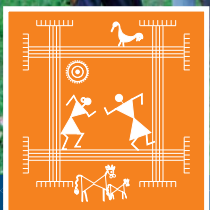


INNOVATIVE FOREST LIVELIHOODS THROUGH COMMUNITY FOREST MANAGEMENT

The Experience of Andhra Pradesh, India

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The goal for the evolution of JFM is community forest management (CFM) that builds the capacities of community institutions, invests in forest productivity, and gives people greater incentives to develop into independent community forest enterprises. In CFM, communities draft an approved management and business plan covering forestry treatments, production of forest based goods and services, and marketing with the goal of managing the forest as a source of sustainable wealth.

Despite the government's best efforts, forests in India diminished for decades due to illegal harvesting, uncontrolled cutting of minor (or non-timber) forest products by the poor, excessive grazing, and wildfires. About 30 years ago, India started experimenting with joint forest management (JFM) to address this crisis, formally adopting the model about one decade ago. JFM promotes partnership between communities and state forest departments, where communities help protect forests in return for wage labor, rights to non-timber forest products (NTFP), and a share of future timber revenues. JFM now covers almost one-third of India's national forest area across 27 states, encompassing more than 100,000 village-based user groups (called JFM committees).

JFM has evolved its focus from forest protection and conservation to putting more emphasis on improving forest livelihoods. While JFM has been successful in increasing forest cover in India, questions sometimes arise about the sustainability of JFM committees and the ability of these groups to manage their forests to support long-term livelihoods. JFM programs have been criticized in some circles for not investing enough in local institutions and capacities, and at the same time failing to invest in forest management treatments adapted to specific site conditions and community needs, which could result in higher forest productivity and future forest revenues. The goal for the evolution of JFM is community forest management (CFM) that builds the capacities of community institutions, invests in forest productivity, and gives people greater incentives to develop into independent community forest enterprises. In CFM, communities draft an approved management and business plan covering forestry treatments, production of forest based goods and services, and marketing with the goal of managing the forest as a source of sustainable wealth. It can be a win-win situation for communities and national conservation policies.





The forest department can then shift from trying to do everything with limited field staff to focusing on approving management plans, monitoring performance of communities, and providing technical assistance when required.

Investing in Communities for Sustainable Forests

The World Bank-supported Andhra Pradesh Community Forest Management Project (APCFMP) is now piloting CFM to demonstrate that as communities become the drivers of sustainable forest management, they can be its greatest proponents. The APCFMP is reversing the unsustainable pattern of dependence among forest inhabitants—commonly landless or owners of small unproductive land parcels—who rely on the forest department and wage labor from establishing plantations instead of generating income from their own enterprises based on a variety of fast and slow-growing species to meet different market needs. The forest department is also evolving from an organization making management decisions for communities under JFM to a facilitator and technical partner. The APCFMP creates an economic stake for forest-dependent communities by promoting livelihoods opportunities, strengthening existing *Vana Samrakshana Samiti* (VSS) committees, and building better local institutions.¹ The project has reached approximately 5,000 VSSs in Andhra Pradesh and is now focusing additional investments and support to about 1,000 of the strongest committees that have the greatest potential to evolve into viable and independent community forest enterprises. The project has helped increase the area of highly productive, dense forest in the state from 10,302 km² to 15,396 km², while

reducing the area of unproductive scrub forest by 5,571 km². Improved forest productivity underpins several innovative approaches for local income generation from sustainably-managed forest resources, including:

