

ECOLOGICAL IMPACT ON JOINT FOREST MANAGEMENT IN INDIA

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Abstract- Ecological impact of joint forest management (JFM) in India was assessed using the studies undertaken at national, state and forest division levels. It was found that there are very few studies that have specifically addressed the ecological aspects under JFM. The study noted that there are significant strides made in promoting JFM, but the program still needs to address a lot of inadequacies. Though it is estimated that little over 14 million ha of forests are brought under JFM, covering nearly 50 per cent of the open forests in India, how much of it has developed into good forests is not really known. It also needs to be noted that there are many lacunae in implementation of the program and there are also gaps in policies to promote JFM. The study noted that in four states, i.e. Andhra Pradesh, Madhya Pradesh, Orissa and West Bengal, the recruitment was significant, amounting to 17 per cent of the regenerating individuals. In Karnataka, over 10 per cent of open forest has been brought under JFM, while a lot of wasteland could still be brought under JFM. The JFM plantations are dominated with exotic firewood species and low in timber and non-timber species, resulting in lower biodiversity. Biomass growth rate was comparatively higher in JFM forests as compared to the national average. Other support activities to JFM indicated that various biomass conservation programs were initiated, installing a substantial number of energy saving and alternate energy devices. However, the study also notes that effectiveness of such support programs is not clearly known in terms of its functioning and biomass saved.

KEYWORDS: - Joint consultation, Ecology, Urban regeneration, Recruitment, India

INTRODUCTION-

The Indian Forest Policy of 1988 (MoEF, 1988) and the subsequent government resolution on participatory forest management (MoEF, 1990) emphasize the need for people's participation in natural forest management. The policy document asserts that local communities should be motivated to identify themselves with the development and protection of the forests from which they derive benefits. Thus, the policy envisages a process of joint management of forests by the state governments (which have nominal responsibility) and the local people, which would share both the responsibility for managing the resource and the benefits that accrue from this management.

Under joint forest management (JFM), village communities are entrusted with the protection and management of nearby forests. The areas concerned are usually degraded or even deforested areas. However, in Andhra Pradesh and Madhya Pradesh all village fringe forests can come under JFM. The communities are required to organize forest protection committees, village forest committees, village forest conservation and development societies, etc. Each of these bodies has an executive committee that manages its day-to-day affairs.

Non-wood forest products (NWFPs) have a key role in JFM efforts. With the increasing awareness of their economic potential and growing concerns for the sustainability of the resources and the distribution of the benefits derived from them, various state governments have taken over control of a number of NWFPs. This article, by looking at case studies of some selected NWFPs, questions whether this process has met its objectives - ensuring fair wages to the collectors, enhancing forest protection and increasing state revenues, for example - and examines its impact on joint forest management.

IMPORTANCE OF NWFPs IN JOINT FOREST MANAGEMENT:-

Non-wood forest products are important to JFM efforts for a number of reasons. First, NWFPs are integral to the lifestyle of forest-dependent communities. They fulfil basic requirements, provide gainful employment during lean periods and supplement incomes from agriculture and wage labour. Medicinal plants have an important role in rural health (Prasad and Bhatnagar, 1991). In parts of West Bengal, communities derive as much as 17 percent of their annual household income from NWFP collection and sale (Malhotra *et al.*, 1991). According to J.Y. Campbell (1988, cited in Tewari and Campbell, 1995), small-scale forest-based enterprises, many of which rely on NWFPs, provide up to 50 percent of the income for about 25 percent of India's rural labour force.

Second, NWFPs have a decided advantage over timber in terms of the time needed to achieve significant volumes of commercially valuable production. Timber production is a long-term endeavor, and in many areas timber harvesting may not be ecologically desirable. Moreover, many NWFPs become available even in the earliest stages of rehabilitation of degraded forest areas.

Third, at the national level over 50 percent of forest revenue and about 70 percent of forest export revenue comes from NWFPs, mostly from unprocessed and raw forms (Tewari and Campbell 1997; Prasad, Shukla and Bhatnagar, 1996).

