeting the needs of British industries and expanding state control over the country. It was effected by reserving large chunks of forest for exclusive state use and declaring valuable products off-limits to local users. The main focus was on timber (and later softwood) extraction, but where NTFPs had significant commercial value, the objective of revenue maximization was clearly visible, such as in pine resin extraction in the Himalayas (Guha, 1989) or in tree gum or *Acacia catechu* extraction in peninsular India (Gadgil and Chandran, 1988). Following protests, some concessions were made regarding firewood collection and grazing, but commercially valuable NTFPs were kept under state control. In the central forest belt, the objective of suppressing tribal rebellions and establishing state control was also a priority, for which forest control was one instrument.

In the decades immediately following independence, forests continued to be seen as a resource that supported industrialization and nation-building. Forests were thus



managed to maximize the production of commercially valuable products to provide the raw materials for industries and urban areas and revenue for the state. Exploitation of the forests for bamboo, resin and other 'minor' products continued and expanded. Revenues did not necessarily increase, because many of these products were given to industries at highly subsidized prices, as in the case of bamboo in Karnataka (Gadgil et al, 1983).

The role of NTFPs in the livelihoods of forest-dwelling communities began to gain attention in the 1950s. Sporadic protests against exploitative or revenue-oriented state policies occurred, such as the representations by 1000 tribal women to the Chief Minister of Orissa in 1953 (Das, 1996). In 1961, the Dhebar Commission urged state governments to provide for intensive collection and local processing of MFPs (GoI, 1961). The Committee on Tribal Economy in Forest Areas also recommended the establishment of forest corporations and tribal development cooperative corporations for the collection, processing and marketing of NTFPs (GoI, 1967) as did the Bawa Committee on Cooperative Structures in Tribal Areas (GoI, 1971).

These pressures resulted in a more proactive state policy on NTFPs. Legal and administrative initiatives were taken in different states to regulate and support NTFP collection and trade. The ostensible goals of this policy, as summarized by Prasad (1999), were to:

- reduce exploitation of NTFP collectors and ensure fair returns to them;
- maximize the collection of produce and ensure supply to industries using them; and
- increase revenues to the state.<sup>5</sup>

There was no explicit commitment to 'sustainable harvest'.

Over the next two decades, these initiatives led to the creation of complex institutional arrangements around the collection and marketing of different NTFPs, including laws and administrative orders, NTFP-related organizations and financial support policies. These are particularly prevalent in the states of the central forest belt. Nationally the main direct intervention was the formation of the Tribal Cooperative Marketing Development Federation of India Ltd (TRIFED) in 1987 for marketing NTFPs and other agricultural produce harvested by tribal communities. These were the core arrangements concerning NTFPs for several decades. As we shall see below, the non-implementation of subsequent legislation in the context of NTFPs means that these are still largely the *de facto* arrangements.

The new National Forest Policy of 1988 marked a significant change in forest policy rhetoric. The goals of maintaining 'ecological balance' and meeting the needs of villagers, especially tribal communities, were given top priority. The involvement of local communities in forest management was also considered, leading to the central circular in 1990 that initiated 'joint forest management' (JFM) in the country.

The implications of the new policy for the structures and forms of NTFP collection have been mixed but limited. Under JFM programmes, some attention has been given to increasing incomes from NTFPs. JFM orders issued by many states<sup>6</sup> have increased the villagers' shares in NTFPs from both regenerated and standing forests. The practical implementation of these orders is still highly contingent upon the overall set of

NTPF policies in each state (see e.g. Lélé et al, 2005). At the same time, restrictions on the collection of NTFPs from national parks and wildlife sanctuaries have been tightened, especially since 2004, as a result of the Supreme Court's strict (overly so, in our view) interpretation of the Wildlife Protection Act.

Other changes in the wider governance system since the 1990s could also influence NTFP rights and management. The landmark 73rd Constitutional Amendment in 1992 prescribed that states should enact legislation creating three additional tiers of government at the district, subdistrict and village level. Ownership of several resources, including fuelwood and fodder, social forestry plantations and NTFPs, should vest in the lowest tier. Although most states have passed the necessary laws, the transfer of control has not happened (Mathew, 1995; Mathew, 2000; Mathew, 2004).

A more radical law passed in 1996 – the Panchayats (Extension to Scheduled Areas) Act, 1996, or PESA – seeks to give wide-ranging powers to the village general body in Scheduled Areas (i.e. tribal majority districts). PESA makes the radical provision of granting 'ownership of minor forest produce' (and several other natural resources) to the Gram Sabha (village general body). But again, the provision has been rendered ineffective by state governments leaving ambiguity about which forests the rights are to be exercised in, making the provision subservient to JFM rules and other MFP-related rules and laws, or completely ignoring the provision, as in Madhya Pradesh (Upadhyay, 2004). Even at the central level, the Ministry of Environment and Forests has undermined the provisions by excluding bamboo and cane from the definition of 'MFP' and by recommending against any change in forest rights (MoEF, 1998). Perhaps the only state in which PESA has had some impact is in Orissa, where the government recently framed a new set of rules transferring rights over some NTFPs to Gram Panchayats (village councils).

A very recent law – the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 – confers NTFP rights on the hamlet-level bodies of forest-dwelling communities. This act is yet to be implemented and its implications still need to be considered. Due to the similarities in the MFP-related rights conferred under this act vis-à-vis the PESA, the impacts are likely to be similar unless larger issues are addressed.

Thus, in most cases, the main policies and structures that shape NTFP use continue to be those set up in the 1970s and 1980s.

### Basic elements of current policies

According to existing forest law, the state is the 'owner' of all NTFPs.<sup>7</sup> The state may grant 'lease rights' or 'usufructory rights' of collection and possibly of transport and sale to certain individuals, organizations or state agencies. Depending largely on the commercial value of the NTFPs, the state varies the extent of its direct involvement in and control of the collection, procurement and sale of the NTFPs as follows.

The most valuable NTFPs are 'nationalized',<sup>8</sup> that is, the resource is treated as entirely state property and its harvesting, transport, storage and sale are carried out entirely by state agencies or are very strictly regulated. In practice, state agencies such as forest development corporations declare a state-wide procurement price, and all collectors are required to sell the produce to the state agency or its appointed agents at this price.



Other commercially valuable NTFPs are 'controlled' or 'specified' – that is, less stringently regulated – with extraction rights being granted to agencies or individuals in different locations or years, with no restrictions on storage, but some monitoring of transport. Typically, the state 'auctions' the rights of extraction for a particular forest area. The one who wins the auction gets the sole rights of extraction for two years in the form of a lease and pays a royalty to the state forest department. This 'contractor' then announces a procurement price. Actual collection may be done by local households, but they must sell the produce only to the contractor at the procurement price specified. The contractor may bring in outside wage labour to carry out the collection.

Other less valuable NTFPs are completely unregulated, and may be freely extracted and consumed or sold by any individuals. The sale may be in the open market or to traders. There may or may not be any tax on the sale (typically not). Finally, some NTFP species might be declared as 'lease-barred', which means that their extraction is not permitted due to fears of their extinction. In all cases where extraction takes place, the forest department, as the custodian of the forests, is supposed to enforce sustainability norms.