- ***Sustainable timber*** emanating from more than 350,000 hectares of new forest assets that have now been created in areas managed by (VSS) community groups, of which 80 percent is rehabilitated natural forest and 20 percent consists largely of fast-growing, genetically improved teak, eucalyptus, and bamboo. Improved production of forest bamboo for poles and NTFP, eucalyptus for poles and pulpwood, and teak harvesting for timber, should contribute to increased revenues in the future. These sustainable revenue streams are supported by the state government's new JFM guidelines, which allow 100 percent revenue recovery by the VSS. With these revenues, at least 50 percent must be reinvested into forest management; the remainder can be used to address local development needs as identified by the communities, or distributed as cash dividends to all VSS members.
- ***NTFP***—such as leaf plates, medicinal plants, vermi-composting, and bamboo products (for example, incense sticks)—are emerging as another important sustainable income source for community forest enterprises, and consumer demand for some of these products is on the rise.
- ***Value-added products*** are relatively new in the project area and are now being supported by links with NGOs, private sector companies, and applied research and development. Several forest products now have additional processing before sales.
- ***Community-based ecotourism*** is being developed in selected sites with attractive natural assets and high commercial potential, offering activities such as guided nature trail walking, bird watching, wildlife viewing, adventure tourism, education programs, local cultural activities, photography and participatory conservation programs.

For the fiscal year ending March 2008, total revenue primarily to the 1,000 emerging community forest enterprises from forest and non-forest product sales and

¹*Vana Samrakshana Samiti* translates to *Forest Protection Committee*.

commercial ecotourism was Rs.206 million (US\$5.2 million) of which 62% was from sales of eucalyptus and bamboo products. These forest revenues will increase substantially in many instances when sizeable areas of bamboo and eucalypt plantations, planted under this project, become available for harvest in 2010 onwards. At that time, these plantations are estimated to contribute an extra Rs.60 million (US\$1.4 million), which should rise to an additional Rs.445 million (US\$10.4 million) by 2013. Revenues from non-timber forest products and ecotourism are also expected to increase.

Bamboo, the Poor Man's Timber

Andhra Pradesh accounts for 10 percent of India's bamboo production, and nearly 70,000 households in the state—especially tribals—depend exclusively on bamboo for their livelihoods. As a major source of raw material for several processed products, APCFMP sees bamboo as a promising investment in livelihoods. The project has regenerated large tracts of degraded bamboo forests with rapidly growing varieties in new plantations that are sustainably managed by communities with assistance from the Forest Department. Good management—including sustainable extraction practices—ensures a steady source of revenue to the VSSs as the bamboo culms are sold as green material or, after adding value, in the form of products like baskets, *agarbatti* (incense sticks), mats, and furniture.

From Bamboo Stick to Incense Stick.

The main beneficiaries of bamboo-based activities are mostly women who otherwise have limited opportunities



to earn cash income. The common enterprise groups (CEGs) operate in an informal set-up from households, which provides flexibility of working hours to the women who have routine household chores to attend to. The process begins with the felling of bamboo culms to get bamboo poles and then transporting these poles to the common facility centre (CFC) by the VSS members. At the CFC, the quality of poles is checked and the bamboo poles are first cross-cut to cylinders of required length using a saw. These cylinders are then split into slats, and further reduced to slivers at the CFC that employs local labor. The slivers are bundled and given to women to produce *agarbatti*.

VSSs provide inexpensive, user-friendly hand tools to the women to further split the slivers into sticks. The women dry the sticks in the sun, polish them, and return bundles of sticks to the CFC where they are manually tested for quality and weighed. The women



are paid based on the weight of their bundles. The CFC then grades and packs the bundles for commercial buyers to pick up. The project has linked with local and distant markets to provide a regular supply of *agarbattis*. The women members earn nearly Rs.11/kg (US\$0.24/kg) making an average income of Rs.62/day (US\$1.43/day). The agarbatti enterprises have impacted 15,694 households from 816 VSSs recording a total annual income of Rs.17 million (US\$430,000) in 2007-08.