Thus NWFP management has clear ecological, social and economic benefits. Managing forests for multiple products including NWFPs and adding value to them at the local level are two of the most pressing challenges facing the JFM programme. In attempts to optimize the production of multiple products to meet the objectives of the various stakeholders, due attention should be paid to the potential for sustainable production of NWFPs in forest management efforts, including JFM arrangements. The true spirit of JFM gets translated only when forests are also managed to meet the people's needs.

THE MOVE TOWARDS STATE CONTROL OF NWFPs

Traditionally, the collection of NWFPs has been of low intensity and generally sustainable. However, as the economic potential of NWFPs has become apparent, the intensity of collection has increased and more significant infrastructures for trade and processing have developed. This has raised concerns for the sustainability of the resources and the distribution of the benefits derived from them. In reaction to these concerns, a number of state governments have taken over the control of a number of NWFPs. The state regulations bringing certain NWFPs under monopoly trade are summarized in Table 1. Some of the explicit objectives for state monopoly of NWFP trade are:

- to prevent unscrupulous intermediaries and their agents from exploiting NWFP collectors;
- to ensure fair wages
- to collectors:
- to enhance revenue for the state;
- to ensure quality;
- to maximize the collection of produce (Prasad *et al.*, 1996).

In most cases, trading is controlled through state-owned institutions such as state forest development corporations, federations, cooperatives and tribal societies. In Orissa, however, where the Forest Produce (Control and Trade) Act of 1981 provides the scope for a state monopoly on certain selected forest products, the state also has the option to give monopoly leases for collection and trade of forest products. In fact, the state has granted monopoly rights for 29 NWFP items to a private company, Utkal Forest Products Ltd (Prasad and Saxena, 1996; Agramee, 1997; MoEF, 1998). Under this agreement, the local people who collect NWFPs are required to sell their collected materials to the company's agents at preset prices that are lower than those they could have obtained by selling directly to processors. It is noteworthy that some of the 29 items yield very insignificant amounts of revenue yet have nevertheless been taken under the state monopoly.

Collection and trade of tendu leaves under state monopoly

The first NWFP brought under state control was tendu leaves (*Diospyros melanoxylon*), used to wrap traditional cigarettes (*bidi*). This tree species is found in abundance in tropical deciduous forests, on wastelands to some extent and even on private holdings. Tendu collection was monopolized by Madhya Pradesh in 1964 (see Table 2), followed by Maharashtra (1969), Andhra Pradesh (1971), Bihar (1973), Gujarat (1979) and Orissa (1981) (see Table 3). The monopolization of tendu was rapidly followed by similar procedures for other economically important NWFPs, including sal seed (*Shorea robusta*), gums and myrobalan (*Terminalia chebula* and *Terminalia bellerica*).

Before Madhya Pradesh adopted a cooperative structure for tendu leaf trade in 1988, the collection

of leaves as per official records ranged from 6 to 7 million standard bags (Table 2). This was reduced to around 4 million standard bags per year after 1989. The reduction did not result from a lack of resources, but rather from the rejection of leaves that would previously have been collected but were not of high enough quality for the cooperatives (Prasad, Shukla and Bhatnagar. 1996). However, local manufacturers of *bidi* cigarettes have been known to buy additional tendu leaves directly from collectors.

In Madhya Pradesh, collectors share in profits through a bonus plan at the end of each season. In Orissa, which is also rich in NWFPs, the collectors get only wages for collection; the bulk of the profit goes to the Forest Development Corporation, which has been given monopoly rights by the state government (Aragamee, 1997). As in Madhya Pradesh, collection of tendu leaves is being limited by a desire to collect only the best produce.

