

trend toward organising research and development activities around groups of similar products. So there are networks for bamboo and rattan, medicinal and aromatic plants, woodcarving, and so on. These trends toward more specific terminologies and approaches are useful.

The main lesson regarding the term 'NTFP' is that it is important to be clear about the definition used (or implied) in any particular discussion. Authors should offer a definition and readers should be careful to assess whether or not lessons from one NTFP or group of NTFPs can be applied more generally. It is also important to appreciate any underlying assumptions and how those assumptions influence the discussion.

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From monopoly to de-regulation of NTFPs: policy shifts in Orissa (India)

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INTRODUCTION

Rural poverty in India is generally considered to be linked to the lack of access to cultivable land, or to its low productivity. Changes in collection of the gathered items from common property resources such as forests go largely unnoticed, and are not even accounted for in the national

accounts. However, out of the total population of one billion in India, about 100 million people living in and around forests derive at least part of their livelihood from collection and marketing of non-timber forest products (Kumar *et al.* 2000). These NTFPs provide subsistence and farm inputs, such as fuel, food, medicines, fruits, manure, and fodder. The collection of NTFPs is a source of cash

income, especially during the slack seasons, therefore the issue of rights and access to NTFPs and incomes from them is of great importance to the sustenance and livelihoods for forest dwellers.

This paper describes how, in the eastern coastal state of Orissa, government policies and institutions have affected incomes that forest dwellers derive from NTFPs during the last thirty years. It also suggests policy measures that will help in improving their incomes.

METHODOLOGY

The paper is based on the author's repeated visits to the State in the last ten years, and on discussions with stakeholders, forest dwellers, NGOs, traders, foresters and policy makers. It also draws upon the work undertaken by several academics and NGOs, such as Agramee (1997), Das (1998) Human and Pattanaik (2001), Mallik (2001), Vasundhara (2001), Patnaik (2002), and Sahu (2002). Some of the data used in this paper are taken from unpublished government records.

POVERTY AND DEFORESTATION IN ORISSA

Orissa has 4.7% of India's land mass and 3.6% of the population, and has 37% area declared as forests. This is significantly higher than the 19% recorded for the entire country (GOO 2001). Orissa is the poorest state in India, with 46% of people living below the poverty line in 1999–2000, compared with 26% for the entire country (Planning Commission 2000). Between 1993–94 and 1999–2000 poverty levels improved by only 2% compared with a national average of 10% during the same period (Ibid). Agricultural production has remained stagnant in Orissa throughout the 1990s, and in many districts foodgrain production has fallen below what was achieved in the early 1990s (Saxena 2001). Forest dwellers and tribals are the poorest group of people in the entire population of the State.

The forest cover in Orissa belongs to the northern tropical semi-evergreen and moist deciduous type (Chatterji 1998). Some of the important plant species include sal (*Shorea robusta*), Piasal (*Pterocarpus santalinus*), Asan (*Terminalia tomentosa*), bamboo, aonla (*Emblica officinalis*), mahua (*Madhuca indica*), tamarind (*Tamarindus indica*) and hill brooms. The area with more than 10% tree density declined by 12% during the period 1987–99, though such a decline for the entire country was less than 0.4% (Kumar and Saxena 2002). During the period 1980–95, Orissa reduced its dense cover forest by 9.4%, whereas during the same period India as a whole increased its dense cover forest by 1.6% (FRI 1984; FSI 1988, 2000). Orissa has lost more than a quarter of its forest cover between 1972 and 1999 (GOO 2002). The fact that the State has little capital for investment in forest rehabilitation (due to the heavy burden of interest payment, salaries and pensions), and has had no significant externally

aided forestry project since 1995 has further compounded the problem of sustainable forest management.

In Orissa, revenues from NTFPs have been rising more sharply over the years and are now more than 90% of the total forest revenues (GOO 2001). The annual revenue from timber, which was more than 200 million Rs¹ during 1990 in Orissa, has reduced to a mere 50 million Rs, whereas the revenue from non-timber forest products including bamboo and kendu leaves (*Diospyros melanoxylon*; used for wrapping Indian cigarettes) is in excess of Rs 900 million annually, compared to Rs 250 million in 1985–86 (Ibid). However, revenue alone is not a good indicator of importance of a particular item from the people's point of view. Many NTFPs, such as mahua flowers, hill brooms, and tamarind, are consumed or traded locally by the forest dwellers without contributing much to government revenues. Their collection and trade is not without harassment from the field level forest and police officials, because of the plethora of controls and restrictions on collection, storage and movement of NTFPs, some of which were removed in March 2000 (Khare 2002). Degradation of forests has adversely affected both food security and livelihoods of the rural poor, especially women, as collection of NTFPs is primarily their occupation (Sarin *et al.* 2003).