Diversifying into Bamboo Mat Boards. With support from the project and Forest Department, many communities are now planning to diversify into other bamboo products—like mat boards—that could compete with plywood in the near future for many applications. Mat boards are made from woven bamboo slivers. Women in rural or tribal areas do the weaving manually, usually on a part-time basis to supplement family income. From split bamboo, slivers are made and dried and manually woven into mats of different sizes and patterns. The mats are then purchased by a plywood manufacturer where they are coated with glue and hot-pressed to produce the panels of desired thickness and strength. The final mat board panels can be used in roofing, partitioning, furniture, packing cases, and construction. Bamboo mat boards are an ideal substitute for thin plywood. This new application has helped revive traditional mat weaving in tribal areas, raised incomes, and generated additional employment.

In one example, a small-scale plywood manufacturer in Visakhapatnam needs 150 mats per hour to produce mat board panels. Through a semi-mechanized process, a person manually weaving 5 mats per day can earn at least Rs.100/day (US\$2.33/day), increasing their household income. The CFC interfaces with the factory owner and the VSS producers to ensure consistency of quality and supply.

Pulpwood Earns Large Revenues

Approximately 276 VSS groups are now supplying pulpwood from genetically improved eucalyptus and other species, accounting for about half of all forest product revenues from communities in project areas. Many of these communities are now taking full responsibility for managing their forests, including production, marketing and reforestation, with the Forest Department providing technical support as required. The Dubagunta VSS in Nellore District, provides a good example of this new CFM model. The 82 VSS members, all from scheduled tribes, are managing 42 ha of older “pre-project” plantations and another 129 ha of new plantations established under the project. This fiscal year, the community earned approximately Rs.400,000 (US\$9,300) in net income from commercial pulpwood sales. These revenues are forecast to double by 2014-15. After allocating 50% of these revenues to the VSS forest account (to pay for reforestation, plantation maintenance and establishing additional plantations), each household received approximately Rs.5,000 (US\$116) as a cash dividend. This represents a significant addition to the Rs.18,000 (US\$419) income normally earned by VSS members as agriculture labor. Villagers also earn income from the VSS when they work in the forest.

Adda Leaf Plates

Adda leaves come from a giant creeping plant commonly known as camel’s foot climber. Tribal women can spend up to seven hours each day collecting the leaves when they are in season (four to five months each year). Traditionally, *adda* leaves are packed into shoulder loads that are sold to private traders for small amounts at weekly markets. Some tribal women add value to the product by rough stitching the leaves into plates. A large network of NGOs have trained tribal women in VSSs to stitch plates of finer quality and produce a





wider range of products either manually or with the aid of simple machinery. These tribal women formed CEGs, federated into clusters (facilitated by CFCs), and further united under a divisional federation. The CFC provided a service facility with sewing and pressing machines, helped maintain tools in working condition, and provided credit through a revolving fund. Analysis revealed that a bundle of leaves fetched around Rs80 to Rs100 (US\$1.86 to US\$2.33) in the market, whereas on average, a tribal woman stitching higher-quality plates can produce 200 plates per day, earning Rs.1,204 – Rs.1,548 (US\$28-36 per month).

Community Based Ecotourism

The project has helped 14 VSSs establish ecotourism facilities. At this time, seven of the older sites are beginning to operate on a commercial basis. Each site offers various amenities depending on the local flora and fauna, so the approach involves an initial period of close consultation with the community to identify the skills they would need to develop a successful project. Visitor facilities and services include wildlife viewing, trekking to natural areas, guiding services, short-stay accommodation, catering, souvenir shops, education and awareness, adventure tourism, and transport. This kind of sustainable use relies on local knowledge, provides significant local income, and encourages communities to place a high value on wildlife, resulting in net conservation benefits. For 2007-08, the seven older, more established sites generated an average of Rs.703,000 (US\$16,349) in gross revenues that are used to cover new investment and operating costs (including labor to community members), and build up a community fund for local development.