TABLE 1. State trading regulations promulgated by state governments

State	Regulations	Implications
Andhra Pradesh	Andhra Pradesh Minor Forest Produce (Regulation of Trade) Act, 1971 Andhra Pradesh scheduled areas	Trade in NWFPs is declared state monopoly whether ownership is with government or not
Bihar	Bihar Kendu Leaves (Control of Trade) Act, 1973 Bihar Forest Produce (Regulation of Trade) Act, 1984	Bihar State Forest Development Corporation operates as state government agent for collection and marketing of kendu leaves, sal seed, mahua (<i>Madhuca latifolia</i>) and harra
Gujarat	Gujarat Minor Forest Produce (Regulation of Trade) Act, 1979	Minor forest products identified include timru leaves (tendu leaves), mahua flowers, fruits, seeds and gum
Himachal Pradesh	Himachal Pradesh Resin and Resin Produce (Regulation of Trade) Act, 1981	Resin, bamboo and <i>Acacia catechu</i> (khair) collection through Himachal Pradesh Forest Development Corporation Ltd
Madhya Pradesh	Madhya Pradesh Vanopaj (Vyapar Viniyam) Adhinyam, 1969	Items under monopoly include tendu leaves, sal seed, harra and gums; Madhya Pradesh Minor Forest Produce (Trade and Development) Federation acts as agent of state government
Rajasthan	Rajasthan Tendu Leaves Act, 1974	Rajasthan Tribal Area Development Federation collects and markets NWFPs
Orissa	Orissa Forest Produce (Control of Trade) Act, 1981 Orissa Kendu Leaves (Control of Trade) Act, 1981	Collection and sale of NWFPs are monopolized by Forest Department and leased to Tribal Development Cooperative Society which in turn delegates to an individual; collection and trade of leaves are handled by Forest Corporation

Source: MoEF, 1998.

TABLE 2. Phases in collection of tendu leaves in Madhya Pradesh

Phase	Total period (years)	Collection per year (million standard bags)	Growth rate
1965-1980	15	2-3	+1.0
1981-1988	8	6-7	+5.93
1989-1996	8	4	-1.87
1997-2004	8	4-5	-1.89
2005-2012	8	4	-1.87

Source: Prasad, Shukla and Bhatnagar, 1996.

TABLE 3. Trends in collection of some monopolized NWFPs in Orissa

Product	Collection (tonnes)		Increase or decrease (%)
	Before state monopoly	After state monopoly	
Tendu leaves	36 000 (1967-1973)	35200 (1979-1985)	-2.02
Sal seeds	200 000 (1977)	60000 (1987)	-70
Lac	32 000 (1961-1970)	16000 (1981-1986)	-50

Source: Agragamee, 1997.

TABLE 4. Declared objectives of NWFP trade monopoly and the field situation

Stated objectives	Actual situation
Welfare of forest-dependent communities	
Ensuring access to forests (implied)	Restricted by agents and subagents of government, e.g. in Orissa. (Agragamee, 1997)
Ensuring fair wages through prompt	In Orissa, bulk profits are being apportioned by and just payments intermediaries/state government; in Madhya Pradesh, payments are not only delayed, but are inadequate because of the managed collection of predetermined quantity (see Table 2)
Elimination of intermediaries	Intermediaries are agents and subagents of monopoly leaseholders, e.g. in Orissa (Agragamee, 1997)
Preventing exploitation of NWFP collectors	Where government alone does the marketing, it is inefficient; where marketing is left to private trade, it is exploitative (Prasad and Saxena, 1996)
Ensuring better socio-economic conditions	Perceptible improvement in economic conditions is not in sight
Maximizing collection to ensure more wages	Collection is regulated and thus the full advantage of the produce is not available to the NWFP gatherers, as illustrated by declining collection in Orissa and Madhya Pradesh
Maintenance of benefit sharing and gender equity	The National Commission on Women reported very low payments to women, partly because of ignorance and partly because of women's fear of being denied collection access to forests (Prasad and Saxena, 1996)
Sustainable forest management	
Sustainable harvesting	Agents and subagents of monopoly leaseholders are interested in enhanced return and are unmindful of the long-term impact of destructive harvesting (<i>Emblica officinalis</i> , <i>Buchanania lanzan</i> , <i>Diospyros melanoxylon</i> , <i>Madhuca</i> spp.)
Forest protection	Collection of sal seed, mahua (<i>Madhuca latifolia</i>), etc. is associated with extensive forest fire to clear the ground of leaf litter and to ensure clear visibility of the produce on the ground

