

6. Forest Marketing Systems, Benefit Sharing, and Community Forestry

To sell their commercial production at fair prices, communities need access to an open and efficient market.²⁷ Creating such a market would generate higher revenues and offer a strong incentive for communities to take on increasing responsibility for forest management and promote more efficient forest utilization. A number of impediments currently restrict more open marketing by communities. These include highly bureaucratic transit permits for many species, a legal requirement to sell certain species only to state marketing monopolies, and a lack of information about markets channels and prices.

A related issue is how revenues are shared. All state forest departments use a benefit-sharing scheme as one means of retaining commercial revenues and returning a portion to communities for rural development and forest conservation. This may not be the most efficient approach, especially if communities are able to build internal capacities and increasingly engage in more direct marketing of forest products.

Marketing of Specific Forest Products in Assam, Jharkhand, and Madhya Pradesh

Timber

Timber is a relatively undifferentiated commodity in India, with competition for domestic markets from overseas log suppliers in Indonesia, Malaysia, and Nigeria. The domestic industry is characterized by low vertical integration, with small and inefficient sawmills processing a mix of local and imported logs. State monopolies on high-value timber marketing provide effective barriers to private sector log supply through legal harvesting. In Madhya Pradesh the primary timber product is teak, marketed through auction at 38 major commercial depots across the state. Interviews with sawmillers reveal general acceptance and satisfaction with the auction system. Over the past three years, teak log prices have remained relatively stable and competitive with imports. In Jharkhand field data show that administered prices from logs supplied from department depots are significantly higher than the market price of logs imported from other states or even overseas suppliers such as Malaysia or Nigeria. Government harvesting and marketing structures carry high overhead costs, which need to be covered by log prices.

In Madhya Pradesh about 76 percent of the recurrent nonplan budget (or \$65 million) is supporting commercial timber production and harvesting structures. A critical point with the Madhya Pradesh system is whether an approach accounting for Rs2.7 billion in operating costs, and financed by state budget allocations (yet generating Rs3.8 billion in gross revenues), is the most efficient approach from a public policy perspective. In Jharkhand and Assam, the same questions about the efficiency of state production and marketing organizations apply, but on a much smaller scale.

Two important issues need to be addressed with respect to improving community livelihoods through timber market systems. First, as communities gain experience and capacity in forestry, they

²⁷ This chapter draws heavily on the field work undertaken by the consulting team in each state. See appendix 9 for abbreviated case studies.

will require more space to engage in direct timber marketing. This is currently hampered by weak community capacity, lack of enabling structures and institutions to provide effective market intelligence, and poor access to marketing channels within and outside the state. Second, the legal framework restricts potential sales and movement of nationalized/listed products. This issue affects timber supply from both communities and private farms. The laborious permitting system to remove privately grown high-value trees, such as teak, provides a strong disincentive to private commercial growing of trees on private land.

Kendu Leaves

Kendu leaves are of high economic value, because of their use in rolling *bidi* (country cigarettes).²⁸ Throughout India kendu leaves and *bidis* are estimated to provide 106 million person days of employment in collecting activities and 675 million person days in secondary processing. Kendu is a nationally listed nontimber product, which means that all marketing must be done through state forest departments, associated forest marketing corporations, or licensed traders operating on behalf of the state.

The kendu market structure in Jharkhand involves interaction between the Jharkhand State Forest Development Corporation (JSFDC), licensed traders who operate as middlemen between JSFDC and communities and manufacturers, and insurgents. The first main payment along the value chain is to the primary collector (village/ household collectors) by the trader. This payment is set by the JSFDC annually in advance for the whole state as an averaged fixed amount per bag, irrespective of quality. In 2003 this fixed collection cost was Rs425 per bag. The second main cost component is the royalty payable by the trader to the JSFDC, which in 2003 was Rs168. In between the initial purchase of kendu leaves in the field and the final sale to *bidi* manufacturers, a number of formal and informal taxes exist, ranging from state taxes of Rs40 per bag to extortion payments to Naxalites of about Rs60 per bag.²⁹

In contrast, the Madhya Pradesh State Minor Forest Produce (Trading and Development Cooperative Federation) is a nonprofit organization overseeing a structure of cooperative unions and primary cooperative societies that handle collection and storage of leaves. Cooperative societies receive Rs518 per bag from the apex federation, of which Rs400 is paid to collectors. The remaining Rs118 is used to offset society costs, 20 percent of which are for administration and overhead. Since 1995 the federation has been returning 20 percent of its net income to societies, which pay out the amount as a bonus to collectors after deducting administration expenses. In 2003 this payment was equivalent to Rs40 per standard bag. The federation also underwrites a life insurance scheme for collectors, and it sets aside 20 percent of net income into a local forest development fund and 30 percent into a fund for local infrastructural projects.