The immediate implication of these differences in state control is a difference in the capacity of the state to extract the surplus produce. For unregulated produce, this capacity is virtually zero. For controlled produce, the state can extract some of the surplus as royalties, with the rest going to the contractor. For nationalized produce, the state can extract the entire surplus, since it is, in effect, also the contractor.

Greater control need not necessarily translate into greater surplus extraction by the state itself. Much depends upon how prices are set and what structures are set up for improving prices obtained by collectors. In many cases, the state created primary collector cooperatives – often called 'Large Area Multi-Purpose Societies' or 'Large-Scale Adivasi Multi-Purpose Societies' (LAMPS)<sup>9</sup> – and gave them exclusive harvesting rights in specific forest areas and the mandate to carry out collective marketing of the products. In some cases, state-level federations of these primary cooperatives were also created, and they had to market their produce through the federations, ostensibly to obtain economies of scale and thereby ensure higher returns to collectors. Andhra Pradesh went the furthest in this direction, creating the Girijan Cooperative Corporation, a state-level and state-supported tribal cooperative with no lower-level primary cooperatives. In some cases it was made mandatory to sell the produce through the national-level TRIFED. In other words, a coercive 'cooperative' was pursued by several states in parallel with state control. The policy of leases to private companies, state forest corporations or other bodies continued in some pockets.

How these policy shifts and variations in structures have worked in practice is what we will now examine using three case studies. The first case explores 'nationalized' and 'controlled' NTFPs in the central Indian forest belt, specifically Orissa and Madhya Pradesh. Second, we examine a cooperative NTFP collection in Karnataka. Third, we investigate a 'non-nationalized' and 'non-cooperative' NTFP in the Western Ghats, for which detailed ecological studies are also available. In all cases, we seek to understand what the ostensible policy goals are, what has been done to achieve them, and their impacts, particularly in terms of collector livelihoods and (where possible) the sustainability of use.

## CASE 1: NTFP POLICIES IN THE CENTRAL FOREST REGION: LIP-SERVICE TO TRIBAL INTERESTS?

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### The context

The central forest region is perhaps the most important region in the country in terms of the availability of commercially valuable NTFPs and also the existence of a large, forest-dwelling, largely tribal population that has been historically engaged in collecting these NTFPs. It is estimated that 70 per cent of NTFP collection for sale takes place in this region. About 77 million people reside in villages that have forest area within their boundary. These villages constitute 20 per cent (Andhra) to 40 per cent (Orissa) of the total villages in the state.

The most important NTFPs across these states are tendu or kendu leaf (KL) (*Diospyros melanoxylon*), sal seeds and leaf (*Shorea robusta*), mahua flowers and seed (*Madhuca indica*) and bamboo (including *Dendrocalamus strictus*, *Bambusa arundinacea*, *Bambusa nutans* and *Bambusa tulda*). Tendu leaf, sal seed, mahua and bamboo were 'nationalized' in most of these states in the 1960s and 1970s. Other products were brought into the 'controlled' category and, in a few cases, the 'lease-barred' category. The exact list of NTFPs in each category, the dates when they were so categorized and the pertinent legislation are given in Table 3.1.<sup>10</sup>

As mentioned above, many policies and institutions have been set up and modified over the past few decades to collect, sell and otherwise regulate NTFPs in each category. The impacts of these policies and institutions are described below using a detailed history of some NTFPs in each of the 'nationalized' and 'controlled' categories in Orissa and Madhya Pradesh. The case of tendu leaf shows how much the state continues to covet the revenues from this very valuable resource, but also the variety of approaches adopted. The history of other resources highlights the complex interplay in the institutional arrangements, but also the halting progress on the ground with long-term changes in the status of the NTFP collectors.

### Tendu leaf: A coveted resource

The leaves of *Diospyros melanoxylon* (family Ebenaceae), called 'tendu' in Madhya Pradesh and 'kendu' in Orissa, are used as wrappers for bidis (Indian cigarettes). They are the most valuable NTFP in the central forest region, in terms of total revenue generated.

Orissa pioneered the state control of tendu leaves. Some control was introduced in 1949 through the Kendu Leaf (control and distribution) Order under the Essential Commodities Act. Partial nationalization took place in 1961 with the Orissa Kendu Leaf Act (see Table 3.1), and full nationalization in 1973. Under nationalization, the procedure has now been set as follows. The procurement price is fixed every year by the government. The procurement of KL from the collectors or growers, and preliminary processing such as drying, binding and storage, are done by the KL department, which falls under the state forest department. Many KL procurement ('collection') centres have been set up in the KL producing districts for this purpose. Seasonal staff are engaged as agents of the KL department to carry out the procurement. KL movements



Table 3.1 NTFP categories and relevant legislation

|  | Orissa  | MP/<br>Chhattisgarh   | Andhra<br>Pradesh   | Bihar/<br>Jharkhand   | Maharashtra   |
|--|---|---|---|---|---|
| Nationalized NTFPs (year of nationalization) | Tendu leaf (1961, strengthened in 1973); sal seed (1983, denationalized in 2006, but not clear how this will work); bamboo (1988)           | Tendu leaf (1964), harra, gums and sal seed (1975)  | Bamboo and tendu leaf. (1970)   | Bamboo (1984), tendu leaf (1972-3), sal seed (1977), mahua seed, mahulan leaf and harra | Tendu leaf (1969) and mahulan leaf  |
| 'Controlled' NTFPs                           | 69 MFPs   | No controlled NTFPs   | 24 NTFPs  | Sabai; all others are completely unregulated  | 33 MFPs given to gram panchayats and 88 NTFPs auctioned at deputy conservator level |
| Lease-barred NTFPs (if any)                  | 9 NTFPs: sal leaf (but lease has been given), sal resin, gums, khair, barks, <i>Rauwolfia serpentina</i> , tassar cocoons, cane, sandalwood | No lease-barred NTFPs   | No lease-barred NTFPs   | No lease-barred NTFPs   | No lease-barred NTFPs   |
| Relevant Acts                                | Orissa Kendu Leaf (Control of Trade) Act, 1961; further modified in 1973; Orissa Forest Produce (Control of Trade) Act, 1981                | MP Tendu Patta (Vyapar Viniyaman) Adhiniyam, 1964; MP Van Upaj (Vyapar Viniyaman) Adhiniyam, 1969 | AP Abnus Leaves Act 1956; AP NTFP (Regulation of Trade in Abnus Leaves) Act & Rules, 1970 | Bihar Kendu Leaf (Control of Trade) Act, 1972   | Maharashtra MFP (Regulation of Trade) Act, 1969 and its 1997 amendment              |

are strictly monitored. Marketing of the procured KL is done by the Orissa Forest Development Corporation Ltd (OFDC) through bulk auction. OFDC now gets 5 per cent commission on this work, which covers costs and profits. Around 1 million people are engaged in plucking KL for about 20-45 days and some 6 million person-days of employment are created for the processing of KL in a season. From the mid-1990s to the early 2000s, state earnings from the sale of KL generally ranged from Rs400-700 million (US\$10-17.5 million) per year.<sup>11</sup> KL is estimated to have contributed around 74 per cent of the state's total earnings from forests during this period (Government of Orissa, 2005).