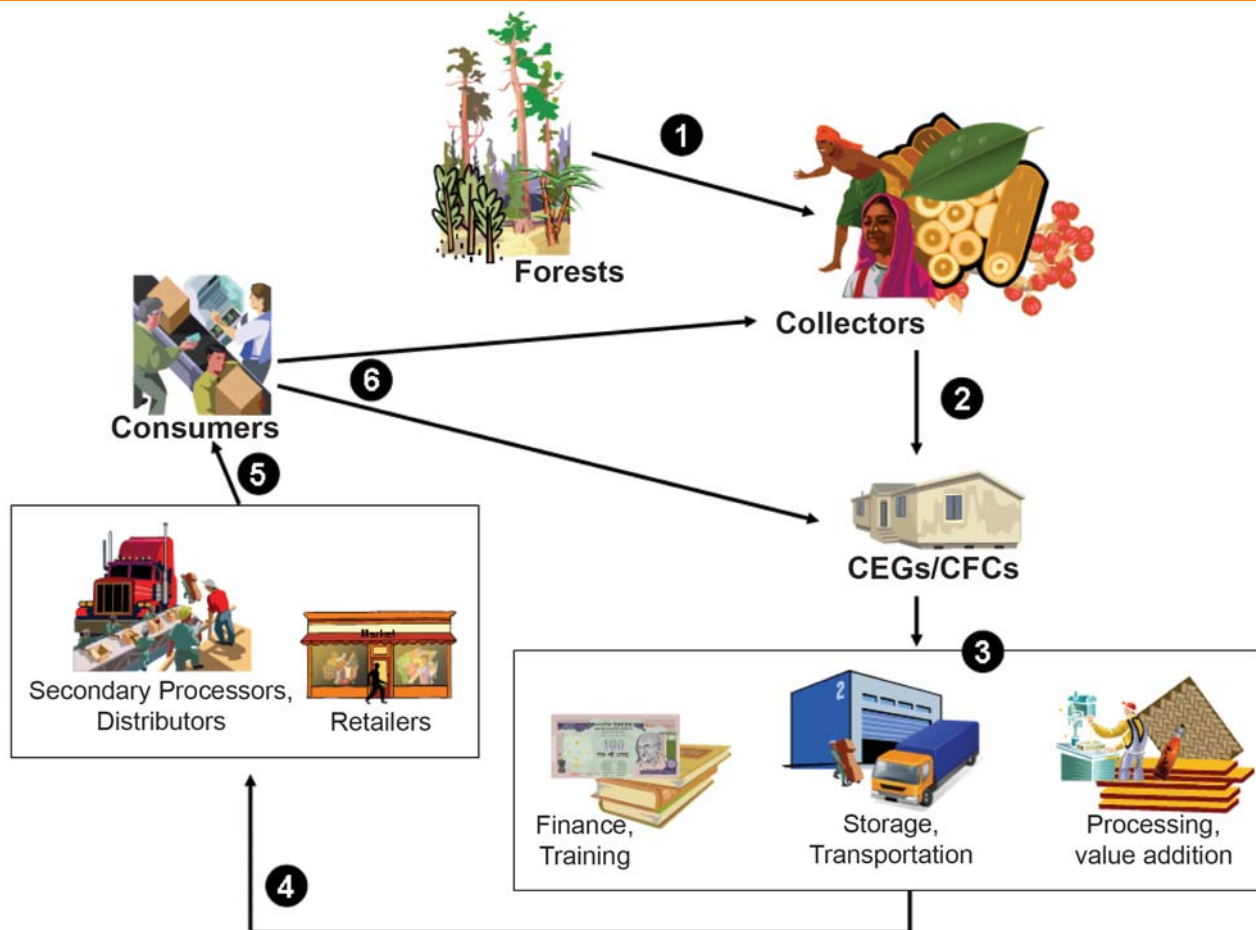
Meeting the Challenge of Market Access

State forestry marketing agencies have proven generally ineffective in assuring unlimited market access, promoting participation of communities in value-added development, and significantly impacting their livelihoods. The Andhra Pradesh government has helped by making policy and regulations that give more rights to communities to use forest resources and engage in marketing. However, as with all efforts to move away from state-run marketing to private marketing, the rural poor face many particular challenges (see figure).