Six critical inefficiencies hamper the kendu marketing system in both states. First, the current market system does not allow market forces to operate at all points along the value chain, where quality would be rewarded with higher prices. Although JFM rules specify community member as co-managers, for nationalized species such as kendu, sales must be made through state marketing corporations; collectors are simply paid a wage per bag as pure price takers in a monopsony rather than the revenue share specified in the JFM agreement. In Madhya Pradesh the bonus paid to collectors at the society level can be differentiated based on quality, but the bonus is paid only the next year after collection. Second, only very limited technical advisory services are available to villagers on how to improve product quality and yield. Third, in some years a proportion of the crop

²⁸ In some states kendu is also known as *tendu*.

²⁹ In some insurgent areas, traders are “asked” to pay an additional surcharge per bag to collectors for high-quality leaves. This charge can be as much as Rs175 per bag.

goes unsold by traders to *bidi* manufacturers due to poor quality. In 2003 an estimated 51 percent of all kendu lots (about Rs170 million, or \$3.8 million) in Jharkhand remained unsold by traders. The problem also exists in Madhya Pradesh, on a smaller scale. Fourth, both the JSFDC and the Madhya Pradesh Federation generate almost 100 percent of their total revenues through kendu marketing. This narrow product line brings risks of collapse should markets decline due to changing social perceptions about smoking and competition from prerolled tobacco cigarettes. Fifth, the current system employs too many people. In Jharkhand the JSFDC employs 600–700 staff throughout the state for a work program of only a few months. In fiscal 2003 it generated net profits of only Rs300,000 (\$6,700), less than 1 percent return of sales revenue. In Madhya Pradesh at the union and society level, a forest department range officer or forest guard is signatory to all bank accounts and a member of the union/cooperative management committee. The current collection and marketing system in the eastern *tendu patta* (or kendu) belt of the state deploys virtually all department field staff during the six-week collection season—a questionable use of department field staff. Recent changes in the tendering system will likely reduce direct involvement by department staff, but even after these changes the structure leaves primary collectors with only a passive role in the collection and marketing system and few direct incentives to improve product quality. The market structure appears to be dominated by forest department staff with no clear plan to further empower and ultimately let community producers manage their business affairs. Sixth, village collectors often earn less than the daily wage rate. In Jharkhand an adult collector can earn about Rs2,000 per season.³⁰ Surveys in communities suggest that the average net returns, after allowing for time for collection and carrying the leaves to depots, ranges from Rs70 to Rs150 per bag, or 16–35 percent of the farmgate price.

Bamboo

Bamboo is a major forest product in Assam, where the annual harvest is estimated at 7.5 million green metric tons. Some 2.5 million households are engaged in producing bamboo, providing 55 percent of the input for two government-owned pulp and paper mills. The mills operate a complex collection and buying system for farmer-grown bamboo through private agents. The pricing system is aimed at securing an adequate volume of bamboo to meet production targets at the lowest weighted average cost. Cross-subsidization is used to purchase private bamboo; higher cost supplies from more distant parts of the state are subsidized by growers closer to the mills. In this case, a uniform price is a mechanism for rural income equity from bamboo. Based on actual grower costs, including transport, and the average mill price, growers close to the mills are losing Rs296 per metric ton (relative to what they would earn given open market prices) as a result of cross-subsidized prices. Although new product and market opportunities are emerging, they are proving difficult to exploit because of the high costs of piloting new products and market resistance in India to bamboo substitutes for wood products such as paneling and flooring.

Medicinal Plants and Aromatic Oils

India has 16 agro-climatic zones, 45,000 different plant species, and 15,000 medicinal plants. The domestic market for Indian systems of medicine and homoeopathy has been estimated at about Rs40 billion (\$890 million). There is also growing domestic and international demand for natural products, including pharmaceuticals and other products with medicinal value, food supplements, and cosmetics. According to ICS-UNIDO (2004), the international market of herbal products is estimated at \$62 billion. India's share in the global export market for medicinal plants is just 0.5 percent. Aromatic oils are another potentially important forest product, with expanding

³⁰ The average person can collect 100–200 small bundles a day, depending on the supply of the leaves (Prasad and Bhatnagar 1990). Whole families are usually involved in leaf plucking; on average they can earn up to Rs100 a day during the season. For a 20-day season, this represents about Rs2,000.

global markets and limited supply. The market structures for medicinal plants and aromatic oils in most states of India are weak and focused largely on local trading. As unlisted species, medicinal plants and aromatic oils have not historically received much attention from forest departments. With growing market demand and high potential revenues, many states are considering developing more state-controlled market systems for these products.