Collectors were supposed to benefit from nationalization in at least two ways: high prices and guaranteed prices regardless of the amount collected. However, neither benefit accrued in practice. The state (or its agents) had the authority to reject the KL offered by a collector if not satisfied with the quality. More importantly, the prices paid to the collectors were dramatically lower than the price at which OFDC finally auctioned the produce. Table 3.2 gives the price received by the collectors as

**Table 3.2** *Percentage share of collectors in final KL auction price*

| Year    | Orissa | Madhya Pradesh | Andhra Pradesh | Bihar |
|---------|--------|----------------|----------------|-------|
| 1989-90 | 7      | 16             |                |       |
| 1990-91 | 15     | 45             |                |       |
| 1991-92 | 19     | 32             |                |       |
| 1992-93 | 21     |                |                | 69    |
| 1993-94 | 19     |                | 44             | 71    |
| 1995-96 |        | 37             | 49             |       |

Source: Vasundhara and Vikalpa, 1998.

a percentage of the price obtained by OFDC at its auction. Over the ten-year period (1984-1994), the average share of the final auction price received by the collectors was an appalling 16 per cent. Even setting aside transportation, storage and handling costs and losses (estimated at around 28 per cent), it turns out that the state got a hefty 56 per cent of the final auction price over the same period.

The state was aware early on that retaining most of the profits for itself would not be a popular policy. It passed orders in 1986 under the Kendu Leaf Act that 50 per cent of the profits from the KL trade would be shared with local government bodies (Panchayat Samitis and Gram Panchayats). In practice, however, the government has persistently claimed that it cannot calculate the profits from KL trade and hence it has not released these 'KL grants' systematically. Only Rs100 million (US\$2.5 million) has been released annually in the form of ad hoc KL grants to the Panchayats, whereas the actual amounts that should have been released were of the order of Rs160 million (US\$4 million) to Rs290 million (US\$7.25 million) a year during the period 1992/93-1995/96.<sup>12</sup> As Vasundhara and Vikalpa (1998) say, it is indeed 'appalling that for the last over 15 years the Government has ... used [not being able to work out the profits] as an excuse to forfeit its legal commitment to share KL profits with local people'.

There are further problems with the very concept of KL grants. First, the grants made to the Panchayats are not proportional to the collection of KL from those areas. For example, although Bolangir district contributed 25 per cent of the state's total KL collection from 1993 to 1996, its share of ad hoc KL grants given to Panchayats during that period was 14 per cent. Second, and more important, even if KL grants had been proportional to the KL contribution of each Panchayat, the Gram Panchayats represent all the residents within the Panchayat boundary, both collectors and non-collectors. Transferring profits to the Panchayats instead of paying high prices to the collectors amounts to transferring income from the collectors to the non-collectors in a Gram Panchayat. Typically, the latter are the better off households and elite in the villages. Even the recent order to increase the KL grants to 90 per cent of the profits does not address this unfair transfer of income.

Finally, the implementation of the KL Act even as it exists has several shortcomings in practice. Delayed payment to the collectors is common, leading to the collectors borrowing funds from the KL department agents. Also common is these agents' practice of underpaying the collectors by demanding more leaves in a bundle than the official measure.



In Madhya Pradesh, the structures have evolved somewhat differently. Madhya Pradesh was quick to follow Orissa in nationalizing tendu leaves in 1964. The initial approach retained many elements of the contractor system and hence failed to yield the desired results. Payments to collectors were delayed and collection undervalued. In 1984, the Madhya Pradesh government set up the State Minor Forest Produce (Trading & Development) Co-operative Federation (SMFPCF) as an apex body that would pool the individual collections of the LAMPS and primary cooperative societies (PCSS) that were set up in a few districts. In 1988, the government further rationalized the arrangements by setting up primary forest produce cooperative societies (PFPCSs) at the bottom, district forest produce cooperative unions (DFPCUs) in the middle and the SMFPCF at the top. At present, Madhya Pradesh has 1066 PFPCSs and 58 district unions, with nearly 1.5 million members in the PFPCSs. After an initial period of nominated office-bearers, the first elections for a president and other office-bearers were conducted in 1995. The forest officer at the territorial forest division acts as the managing director of the DFPCU. Similarly, the chairmanship and all other top executive positions in the state federation are held by state officials.

Since 1989 the PFPCSs have been engaged in the procurement of tendu leaf. Each PFPCS covers approximately 10–12 phads (collection centres). The collection of leaves is done with the involvement of local forest officials. The transportation and storage of the leaves is done by district unions. The funds for various operations are made available to the district unions by the state-level MFP federation. The district unions provide funds for procurement to the PFPCSs. The phad munshi of primary society and phad abhirakshak, who is a government employee, purchase the leaves. The manager of the primary cooperative society and the nodal officer, who is a government servant (mostly deputy Ranger or Forester), withdraws cash from the society's bank account and the nodal officer carries the cash to the collection centres for payments by the phad munshi or phad abhirakshak. Each family is given a collector's card. The phad munshi enters the collector's daily collection on the card. Payment for the collection of leaves is made weekly and the payment made is entered on the card. The sale of the leaves is done by the MFP federation, generally through either a nationwide tender or an auction.

The primary cooperative societies initially received commission at Rs10 (US\$0.25) per standard bag. The district unions were paid at Rs3 (US\$ 0.07) per standard bag. The SMFPCF received a commission of 2 per cent on the amount received from the sale of leaves in the whole state. The government later reduced the commission of the SMFPCF and the DFPCUs to Rs1 per annum (a token amount of less than 3 US cents). The idea was that the primary collector cooperatives and their upper-level federations would have a strong interest in ensuring timely and appropriate payments to their collector members.

The ultimate impact of these structures on the returns received by the collectors seems to have been slightly, but perhaps not dramatically, different from that in Orissa, at least until the mid-1990s. The data in Table 3.3 show that although the collectors' price increased substantially in absolute terms, their share remained in the range of 16–45 per cent of the final sale price received by the state-level federation. Even allowing for handling costs, the state made a significant profit. For example, in 1995–96, the state made a profit of Rs340 (US\$8.50) per standard bag (42 per cent of the final price), while the collectors got Rs310 (US\$7.75, or 38 per cent of the final price).

**Table 3.3** *Collector share in final sale price of tendu leaf in Madhya Pradesh*

| Year    | Collector price | Final sale price | Collector share |
|---------|-----------------|------------------|-----------------|
| 1989-90 | 150             | 932              | 16%             |
| 1990-91 | 250             | 554              | 45%             |
| 1991-92 | 250             | 758              | 32%             |
| 1995-96 | 310             | 810              | 38%             |

As the state's profits soared, pressure to share this profit with the collectors mounted. The state put in place a system of distributing some of the profits back to the collectors in the form of 'incentives'. In 1989, following a bumper profit, the state distributed Rs1500 million (US\$37.5 million) back to the collectors. Subsequent years saw much lower incentive distribution. This payment was discontinued in 1990 but restarted in 1995. For the 1995-1997 seasons, nearly 20 per cent of net income was paid as 'incentive wages'.