Communities generate forest products that have a number of possible market channels—direct to local consumers, sold to secondary retailers and then onto distant consumers, or sold through a series of primary and secondary processors for value addition. Currently, forest communities in project areas reach these markets in three ways. In several cases, the local traders or middlemen act as small aggregators for institutional buyers. In most cases, NGOs and the Forest Department do the analysis and identify business opportunities in local and distant markets. At the CFC or divisional federation levels, the community institutions are still developing processes to identify potential buyers for high product volumes. Most markets are discovered through informal channels of intermediaries and local traders or by word of mouth.

Once a purchaser is identified, the challenge for producers is to meet standards of quantity, quality, and regularity required in business. To address this challenge, APCFMP's current investment priority is to improve production practices so the rural poor can meet market

Figure 1. Overview of typical value chain for forest products



Source

1. VSS members gather products from the forests and sell them to CEGs
2. CEGs add value to convert raw materials into primary products using the CFC facilities.
3. The CFC facilities also provide the financing to CEGs to purchase the raw materials and supplies they need to add value, in addition to training and transport.
4. Secondary processors convert the primary products into final consumer products, which retailers sell. Sometimes secondary processors and retailers are one in the same.
5. Consumers purchase products through retail outlets.
6. Sales figures, customer feedback, and market analysis help primary producers and CEGs know what products are in demand and worth investing in.

demands at as low a cost as possible. The marketing orientation at the enterprise level (combination of product features, price, promotion, distribution channels) is gradually improving to increase demand and value in the market. The project also encourages producers to diversity their products and target different purchasers, given the seasonality of many non-timber forest products.

Many collectors and primary processors need marketing skills but lack the training and experience. This is where the CFCs, support NGOs, and the Forest Department step in. By clustering primary producers, collective resources can be drawn upon for capacity building, financing, infrastructure, and marketing support. The

Forest Department has also supported communities by focusing applied research on community needs through 14 new Technology Dissemination Centers throughout the state with strong community links. Finally, qualified NGOs help clusters with market research, product and quality control, training, enterprise development, human resource development, credit, marketing information, and business development.

Tribal and other forest dependent communities may be unaware of modern systems of weights and measures, which has made them easy prey to unscrupulous traders in local markets in the past. CFCs now negotiate prices with buyers to ensure optimum prices for their member CEGs and VSSs. The combination of new value

addition activities and the intermediary role that the CFC plays has resulted in the enterprises of the poor competing directly with local traders and middlemen.

Aggregation has resulted in companies gradually shifting from their conventional model of procuring from middlemen at local markets to partnerships with these new community-based institutions. The project has fostered linkages with large corporate houses for agarbatti production, adda leaf plates, and is developing tie-ups for bamboo and eucalyptus to supply pulp and paper mills. Similarly with ecotourism, forging external links with tour operators has been important and tie-ups with the state tourism Development Corporation and local hotels and lodges have been made to promote the tourism sites.

Lessons Learned - Looking to the Future

The total community revenue to date is approximately Rs.974 million (US\$23 million), across 5,000 VSSs, with the bulk of revenues earned by approximately 1,000 of the institutionally strongest VSSs. As the productivity of the forest base continues to improve and fall under more sustainable management by communities, annual revenues should increase significantly. Figure 1 shows the different types of income generating activities and what they have contributed in terms of revenue to forest micro-enterprises. Looking forward, there are a number of priority actions that will help move producer groups to the next level in market access:

Strategic partnerships. Market access requires a wide range of skills and resources. Producers and their institutions have the skills and resources when they federate and engage other market actors collectively. Partnering with the State Forest Department and other NGOs has helped this effort. Other enterprises such as eco-tourism may need new strategic partnerships with private operators to provide the