Two factors about the political economy of Orissa are relevant in this discussion. Firstly, the tribal regions (which are uplands) are not very well represented in the political structure of Orissa. Its politics and administration is dominated by the coastal districts with fertile soils, which are comparatively more prosperous and better organised (Human and Pattanaik 2001). Secondly, Orissa, being rich in minerals, has a powerful lobby of traders in minerals. They have been able to promote their interests with policy makers more easily than have tribals.

GOVERNMENT POLICY BEFORE 2000

Monopolies and private leases

The policy environment relating to NTFPs in Orissa is characterised by the underlying belief among policy makers that forests are state property and thus all products growing on forests are owned by the state. The control of the state extends even to the designated forest products growing on private and non-forest common lands. Thus bamboo on private farms is subject to the same control as if occurring on forestlands. Even mango kernel is a controlled item, although most mango trees are privately owned.

Until March 2000 the State exercised control over many NTFPs through administrative orders, generally to create public or private monopolies and leases. NTFP Policy thus became a source of political patronage rather than a support for people's livelihoods. Although the stated

¹ 1 US \$ = 47.5 Rs in March 2003

objective was to protect the interests of the gatherers, in practice, the industry and other large end-users were given monopoly leases and thus had access to the product at low and subsidised rates, and local processing was discouraged for many commodities, such as kendu leaves and hill brooms. Criminal cases were initiated against those who tried to process or store these NTFPs (Saxena 1997). Up to the mid-eighties such leases were granted generally to government parastatals, but during the period 1985–2000 private parties and industries were increasingly included and were leased forest produce (Ibid).

Other Indian States have passed similar laws and orders, but Orissa had one of the highest numbers of items covered by state intervention. Furthermore, although many States supplied subsidised raw material to industry, Orissa went beyond this, and gave the industry monopoly rights of collection, especially during 1985–2000, amounting to virtual surrender of state control over forests.

NTFPs under public sector monopoly

Before such monopolies, the gatherers could sell the NTFPs to anybody, but under the new system of monopoly leases the designated product from both public and private lands had to be sold to the agent of the leaseholder only. In almost all cases the government parastatal appointed agents formally or informally) who purchased NTFPs from village traders (GoI 1988). The same middlemen who had until recently exploited the tribals as moneylenders and merchants continued their work under the guise of agents of government bodies. This put the gatherers at the mercy of two different sets of people, the agent as well as the government department, and whatever payment the gatherers received had to be routed through both of them.

The state institutions are however confronted with growing liabilities. They have a huge and redundant capital and manpower base (Saxena 1997). Even on a variable cost basis, they need huge mark-ups to break-even. Faced with this situation, they wish to pursue a risk-averse policy. In the commodities that the government agencies traded (such as hill brooms, see Box 1), purchase transactions were first finalised. The selling prices were down-marked to fix the procurement prices for the gatherers but because of the middlemen involved, the actual prices received by the gatherers could be lower still. More generally, the state institutions opted to limit their role by becoming rentiers.

The monopolies created reduced the number of legal buyers, limited the free flow of goods, and led to delayed payment to the gatherers, as government agencies found it difficult to make prompt payment. Though the government banned the sale to middlemen, they still continued, but they now operated with higher margins, required to cover uncertain and delayed payments by government agencies, as well as to make the police and other authorities ignore their illegal activities. This all reduced gatherers' collection and incomes even further.

Moreover, government culture does not encourage efficient business. Government sales are through tenders

BOX 1 *Ban on processing by the poor*

According to Orissa's policy up to 2000, processing of hill brooms could be done only by a government parastatal and its traders. Gatherers could collect hill brooms, but could not bind these into a broom, nor could they sell the collected item in the open market. Thus the poor were prevented from both adding value through processing and the right to get the best price for their produce. In one particular case (Saxena 1995), assurance was given by the Magistrate to a women's cooperative society that it would be allowed to collect and market hill brooms, so that the primary gatherers, who are mostly poor tribal women, might get the benefit of higher prices in the market. The Society started functioning, but without a valid licence. After the Magistrate's transfer, rather than helping them with processing and finding the best price, the state government machinery at the insistence of the TDCC (Tribal Development Cooperative Corporation, a government parastatal and leaseholder) decided to launch a prosecution against the women and their organisation. Their stocks were seized, and even after the court order for release, the full stock was not released causing huge financial loss to the women concerned.

and decision-making is not fast. Often field officers have to refer cases for decisions to their head offices resulting in delay. This environment is not conducive to healthy business practices.

POLICY SHIFT: DECENTRALISATION OR LAISSEZ-FAIRE?

Mounting pressure for change

The Orissa government policy of creating monopolies attracted a great deal of criticism, not only from the civil society but from Government of India. In other States government parastatals were inefficient and could not protect forest gatherers' interests, but at least no intention could be attributed in government towards preferring state control over the free market. On the other hand, in Orissa the policy of private leases, and frequent changes in the leaseholders and their terms, did not create a good and clean image for the government. The policy was difficult to justify as it neither increased government revenue nor provided additional income to the poor gatherers.