As a consequence of the 73rd Constitutional Amendment of 1992 and PESA, the Madhya Pradesh government decided, in 1998, to pass on all the net profit from the trade of tendu leaf to the primary collector cooperatives. The cooperatives, in turn, have to distribute 60 per cent of this to the tendu leaf collectors as incentive wages and spend 20 per cent on NTFP development and 20 per cent on infrastructure development.<sup>13</sup> The Madhya Pradesh Forest Department continues to report revenues received from tendu leaves, indicating that perhaps not all the profits are being passed on to the cooperatives. Moreover, as in the case of the KL grants, the sharing of profit is fixed at the top, not by the owners of the produce (which are now supposed to be the Gram Sabhas). This results in a sense of paternalism and insecurity about the process and a general delay of one or two years between collection and payment of incentive wages. Furthermore, the functioning of the primary cooperatives is not particularly democratic, with elections not having been held for a long time, the forest department remaining in control in practice, and the improved prices being offset by the manipulation of quantities (Ranu Bhogal, personal communication, based on unpublished study conducted for CIFOR).

A potentially positive element in the Madhya Pradesh government's policy has been the setting up of a group insurance scheme for the KL collectors since 1991. This scheme covers around 2.4 million collectors. Collectors do not pay fees for this insurance, and get different levels of compensation for death, disability, etc. For the period 1991-2005, the federation reported that 150,820 claims were settled and Rs561 million (US\$14 million) was paid to the nominees of deceased collectors.<sup>14</sup> There is, however, at least anecdotal evidence of some amount of mismanagement of this system also (Ranu Bhogal, personal communication).

On the whole, the tendu leaf policy in Madhya Pradesh is somewhat more supportive of the NTFP collectors than that in Orissa. Another way of looking at it is that Orissa is slowly moving along a trajectory that Madhya Pradesh has already traversed. Madhya Pradesh state also started out extracting significant fractions of the profit from tendu leaves. But Madhya Pradesh has moved more quickly to a somewhat better sharing of the profits in the post-PESA period, while Orissa tried a conceptually faulty KL-grants



approach. The common feature in both states is that control is entirely top-down and even administrative functions at the lower levels are manned by government servants, with significant involvement of the forest department. This raises serious questions about the level of democracy and autonomy in the functioning of the so-called collectors' cooperatives. This issue is further highlighted in the analogous case of LAMPS in Karnataka.

### Controlled products: Fuzzy organizational arrangements

The approach in Orissa to the management of non-nationalized NTFPs has been characterized by the presence of multiple organizations and shifts and variations in arrangements. LAMPS were set up in Orissa and elsewhere in the mid-1970s. By the 1980s, there were 222 LAMPS. There are a few other cooperatives also involved in NTFP collection and marketing, such as the agency marketing cooperative societies (AMCSs) and the Orissa Rural Marketing Society (an autonomous agency under the Department of Panchayati Raj, involved in the formation of self-help groups for micro-enterprise development). The government also set up the Tribal Development Cooperative Corporation (TDCC) in 1973 as an apex cooperative, of which 202 LAMPS, 35 other cooperatives, 47 panchayat samitis and the state government are members.

Orissa government policy towards these cooperatives and their federations has been wavering, paternalistic and not well thought out. For instance, the TDCC was given rights to sal seed procurement in 1984 following the 'nationalization' of sal seeds. However, this right was taken away in 1991 and handed over to the OFDC. In 1990, the following complicated allocations were made:

- The TDCC was given the exclusive right to four MFP items: tamarind, hill broom, honey and mahua in all 27 forest divisions of the state.
- Utkal Forest Products Ltd (UFPL), a joint sector company, was given the exclusive right to collect 29 other NTFP items in all the forest divisions of the state.
- AMCSs were given leases to operate in three divisions for all products except the ones given to TDCC and UFPL.
- TDCC was additionally given rights over all products except those given to UFPL in 19 divisions.
- The OFDC was given rights over all products in five divisions not allocated to AMCSs, the TDCC or UFPL.

This policy ensured that there was only one buyer per product in a division. It was assumed that since these were also state or state-controlled agencies, they would not misuse their monopsonist position. But neither efficiency nor support to collectors could be achieved. The agencies either did not buy all the produce or set unrealistically high procurement prices, thereby incurring losses. For example, the TDCC was given sole rights to mahua flower procurement in 1991. The procurement price was set at Rs3 (US\$0.07) per kg plus overheads. Traders in Orissa purchased mahua flowers from neighbouring Bihar state at Rs1 (less than US\$0.03) per kg and sold them to the TDCC at Rs3, thereby making a large profit and leaving the TDCC with a huge loss. The government de-specified mahua flowers in 1992 (Vasundhara and Vikalpa, 1998).

Not surprisingly, the TDCC, which was created to protect tribal collectors from exploitation, has itself turned out to be a liability to the government, with huge losses. At the end of March 2000, the accumulated loss of the TDCC was Rs410 million (US\$10.25 million). According to the balance sheet of 2004/05 the accumulated loss was Rs611 million (US\$15.275 million). As a result of these losses, the TDCC seems to have become largely defunct and is now not involved in the procurement and trade of NTFPs in Orissa.

In Madhya Pradesh, the arrangements are different and the ultimate impact seems even less favourable to NTFP collectors. The three-tier organization for tendu leaves does not seem to be involved in the collection and marketing of other produce. 'Specified' products such as sal seeds are regulated by putting quantitative restrictions on transport and sale. Licences are required for the growing, transport or sale of quantities beyond the specified limits. A price-spread analysis (Vasundhara and Vikalpa, 1998) indicated that the collectors got significantly lower prices than those at which sal seeds sold in local towns, although such analysis ignores the transaction costs incurred for transport and marketing.

As mentioned above, the post-PESA period saw changes in policies regarding the sharing of profits for nationalized produce in both Orissa and Madhya Pradesh. In the case of non-nationalized NTFPs, the most significant post-PESA change occurred in Orissa. The changes were announced in 2000 but were legally implemented in 2002, with the new Orissa Gram Panchayats (Minor Forest Produce Administration) Rules being framed under the state's Panchayati Raj Act. The key features of this policy change were:

- The royalty system was abolished, as was the system of assigning monopoly buying rights to individual contractors or organizations, and also the transit permit system.
- The Gram Panchayats were to be given the power to regulate the procurement and trading of MFP, whether produced in government lands and forest areas within the limits of the village, or collected from the Reserved Forests and brought into the village. This regulation would take the following form:
  - All traders would have to register themselves with the Gram Panchayat. Unregistered traders would not be able to procure NTFPs.
  - The traders would have to pay at least the minimum price specified by the Gram Panchayat.
  - The ecological aspect of collection would be regulated by the Forest Department, which could impose temporary bans on collection if collection was found to be unsustainable.

(For more details, see RCDC, 2007).

These changes were encouraging, as they established greater control by the local communities over the product and resource and liberalized the trade and movement of the produce. But many details and nuances are still being worked out and the final outcome of these changes is yet to be understood.