Of the three states examined, Madhya Pradesh has made the most progress in developing better market systems for medicinal plants. The Madhya Pradesh State Minor Forest Produce (Trading and Development) Cooperative Federation assists primary collection societies in selling nonnationalized nontimber products by offering fixed purchasing rates for a small selection of plants with market potential, including aonla, mahul patta, mahua seeds, and achar. Over time, both collector prices and the range of nontimber products have gradually improved. The federation is initiating a number of actions to enhance market access and incomes, including financing the development of specific areas for nontimber production in 10 districts, facilitating commercial financing for farmers to cultivate nontimber products, establishing local market outlets and branding, promoting local value addition, and disseminating market intelligence to growers.

Assam has had success with patchouli, a perennial herbaceous plant of the *Lamiaceae* family. The dry leaves of the species can be distilled to yield aromatic oil used in perfumes, medicine, and processed food. Worldwide consumption of patchouli is about 2,000 metric tons a year. The largest market is the United States, which consumes about 500 metric tons a year. In India consumption of patchouli oil has reached 300 metric tons a year, 290 metric tons of which is imported. India's production level is less than 20 metric tons.³¹ Once in production, one hectare of patchouli can generate an average Rs44,000 a year in net revenue for three years.

A strong partnership between the state and the private sector has been developed to plan and strategically develop patchouli production and marketing. The Northeastern Development Finance Corporation (NEDFI) is financing start-up capital for small farmers to cultivate patchouli and facilitating market linkages. NEDFI also has its own research facility. The AMJAL Group has established local processing facilities. The forest department provides limited research on silviculture, and a local community support organization works with farmers to build capacities. Plans are underway for NEDFI to work with communities in nontimber forest products with high market potential.

Fuelwood

Fuelwood is a source of livelihood for more than 11 million people in India, making it the largest employer (formal and informal) in the Indian energy sector. An estimated 59 percent of rural households obtain their wood from home-grown sources or free collection; only 21 percent pay for all of their wood (Kholin and Ostwald 2001).

Markets are generally of two forms. One is a semi-commercial market through forest department channels, in which forest department plantation or other larger-scale supplies (from farmers, for example) are sold to large commercial buyers. In the second and more common approach, individuals (usually women) from communities engage in small-scale fuelwood trading with other households or middlemen for low returns. Data on trade volumes, prices, and general market performance are not available at the state level. But forest department officials suggest that meeting local fuelwood demands and improving livelihood opportunities is a critical issue that requires innovative production and marketing solutions. The lack of organized community institutions,

³¹ Source: Background studies for Assam

particularly for women, means that collection and sales are left to individuals with little market power when dealing with commercial collectors, who transport the wood to urban markets. There is virtually no private sector investment in fuelwood plantations with communities as partners; for a state like Assam, the need for investment is overwhelming. It is estimated that it will take up to 1 million hectares of fuelwood plantations in Assam alone to satisfy domestic demand and completely eliminate the pressure on natural forests for fuelwood. Financing these investments, incorporating plantations into a community forest model, and developing market solutions for excess production are pressing needs.

Summary of Product Marketing

Market systems vary widely across the three states in terms of local empowerment and access to efficient markets. One end of the spectrum is represented by the marketing of patchouli in Assam, where the private sector leads marketing and the forest department serves as facilitator, not interfering in market structures. The other end of the spectrum is represented by kendu leaf marketing in Jharkhand, where villagers are little more than collectors operating as pure price takers in a monopsony, with no bargaining position and no incentives to improve quality above minimum standards. Significant welfare losses occur through the distorted pricing systems along the value chain. The forest marketing corporation has high fixed and variable costs that require huge margins to cover. This in turn limits the price that can be paid to collectors. Timber marketing of listed species also falls into this lower end. Even in Madhya Pradesh, where the state auctioning system sells high-quality teak to the private sector at internationally competitive prices, generating significant state revenues, communities are still engaged in the production and marketing system mainly as labor only. In between, a range of models are evolving. The kendu marketing system in Madhya Pradesh uses a cooperative system and federation that provides more coordinated supply to the private trading companies, facilitates some technical inputs from the forest department on supply enhancement, and provides benefits, such as life insurance, to collectors. However, the farmgate prices for collectors plus the federation profit share are no higher than what collectors receive in the more restrictive Jharkhand model. There is no sign of increased market power from the cooperatives reflected in higher incomes for collectors. In terms of social capital, the apex federation, with its strong linkages to the forest department, makes all major decisions regarding pricing and final sales to manufacturers. Communities are still largely insulated from market signals that should influence quality and volume, and they are not yet fully empowered to manage the financial affairs of the societies. Market distortions are also caused by a serious lack of awareness and information on the market environment.