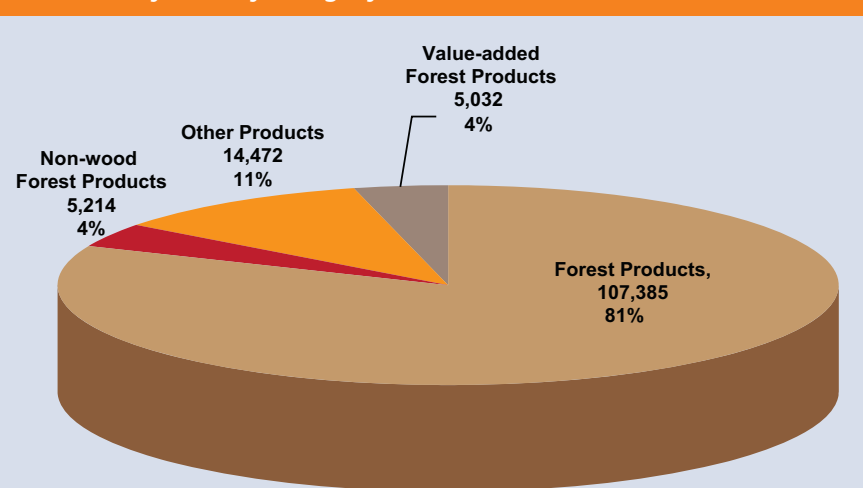
resources and training required for success. Linkages with the private sector, across more product lines, needs to be explored further and strengthened where it makes sense.

Institutional development. Successful forest enterprises of the poor will benefit through institutional arrangements that aggregate producers to meet the demands of the market for larger shipments and higher quality. It is important that cluster federations evolve from registered societies into more commercially-oriented producer companies at an appropriate time and scale of operation.

Improving market position. Communities need ongoing intensive training and market information to ensure that they are delivering high-quality products and services desired by consumers. This requires close links between the VSS groups, marketing institutions, and buyers to provide consumer knowledge that is essential for supplying innovative products and services to the market. Furthermore, bringing in expertise at the CFC or divisional level on developing product brands—including certification and eco-labeling—can help differentiate many products in the marketplace and provide access to new markets.

Financial sustainability. The seed capital or revolving fund from the project has covered the initial operating

Figure 2: Number of households engaged in income generating activities, by activity category



Note: Forest products include small timber, pulpwood, and bamboo. Value-added Forest Products include Agarbatti and other bamboo products. Non-wood forest products include Adda Leaf Plates; Mohwa Flowers and Seed; Amla-based, Neem-based, and Tamarind-based activities. Other products include apiculture, community-based ecotourism, embroidery, pisciculture, tassar silk, and vermi compost



expenses of the CEGs, CFCs, or federations; however, the institutions now need to link with formal financial institutions for ongoing access to credit to sustain working capital and new investment requirements. Drawing on experiences from other programs,

supporting NGOs and the Forest Department can help CEGs and CFC forge those links with state and private sector financial institutions.

Monitoring and learning. It will be important to create a learning and knowledge repository that collects, organizes, and disseminates lessons gleaned from project success stories to guide replication of the CFM model more widely in Andhra Pradesh and in other states across India.

Policy intervention. The Government of Andhra Pradesh has taken positive steps to empower communities to use forest resources and retain 100% of revenues. Additional gains could be made if policy and regulatory changes allowed better market access for certain timber products such as teak, which will be coming on stream in many VSS sites in the next two decades.

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The Andhra Pradesh Community Forest Management Project (APCFMP) follows the previous Bank-assisted AP Joint Forest Management Project (1994-2000) that brought 850,000 hectares of forests under joint management by the State Forest Department and forest communities. APCFMP reflects the lessons from the first project, making communities the primary managers of local forests with the State forest department facilitating them and providing technical advice and regulatory oversight. The project has been implemented in 5,000 villages, covering nearly 350,000 families in 14 districts with a total project cost of US\$126 million.

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