## **CASE 2: LAMPS IN KARNATAKA: WHOSE COOPERATIVES AND WHOSE PRODUCE?**

The state of Karnataka in south-west India contains the largest portion of the Western Ghats – a hilly, forested region considered to be a global biodiversity hotspot. Although the population in this region is predominantly non-tribal, there are many pockets in the Karnataka portion of the Western Ghats with a significant tribal population.

Following the adoption by the government of India in 1971 of the recommendations of the Bawa Committee mentioned earlier, the first LAMPS (in this state, the expansion being Large-scale Adivasi Multi-Purpose Society) was set up in Karnataka in Hunsur taluka (subdistrict). Five more were set up in other parts of Mysore district during 1982 and 1983 (Kamath, 1988). There are now 20 active LAMPS in Karnataka, covering more than 100,000 adult tribals across four districts. Each LAMPS typically covers one taluka, and its membership is supposed to be open to all adult tribals in that area. The general body elects a tribal as president and five to ten other tribals to the board of directors. Several other government officials are *ex-officio* members of the board and, more important, the secretary of the LAMPS is provided by the Department of Cooperatives.

NTFP collection and marketing is supposed to be the major activity of the LAMPS and the only income-generating activity undertaken by it. Each LAMPS applies to the Karnataka State Forest Department (KFD) for grant of a lease to collect NTFP from forests in that taluka. The KFD grants the lease for some designated areas in return for royalties. The LAMPS auction the produce to the highest bidder. Other activities include acting as a channel for the public distribution system, selling subsidized agricultural inputs and channelling government soft loans to members. Until a few years ago, there was no state-level NTFP marketing federation. Although such a federation now exists, the LAMPS are not required to sell to it alone. Karnataka thus represents a situation in which NTFPs were not 'nationalized', but rather rights of NTFP collection and sale were given to primary cooperatives, with no compulsion to sell the NTFPs to higher level federations or state corporations.

### **Performance of Karnataka LAMPS<sup>15</sup>**

How well have the LAMPS functioned as NTFP marketing cooperatives, which was their primary goal? This question needs to be answered from an economic, organizational and ecological perspective. Economically speaking, the performance is generally poor. First, as Table 3.4 shows, the LAMPS pay their collector members only 40–70 per cent of the final sale price. Collectors acknowledge that the presence of the LAMPS has made private traders offer higher prices than they would have otherwise, but they are bitter at such a large proportion of what would be their legitimate income being lost to the LAMPS. Second, even after retaining such high margins, the majority of the LAMPS show annual operating losses in most years and almost all show long-term accumulated losses (which have been periodically written off by the government) (Table 3.5). Third, from time-series data it is apparent that the range of products sold and the total revenues from MFP sale fluctuate wildly and are declining in several

**Table 3.4** Prices offered to collectors for select NTFPs and LAMPS margins

| Name of NTFP |                                 | Use                                  | Price paid to collector | Final sale price | LAMPS margin |
|--------------|---------------------------------|--------------------------------------|-------------------------|------------------|--------------|
| Common       | Scientific                      |                                      |                         |                  |              |
| Honey        |                                 | Medicine, food                       | 27.0                    | 37.0             | 27%          |
| Aralekai     | ( <i>Terminalia chebula</i> )   | Leather softening, medicine          | 1.5                     | 2.5              | 40%          |
| Amla (fresh) | ( <i>Phyllanthus emblica</i> )  | Pickles, medicine                    | 2.3                     | 3.3              | 30%          |
| Amla (dried) |                                 | Medicine                             | 6.9                     | 8.9              | 22%          |
| Gum          |                                 | Bookbinding, silk reeling, starching | 28.8                    | 38.8             | 26%          |
| Lichen       |                                 | Paint, condiment                     | 20                      | 25               | 20%          |
| Tamarind     | ( <i>Tamarindus indica</i> )    | Condiment                            | 2.0                     | 3.0              | 33%          |
| Dhoopa       | ( <i>Vateria indica</i> )       | Cooking fat                          | 0.8                     | 1.8              | 56%          |
| Sheekakai    | ( <i>Acacia concinna</i> )      | Soap, shampoo, medicine              | 4.0                     | 5.0              | 20%          |
| Ramapathri   | ( <i>Myristica malabarica</i> ) | Paint                                | 35                      | 50               | 30%          |
| Almaddi      | ( <i>Ailanthus malabarica</i> ) | Agarbatti                            | 30                      | 80               | 63%          |

Note: All figures are in Rs per kg. In case of HD Kote LAMPS, margin includes commission paid to their agents.

Source: Interviews with traders and LAMPS records.

LAMPS, while increasing in others. One might thus conclude that while the formation of LAMPS has benefited the tribal collectors to some extent in some locations, the cooperatives are not financially sustainable. Moreover, the gains are far below the potential gains, are not consistent from year to year, are possibly accompanied by a shrinking product base and have come at enormous public cost (as the state has to intermittently write off the losses).

An organizational analysis of the LAMPS showed that they hardly functioned as proper cooperatives. Membership rolls had not been revised for years, and so current members constituted only around half the total number of tribal collectors in the locality. Decision-making was not transparent or democratic, with the Presidents often being unelected non-tribals (government officials). Non-tribal secretaries are in control in almost all LAMPS.

The ecological performance of the LAMPS is difficult to judge in the absence of any quantitative data on NTFP availability. Qualitative discussions with collectors suggest that factors other than harvest, such as shrinkage in forest area, destruction of certain habitats and invasion by weeds may be more significant factors affecting availability in most cases. Some cases of extraction-driven extinction may also have occurred, such as a *Cinnamomum* species used for making essence-sticks.

### Explaining the performance

This poor economic performance is linked to the organization of the LAMPS. Although a cooperative is meant to be owned and operated by its members, the paternalistic