The marketing of nonlisted, nontimber forest products in Madhya Pradesh represents further evolution. It is regarded as a good example in India of a government-oriented federation trying to be a catalyst to develop local production and marketing of medicinal and aromatic plants through planning, collecting, processing, packaging, and marketing initiatives. Policy questions arise, though, about the forest department's long-term role with the federation and district unions. A central issue to be addressed in all these cases is the appropriate role for the government in marketing primary forest products from communities.

Benefit-Sharing from Community Forestry in India

Closely tied to marketing is the capture and distribution of forest revenues. Governments can capture and distribute a share of initial resource revenues in a variety of ways, such as levying various taxes, fees, and royalties on the resource or on the underlying forest land. Revenues can also be captured further along the value chain as primary products are transformed and value added. As an example, mature saw timber on government land could be harvested by a private contractor or community under some form of license or permit in return for a royalty on every cubic meter cut and hauled to the roadside. The royalty or any schedule permit fees would capture a portion of the economic rent on the primary resource. The logs would then be sold to sawmills, which would transform them to lumber and sell it to distributors or tertiary producers, such as furniture manufacturers. Along the value chain, governments could assess various sales, value-added, and income taxes or additional permit fees to generate further public revenues from the wood products. Experience shows that a well-designed and effectively implemented forest fiscal system can be a more progressive instrument to increase forest sector contributions to growth and development than a narrow regulatory-based approach (Oksanen 2004).

India's JFM program generates initial revenues through a benefit-sharing scheme. For listed commercial timber species, the forest department handles harvesting and marketing and returns a share of the net revenues to the community after deducting costs for production, marketing, overhead, and other expenses. The forest departments also collect revenues from fines and rental of guest houses. All revenues collected by the forest department are forwarded to the state government treasury. State governments levy sales taxes on downstream processing, after logs are turned into lumber by private sawmills, for example. Corporate income taxes are collected from forest industries at the state and national levels.

The current system of benefit sharing is inefficient. The benefit-sharing scheme for primary forest output from communities in India is highly regulated, has high transactions costs, and focuses on a narrow range of revenue generation. Benefit-sharing schemes are promoted by forest departments in every state as an incentive for communities to participate in the JFM program. In some ways, the system is similar to a traditional calculation of stumpage. However, there are a number of anomalies. First, the states do not try to derive stumpage estimates to charge the resource user; the principal goal appears to be to try to recover operating costs and distribute part of any surplus back to communities in return for assistance with forest management and rural development. Second, costs used in deriving the net returns to communities are based on administered forest department averages rather than actual costs by division or block, which would normally vary by timber size, operating conditions, transport distances to the log yard, and other factors. Third, costs are based on government production and marketing systems, which may be more inefficient than comparable operations in the private sector. Fourth, subsistence products are provided free of charge to communities without benefit-sharing (see appendix 10).

Benefit-sharing schemes need to be more consistent and transparent. Most states are gradually increasing the share of net revenues from commercial forest production to communities over time, but in the absence of a national policy, individual states apply different share ratios (table 6.1). Field surveys indicate that many villagers are not clear on the actual sharing ratio or how the actual revenue share is derived. The process for deriving net shares tends to be very complex and opaque. Providing better and more transparent information to communities would allow villagers to judge the merits of any benefit-sharing scheme. Communities are largely isolated from market signals in the current benefit-sharing scheme and have few opportunities to gain experience or learn to market their own products outside of government monopolies or state-led associations.