Natural regeneration	Regeneration is very poor because of destructive harvesting, grazing and fire
Forest productivity	Forest degradation continues
Forest revenue to state	Forest revenue to state has increased tremendously
Protection of end users' interests	End users continues to pay more because the market is controlled by others

Monopoly of broomstick grass and other NWFPs in Orissa :

Broomstick grass grows wild in most hilly tracts of the Raygada district of Orissa. Tribal women, through JFM forest protection committees, have protected this grass from grazing and fire and have obtained income by selling it. However, since the trade in broomstick grass has come under state control its collection and sale have been much reduced. While the women get 1.5 to 3 rupees (US\$0.03 to \$0.06) per kilogram of broomstick grass, the company holding the monopoly (Utkal Forest Products Ltd) is making profits of as much as 600 percent (Prasad and Saxena, 1996; Agragamee, 1997). Reduced collection has also been observed for *T. chebula*, gums and mahua (*Madhuca latifolia*) flowers since these were taken under state monopoly. However, collection of *Buchananea lanzan* and *Chlorophytum tubersum* (safed musli) has increased, perhaps to the point of unsustainability, in response to high commercial demand (Bhatnagar and Bhavsar, 1988; Prasad and Bhatnagar, 1990, 1991).

DOES THE STATE MONOPOLY MEET ITS OBJECTIVES?

While the objectives of creating state monopolies are laudable, a comparison of the declared objectives and the actual situation (Table 4) suggests that on the whole the results are not favorable. Although state forest revenues have increased, the forest-dependent communities do not appear to be reaping benefits in terms of wages, socio-economic conditions or gender equity, and the cost to end users has continued to increase. Intermediaries have not been eliminated, but have been replaced by agents of the monopoly leaseholders. Moreover, forest degradation has not been halted, and destructive harvesting has been observed in some cases where the prospect of short-term profit has obscured care for long-term sustainability.

IMPACT OF THE MONOPOLY OF NWFPs ON JOINT FOREST MANAGEMENT

In many states the membership of JFM committees and primary forest produce collectors (PFPCs) societies are not the same. While membership in

forest protection committees (FPCs) and village forest committees (VFCs) is open to all families of the village, PFPCs are made up of collectors only. FPCs and VFCs are entrusted with the conservation and development of forests and NWFPs, but no such responsibilities are assigned to the NWFP collectors. Thus, while the PFPCs get the bonuses and other monetary benefits accruing from the sale of NWFPs under monopoly, they are not held responsible for management of the resource. On the other hand, those who are tasked with protection of the resource do not share in the benefits of its exploitation. The two types of organizations therefore need to be integrated so that the interests of members conserving and developing the forest resource and those of NWFP collectors do not clash. This could be done by inclusion of members of JFM committees in the PFPCs. Alternatively, part of the profit from NWFPs could also be given to JFM committee members who are not part of the PFPCs.

SUMMARY AND CONCLUSIONS

It appears that the objectives of bringing NWFPs under state monopoly - to reduce exploitation of tribal people and other forest-dependent communities and to promote sustainable management of NWFPs - are not being realized. State control over the trade of NWFPs has often resulted in compounded problems of restricted access to resources and non-remunerative returns to the collectors. NWFPs are one of the keys to successful joint forest management, but if local people who are engaged in the arduous task of collecting NWFPs are not able to get fair wages even when the trade is handled by government-appointed agencies, JFM may not be a viable tool in the achievement of sustainable forest management.

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