**Table 3.5** Revenues, margins and profit/loss for all LAMPS in Karnataka, 1994-95

| Sl. no. | Name of LAMPS  | NTFP revenue |            | Non-NTFP revenue |            | Gross margins |          | Profit or loss? |             |
|---------|----------------|--------------|------------|------------------|------------|---------------|----------|-----------------|-------------|
|         |                | Gross        | Per member | Gross            | Per member | NTFP          | Non-NTFP | Current year    | Accumulated |
|         |                | ['000 Rs]    | [Rs]       | ['000 Rs]        | [Rs]       |               |          | [1994-95]       |             |
| 1       | Yalandur       | 169          | 195        | 161              | 186        | 32%           | 26%      | loss            | loss        |
| 2       | Hunasur        | 104          | 16         | 10               | 2          | 45%           | 3%       | profit          | loss        |
| 3       | HD Kote        | 10           | 2          | 15               | 4          | 17%           | 6%       | profit          | loss        |
| 4       | Chamarajanagar | 535          | 557        | 5                | 5          | 44%           | 2%       | profit          | profit      |
| 5       | Kollegal       | 39           | 15         | 0                | 0          | 32%           | 0%       | profit          | loss        |
| 6       | Gundlupet      | 13           | 8          | 5                | 3          | 5%            | 2%       | profit          | loss        |
| 7       | Somavarpet     | 127          | 43         | 89               | 30         | 43%           | 5%       | profit          | loss        |
| 8       | Virajpet       | 80           | 16         | 83               | 17         | 26%           | 8%       | profit          | loss        |
| 9       | Madikere       | 124          | 43         | 3                | 1          | 29%           | 21%      | profit          | loss        |
| 10      | Koppa          | 11           | 5          | 204              | 93         | 5%            | 4%       | profit          | loss        |
| 11      | Moodigere      | 43           | 2          | 197              | 55         | NA            | 3%       | profit          | profit      |
| 12      | Puttur         | 86           | 28         | 62               | 20         | 36%           | 4%       | loss            | loss        |
| 13      | Udupi          | 0            | 0          | 228              | 51         | NA            | 7%       | profit          | profit      |
| 14      | Sulya          | 6            | 2          | 90               | 39         | 7%            | 4%       | loss            | profit      |
| 15      | Belthangadi    | 75           | 20         | 95               | 26         | 5%            | 15%      | loss            | loss        |
| 16      | Mangalore      | 0            | 0          | 27               | 43         | NA            | 3%       | loss            | loss        |
| 17      | Karkala        | 74           | 17         | 193              | 44         | 6%            | 7%       | profit          | loss        |
| 18      | Bantwal        | 0            | 0          | 88               | 36         | NA            | 7%       | loss            | loss        |
| 19      | Kundapur       | 75           | 31         | 122              | 51         | 29%           | 9%       | profit          | loss        |

Notes: Actual magnitudes of profits/losses are not given because the numbers were found to be inconsistent.

NA = no business reported in 1994-95 in that category.

Source: Returns filed by LAMPS secretaries with Registrar of Cooperative Societies, Bangalore.

stipulation that the secretary should be an official assigned by the Department of Cooperatives completely undermines this concept. The non-tribal, educated government official who comes as a secretary to the society wields all the power and almost invariably mismanages the LAMPS for personal gain, co-opting some of the elected directors or the president in the process. There have been many cases of obvious swindling of funds, but, in this paternalistic arrangement by which the Department of Cooperatives still controls the LAMPS (and annually subsidizes them), the tribal members have no recourse beyond requesting that a particular secretary be replaced.

Furthermore, the LAMPS have actually internalized some of the exploitative practices of the trader world. A LAMPS will appoint a few tribals as 'commission agents', both for procuring the forest produce from members and for advancing seasonal credit. Their functioning is not transparent or accountable, and in some cases they have become the new money-lenders. Finally, in several places, the forest department

has also moved into the game: in return for their 'cooperation', forest officers have insisted on becoming the presidents of these cooperatives.

The last point relates to larger institutional questions and also ones of ecological sustainability. In theory, the LAMPS are required to ensure that harvesting is within sustainability norms, but these norms are never prescribed or debated openly. Moreover, a necessary condition for the sustainable harvest of any product is that the harvesters have secure and clear tenure over the resource. This is completely missing in the LAMPS arrangement. The KFD controls the forest land and the NTFP resources in it. The LAMPS do not have a statutorily assigned right to this resource; this is granted by the KFD on a two-year lease. The renewal of the lease almost invariably requires major efforts on the part of the tribal community, making it clear that this is not a right but a 'privilege' that can be discontinued any time. Indeed, it has been discontinued in many LAMPS, off and on.

The KFD also decides how much forest area to lease to the LAMPS, and in several cases only parts of the forest have been so assigned, while other parts have been allocated to private traders. The assigned areas have also shrunk over time, largely in the name of wildlife conservation measures, but without any proof that NTFP collection is harmful to wildlife. Eight out of the 20 LAMPS do not have any forest area assigned to them and hence do not have significant NTFP collection going on. The KFD also interferes in the day-to-day process of NTFP extraction, by dictating areas of extraction and entry permits for individual collectors.

In other words, the individual tribal collectors neither have secure rights over the resource they harvest nor adequate control over 'their' cooperative that has been ostensibly created to facilitate marketing. Lack of secure rights over the resource creates a lack of incentive to get involved in resource management and ensure sustainable harvesting. Lack of control over their cooperative means they are often subject to almost the same level of exploitation as in the pre-LAMPS period. The de-linking of the resource from the cooperative in some cases means that the main function of NTFP marketing is impossible, and the members either move to non-forest activities or let the LAMPS lie defunct.

### **CASE 3: UPPAGE (*GARCINIA GUMMI-GUTTA*) IN THE KARNATAKA WESTERN GHATS: ECOLOGICAL COMPLEXITY**

The Western Ghats forests harbour a great diversity of plant and animal species. Several of these are collected and sold for medicinal, culinary or other purposes. The case of *Garcinia gummi-gutta* extraction from a certain part of the Western Ghats highlights the complexities that may confront makers of NTFP policies in tropical developing regions, particularly regions with a long history of forest use that are looking towards expanding markets for NTFPs. Ecological factors, forest rights and markets have together shaped the manner in which the economic gains from this NTFP have been distributed over time and across different players, and resulted in ecological impacts across the landscape.



## The species and the product

*Garcinia gummi-gutta* (L.) Robson (family Guttiferae), locally known as uppage, is endemic to the Western Ghats of India and Sri Lanka. It is found in evergreen and lower 'shola' forests up to a height of 1000m. Uttara Kannada district in Karnataka state is at the northern end of its range and seems to have the highest density of uppage trees. Before the commercialization of the product, uppage seeds, which are rich in fat, were used by some local households for making a kind of margarine. The main consumption of uppage is in the state of Kerala, where the dried rind is used extensively as a souring agent in fish curries.

The commercial collection of uppage rind in Uttara Kannada commenced in the late 1970s with the realization that a market for the rind existed in Kerala. The price of the dried rind started at around Rs3 (US\$0.07) per kg and increased slowly to Rs12–16 (US\$3–4) per kg in the early 1990s. At these prices collection hovered around an estimated 50,000kg for Sirsi forest division, one of the three forest divisions in Uttara Kannada district that report a significant uppage harvest (Shivannagowda and Gaonkar, 1998).

## Uppage economics, local livelihoods and markets

As with other commercially valuable NTFPs in Karnataka and elsewhere, once uppage became valuable, its collection was controlled by the state forest department, which wanted a share in the profits. Since the late 1980s, rights to uppage harvest in different administrative units (typically forest ranges) have been auctioned for two-year periods by the forest department. Those who win such auctions (the leaseholders) can either send in their own labourers to collect the product or insist that all local collectors sell what they collect to them at prices they set. The forest department, having auctioned the rights, plays a mostly passive role, not identifying or enforcing sustainability norms, and only occasionally ensuring that 'leakages' (villagers selling produce to persons other than the leaseholder) do not occur.

Uppage is traded through complex private channels, which further changed during the boom period (see below). The final sale price of uppage is therefore not easy to determine. However, it is clear that the state is extracting a substantial royalty. The royalty paid by contractors to the forest department for Sirsi forest division alone increased from Rs388,300 (US\$9707) in 1989 to Rs3,545,600 (US\$88,640) in 1995 (Rai, 2003, and Saxena et al, 1997, quote a somewhat higher figure). Unfortunately, the state does not really utilize these funds to ensure resource sustainability or other conservation measures. On the other hand, the contractors are clearly making a hefty profit, around Rs20 (US\$0.50) per kg (Saxena et al, 1997), which is a margin of 25–30 per cent. It may be noted that the state practice of auctioning NTFP rights to the highest bidder has not changed, not even since the introduction of JFM in this forest division in 1993 and the explicit statement in 2000 that NTFP rights in JFM areas would belong to the village-level committees.