Evaluating benefit-sharing annually may not make sense. For major timber species, Assam and Jharkhand pro rate the share of costs and revenues to communities annually. Madhya Pradesh calculates net revenues to communities on an aggregate district basis. These approaches may yield questionable results, since costs and revenues accrue over the entire rotation period rather than one year. If, for example a forest is established on degraded lands, the community and the forest department both bear costs for several years until initial revenues begin to flow. Revenues from timber thinning and poles could take as long as 20 years to start to flow, and the final timber harvest could take 60 years or more. Evaluating benefit-sharing over one year ignores initial capital investments and subsequent maintenance costs. An alternative approach is to estimate the present value and distribution of revenues and costs over the full rotation. Using data from Assam, an analysis over one rotation shows that the current benefit-sharing ratio used by the forest department for commercial timber and thinning is not being attained.³² Instead, communities reap a higher level of net benefits than the forest department. The share of net benefits changes as forest management shifts from existing high forest to the establishment of new forests on degraded areas. This analysis, based on rough data and assumptions, suggests that a blanket benefit-sharing scheme, while conceptually simple, may not be economically efficient or represent the wide range of forest conditions in a state.

Table 6.1. Benefit sharing Schemes in Assam, Jharkhand, and Madhya Pradesh

State	Community Share	
	<i>Subsistence Poles, Fuelwood, Nontimber Forest Products</i>	<i>Commercial Timber and Bamboo Products</i>
Assam	<ul style="list-style-type: none"> • Free access and consumption 	<ul style="list-style-type: none"> • 50% of net revenues for thinning revenues and 25% of net revenues from timber on existing high forest to individual community • 100% of net revenues for second rotation to individual community
Jharkhand	<ul style="list-style-type: none"> • Free access and consumption 	<ul style="list-style-type: none"> • 90% of net revenues to individual community
Madhya Pradesh	<ul style="list-style-type: none"> • Free access and consumption 	<ul style="list-style-type: none"> • Village Forest Protection Committee in degraded forests: 100% of net revenues at district level shared by all JFM communities in district • Forest Protection Committee in high forest: 80% of net revenues at district level shared by all JFM communities in district

Source: Background studies

Direct forest revenues captured by state forest departments are low. National data for 1999–2000 suggest that the average revenue-generating capacity of primary forest resources is low in India (table 6.2). The data represent revenues collected by forest departments on behalf of state governments; expenditures are state nonplan outlays. These figures reveal that direct revenues collected by forest departments are not covering expenditures, which appears to be an implicit goal of the current benefit-sharing model. Revenues are low mainly because of low average productivity across all forests in each state, low commercial output from the forest outside of high-value plantations, and the small proportion of forest output that is actually part of commercial benefit-sharing programs (subsistence values of fuelwood and fodder are not included, for example). It also reflects the low number of approved working plans in some states (such as Jharkhand), which limits

³² See appendix 11 for more details on the economic model and assumptions.

legal timber production.³³ If the analysis were done only for high- quality plantation forests, the average revenue per hectare would be significantly higher.³⁴

Table 6.2. Mean Revenue and Expenditure in Selected States, 1999–2000 (Rs per hectare)

<i>State</i>	<i>Revenue</i>	<i>Expenditure</i>	<i>Net Revenue</i>
Gujarat	150	1,570	-1,419
Jharkhand	69	847	-778
Goa	74	798	-724
Karnataka	243	777	-534
Tamil Nadu	465	866	-401
Assam	54	277	-222
Andhra Pradesh	133	307	-175
Jammu and Kashmir	224	386	-162
Rajasthan	70	208	-138
Kerala	1,009	1,137	-127
Manipur	4	127	-123
Madhya Pradesh	404	525	-121
Nagaland	19	127	-108
Arunachal Pradesh	30	59	-30
Meghalaya	65	72	-7
Orissa	164	160	4
<i>All India</i>	277	388	-111
<i>Mean for states above</i>	199	515	-317
<i>Median for states above</i>	103	347	-150

Source: MOEF (2001a); www.indiastat.com; Forest Statistics of India.

It is important to emphasize that the negative net revenue figures in table 6.2 are neither good nor bad: they depend on each state's policy goals for revenue generation by forest departments. These policies are not clear. They could encourage forest departments to be revenue neutral (zero net revenue), to maximize direct revenues through higher charges against primary production, or to charge communities no fees or royalties in order to encourage local development and recognize the role played in conservation of timber and nontimber forest values.

³³ This issue reflects the poor capacity in many states to produce working plans for all districts in a timely manner based on solid inventory and growth and yield information that is subsequently approved by the Ministry of Environment and Forests.

³⁴ The analysis also omits revenues captured by state forest marketing corporations/federations that operate outside the forest departments.