## Boom and bust

Many NTFPs show a boom–bust cycle. Typically, the boom is because of some unique application and the bust is a result of domestication, or substitution with alternatives.

In the case of uppage, the story is slightly different, but no less dramatic. In the late 1980s, some studies (Sergio, 1988) showed that hydroxycitric acid (HCA), a secondary compound present in the rind of uppage fruit, might be effective in weight loss and therefore a natural solution to obesity (Majeed et al, 1994). Over-the-counter drugs derived from uppage, such as Citrin and Citrimax, were aggressively marketed. As a result, the price of dried uppage rind received by the collectors increased rapidly, reaching Rs75–90 (US\$1.87–2.25) per kg at its peak in 1998. The annual extraction of uppage in Sirsi Division shot up to 1,600,000 kg in 1999 (Rai, 2004). From being a specialized activity carried out by a few households in each village located in the evergreen forests, uppage collection and drying became a booming industry in which people from across the socioeconomic spectrum and far-off villages participated, scouring deep in the forests, harvesting fruit before it was fully ripe, cutting branches and sometimes even felling entire trees to harvest the fruit.

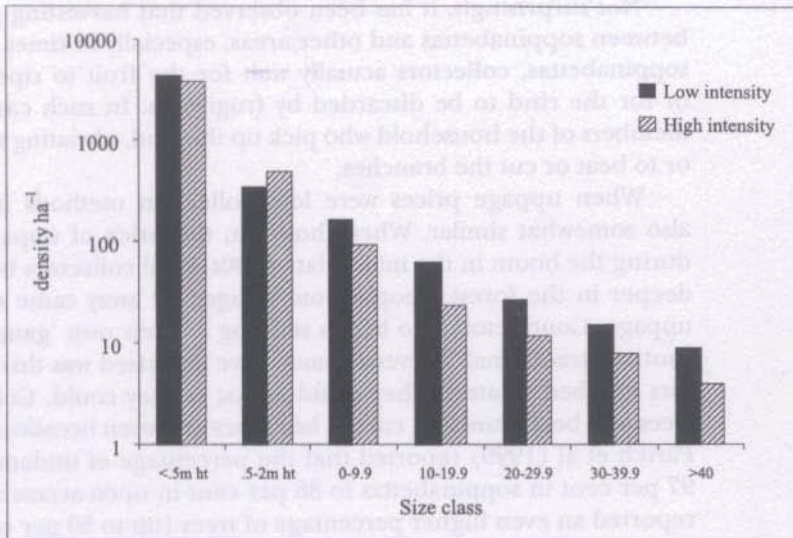
The shaky claims regarding the effectiveness of HCA did not stand up to scrutiny. More research showed that HCA did not provide the claimed weight loss benefits (Heymsfield et al, 1998). The price of HCA in the international market dropped from US\$30–35 in 1994 to US\$9–11 in 2000. The price of rind paid to collectors in Uttara Kannada dropped dramatically from about Rs60 (US\$1.50) per kg in 1999 to Rs28 (US\$0.70) per kg in 2000. Processors of uppage also point to two additional reasons for the drop in prices: the low quality of rind due to the harvesting of unripe fruit, and the importing of fruit from Sri Lanka at cheaper rates.

What was the government's response to the boom and bust? The state forest department did little more than cash in on the boom – royalties from auctioning the licence to collect uppage went up tenfold from 1989 to 1999. The energies of the department were devoted to policing the movement of uppage – not to keep it sustainable, but rather to ensure that the contractors who had won the auction for a particular area then got all the produce from that area. Even quality control was missing, resulting in a fall in prices for uppage from Uttara Kannada (as compared to that from Sri Lanka). Funds generated from the royalties simply went into the state treasury, with no additional allocation for forest protection or conservation. After the bust, the response was equally ineffectual – the collectors were left to fend for themselves, while some forest officers were relieved that the bust had reduced the harvest.

### **Uppage ecology, harvesting practices and harvest impact**

Uppage is harvested whole by humans, so the seeds are removed from the forest. In principle, high levels of such seed removal might result in inadequate regeneration, which should be visible in lower seedling numbers. Rai's detailed study of uppage regeneration (Rai, 2003), however, shows that this impact is not discernible. The size-class distribution of individual plants showed the 'reverse J' pattern typical of stable plant populations (Figure 3.9). The seedling density was high at all sites, with even sites that experienced high harvest intensity showing high seedling numbers. This might be due to harvesters not collecting fruit from inaccessible parts of trees, or from trees that are difficult to climb or have not produced enough fruit to justify the effort. The fruits thus left behind are eaten by animals, which disperse the seeds.





Source: Rai, 2003.

**Figure 3.3** Population structure of uppage individuals in low-intensity and high-intensity harvest sites

A feature of the harvesting process that might, however, result in negative impacts on future uppage availability and population growth itself is destructive harvesting practices. While the impact of light pruning may be ambiguous, that of cutting off major branches and felling whole adult trees (which harvesters do when in a hurry to extract the fruit) is deleterious to the availability of the resource in subsequent years and to long-term uppage population growth (Rai, 2007). Whether such destructive harvesting takes place or not is a function of the tenurial arrangements (see below).

### Forest tenure and harvest practices

What is the pattern of uppage harvest today and why? Our observations suggest that the pattern varies significantly and is clearly the combined result of the extent of competition among collectors and the nature of forest tenure. The semi-evergreen forests of Uttara Kannada are typically under one of three regimes. The majority is reserve forest, where rights of local communities are very limited, although enforcement varies. Other parts have been declared minor forests, which are meant for local use and are, in effect, open-access. There are, however, pockets of forest where individual farmers or groups of farmers have been given exclusive rights to the harvest of firewood, leaf manure, fodder and other products. These patches, called *soppinabettas*, are generally adjacent to cultivated land and are often fenced off by the farmers. Whereas the reserved forests and minor forests are de facto open-access for harvest, the *soppinabetta* holders can prevent anyone else from extracting NTFPs from those lands, and they are thus de facto the sole NTFP collectors in those patches.

Not surprisingly, it has been observed that harvesting practices vary significantly between soppinabettas and other areas, especially in times of high demand. In many soppinabettas, collectors actually wait for the fruit to ripen and fall to the ground or for the rind to be discarded by frugivores. In such cases, it is often the women members of the household who pick up the rind, obviating the need to climb the trees or to beat or cut the branches.

When uppage prices were low, collection methods in open-access areas were also somewhat similar. When, however, the price of uppage increased dramatically during the boom in the mid to late 1990s, local collectors began scouring deeper and deeper in the forest. People from villages far away came to these forests to harvest uppage. Contractors also began sending in their own 'gangs' of labourers. Whatever caution 'traditional' harvesters may have exercised was thrown to the wind, as collectors grabbed whatever they could as fast as they could. Collectors routinely climbed trees and beat branches, cut the branches and even occasionally cut down whole trees. Parikh et al (1999) reported that the percentage of undamaged trees dropped from 97 per cent in soppinabettas to 86 per cent in open-access areas. Rai and Uhl (2004) reported an even higher percentage of trees (up to 50 per cent) experiencing branch cutting or felling in open-access patches.

Furthermore, Parikh et al (1999) also report more 'impatient' behaviour in the open-access forests (93 per cent of collectors reported unripe fruit harvests) than in the private-access forests (only 11 per cent reported unripe fruit harvest). As cited above, harvesting unripe fruit is one of the factors contributing to the fall of prices for uppage from Uttara Kannada. Moreover, harvesting fruit (rather than collecting empty rind) means that the fruit pulp and seeds are transported out of the forest and are unavailable for regeneration or for animal consumption.

## Conclusions

The case of uppage is both typical and unique. Typical are the state's totally revenue-oriented and sustainability-neglecting NTFP approach, its lack of attention to what might constitute fair returns for collectors and to quality control issues, and its refusal to transfer harvesting rights to local communities even when overarching policies have ostensibly changed. Also typical are the thin markets that are susceptible to boom-bust and the presence of state-backed monopoly purchasing systems.

But the case is unique in its ecology, which offers the possibility of almost 'totally sustainable' rind extraction while leaving fruit and seed for predators and for the future regeneration of the resource. It is also unique in the unusual existence of exclusive private-access regimes in this region, which demonstrates how exclusive and secure tenurial arrangements can result in sustainable extraction, although the current inequitable distribution of such secure tenure results in an inequitable distribution of the gains from uppage. The detailed ecological studies carried out on uppage, the like of which are not available for most other NTFP species, also highlight the complexity of the life cycles of NTFP species and the possibility that such species can survive high levels of extraction, but also the possibility of negative side effects that NTFP managers and policy-makers need to be aware of.



## SUMMING UP: THE GAP BETWEEN RHETORIC AND REALITY

NTFPs in central and peninsular India are clearly important for the livelihoods of several million people. The diversity of the NTFPs available also speaks to the diversity of the forests from which they are collected. State policy towards NTFPs has, however, combined indifference and the favouring of state interests (revenue maximization or support to industries) for a long time, starting with the British period but extending several decades into the post-independence period.

In response to pressure from tribal development groups, various arrangements were introduced in the 1970s to improve the returns to tribal forest dwellers from NTFP collection and sale. But even then, the major changes in NTFP policy appear driven by a desire to appropriate the maximum possible surplus for the state (especially for high-value produce), while paying lip service to the interests of the NTFP collectors.

For medium-value NTFPs, where collector livelihoods were perhaps given greater priority than state revenues, several arrangements have been initiated. Cooperatives and cooperative federations have been the forms of organization promoted by the state. Even here, the top-down and paternalistic approach of the bureaucracy has kept cooperatives from achieving income enhancement, let alone empowerment and broader tribal development. Ham-handed monopsony powers given to so-called cooperative federations have often worked to the detriment of NTFP collectors and their primary cooperatives, while also constituting a big drain on the exchequer. Lack of secure rights to NTFPs in a particular forest for a particular group makes unsustainable harvesting highly possible.

Recently, due largely to changes in political devolution, some states in central India have initiated steps to transfer NTFP rights to local communities. One approach is to transfer more income to collectors within the elaborate framework already set up, without modifying the rights on the ground. Another approach is to try to devolve NTFP regulation rights to local bodies. Both of these are overlaid on changes that have been introduced in JFM areas. All this, however, pertains largely to the medium- or low-value products, not 'nationalized products'. Similarly, in peninsular India, contracting out of collection rights to valuable NTFPs remains the norm, even in JFM areas.

Little is known about the ecological sustainability of NTFP harvests in India (Shahabuddin and Prasad, 2004). While the open-access nature of most harvests and the lack of monitoring and incorporation of local knowledge into their management suggest the likelihood of unsustainable harvesting, the complex ecology of the products makes impacts unpredictable. In some cases, such as uppage, the impacts may become visible only at very high levels of extraction, and may be manageable with some innovative changes in tenurial arrangements.

Strengthening NTFP-based livelihoods of forest-dwelling communities in an ecologically sustainable and economically viable manner thus continues to be a major policy challenge. While there are encouraging signs of the state shifting towards a more responsive mindset, there is a long way to go.

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## NOTES

- 1 Another term prevalent in India is minor forest produce (MFP), sometimes used synonymously with NTFPs and sometimes excluding firewood, fodder, cane and bamboo.
- 2 Bamboo and cane are bulky but also high value, and tend to be treated like the other 'commercial' NTFPs. Strictly speaking, animal products – including meat – are also 'non-timber forest products'. Given the ban on hunting, however, only a few animal products are included in the common understanding of NTFPs, the main ones being wild honey and deer antlers.
- 3 There are more than 250 distinct tribal communities in India, constituting about 8 per cent of the population.
- 4 This overview is limited by lack of information about NTFP policies and laws in the north-eastern states.
- 5 For example, the act passed by the Madhya Pradesh government to regulate tendu leaves states its goals to be stopping pilferage in government forest and other lands, providing definite value for tendu leaves to growers, increasing revenue to the state, providing adequate wages to labour, improving the quality and quantity of leaves by regular pruning and ensuring the supply of leaves to small and medium manufacturers of bidis (Indian cigarettes).
- 6 Since 'forests' are part of the concurrent list, i.e. under the dual control of the central and state governments, the states actually control and manage the forests and implement programmes within an overall national forest policy.
- 7 This is supposed to change under PESA, but has not yet happened.
- 8 Although the term suggests that the product has somehow been appropriated by the nation as a whole, the central government has actually no role to play in the decision of a state government to 'nationalize' any product.
- 9 The concept of LAMPS was mooted by the Bawa Committee in 1971 as cooperative societies for integrated tribal development through the marketing of MFPs and the provision of credit, agricultural inputs and rationed goods. By 1989, 2912 LAMPS had been established across the country, more than 80 per cent of them in the five states of Madhya Pradesh, Bihar, Maharashtra, Rajasthan and Orissa that have large tribal populations (Mahalingam, 1992).



- 10 Note that the 'completely unregulated' NTFPs are not listed because the products are many, varying from state to state, and add up to a very small fraction of the commercial NTFP trade.
- 11 One rupee is currently worth 2.5 cents (US), but ranged in value from 2 to 13.3 cents during the period under discussion.
- 12 Profits as per the finalized proforma accounts were Rs495 million (US\$12.375 million) in 1992-93, Rs587 million (US\$14.675 million) in 1993-94, Rs451 million (US\$11.275 million) in 1994-95 and Rs313 million (US\$7.825 million) in 1995-96.
- 13 See [www.mfpfederation.com/content/about\\_us.html](http://www.mfpfederation.com/content/about_us.html).
- 14 See [www.mfpfederation.com/](http://www.mfpfederation.com/).
- 15 This section is based upon Lélé and Rao (1996).

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