The hill broom case discussed in Box 1 attracted a lot of media attention and showed the Government of Orissa in a bad light. Although later women's groups were given leases, the very fact that tribal women had to fight for a right to sell broom grass freely and tie-up brooms in this era of "liberalisation" exposed the inconsistencies in the State government's policies towards solving poor peoples' issues.

The Ministry of Rural Development and the Planning Commission, both from the federal Indian Government,

requested the Orissa government on more than one occasion to do away with monopolies and create a more market-friendly and hassle-free environment for NTFP gatherers. In addition, the Secretary to Indian Government in the Ministry of Environment and Forests wrote in 1998 to all state governments to reduce controls, do away with monopolies and subsidies, and allow the private market to develop. A series of protests from the civil society and advocacy groups, discussion and debate, pressure from various quarters and the Indian Government legislation for ownership rights to village councils in tribal areas compelled the State to come up with a new policy resolution in March 2000. The fact that during the formulation phase of this new policy a tribal was Chief Minister of Orissa to some extent facilitated the acceptability of the new policy within the bureaucracy.

The new Policy

The NTFP resolution dated 31st March 2000 in Orissa vested in the village councils the authority to regulate the purchase, procurement and trade of 68 NTFPs such as tamarind, honey, myrobalan (*Terminalia chebula*), and hill brooms so that the primary gatherers could receive a 'fair price for the NTFPs gathered by them'. The government still retained full control and monopoly over NTFPs yielding significant revenues, such as kendu leaves, bamboo, and sal seeds. For the rest, there was no requirement of trade and transit permit, no levies and no royalty. The new policy abolished the 'leasing system' and village councils were given the power to register the traders at local level and to monitor their function especially with regard to price. The District Magistrate was empowered to fix the minimum procurement prices with respect to these 'freed' NTFP items. The village councils were also vested with the authority to cancel the registration of any trader who procured any NTFP from the primary gatherers at a rate lower than the minimum procurement price fixed for that NTFP.

Benefits and problems of the new Policy

The new policy has certainly reduced harassment from forest officials in respect of the freed items. The open competition has improved price for some items, but not for many others. For instance the price for hill brooms has jumped from Rs 12 to 16 per kg, and the number of traders has also increased. But the price for tamarind continues to be extremely low, and liberalisation has failed to improve the price that the gatherers/producers get.

Moreover marketing infrastructure continues to be the same, as traders have come forward to register themselves in only a few village councils, and the village market is still dominated by unregistered buyers (Vasundhara 2001). The unethical practices in terms of advance trading/distress selling, and malpractices in weighing still continue (Saxena 2001).

It was envisaged that the new policy would encourage competition, but multiple buyers systems have failed to

emerge at the village level. Thus in most situations the primary gatherers have little choice but to deal with the same petty village trader.

In the last three years prices of most of the NTFPs have remained below the minimum procurement price fixed by the District Magistrates (Saxena 2003). Often the prices fixed by them are unrealistic, as explained in Box 2. As per provisions of the policy, village councils should have cancelled the registration of the traders or stop unregistered traders from entering the village. However, this is not practical as it would drive away the buyers from the market.

Finally, most village councils are not only weak in capacity, they are indifferent to the livelihoods of the poor, and dominated by rich farmers and petty bureaucracy who pass on development funds to the councils (Dasgupta and Marter 2003).

Should government buy at a price higher than the market price?

Many NGOs and activists who had strongly advocated removal of government controls are dismayed that so little has changed after the arrival of the new policy (Vasundhara 2002). There are gaps in the policy that have been pointed out by the civil society (Ibid). At present there is no provision for the active and meaningful participation of representatives of gatherers, women's organisations, and Forest Protection Committees in the price fixation mechanism. The District Magistrate does not spell out the economic rationale on the basis of which prices are to be fixed. Often the price is fixed too late, giving no time for its publicity. Most Magistrates call only one meeting a year to fix the price of all NTFP items in one go, though the harvesting period varies from item to item, and often reliable production estimates are not available at the time of fixation of its price.

BOX 2 *The dilemma of fixing high prices by the Magistrates*

The price fixation by Magistrates is problematic when prices are fixed too high. The fixed price is frequently higher than the market can bear, because Magistrates would prefer not to be criticised in the Legislative Assembly or the Press for fixing a low price. When the price fixed is unrealistic, not only are the village councils unable to find buyers at that price, but government commercial agencies also withdraw themselves from the market. This reduces the number of buyers, and thus acts against the interest of primary producer or gatherer. For example, the price fixed for tamarind in 2002–03 in Orissa is around six Rs a kg whereas the market price at the village level is between 2 to 3 Rs a kg. TDCC, a government parastatal that had bought 1033 tonnes of tamarind in 2000–01, has not purchased a single tonne in 2001–02 or in 2002–03. In fact, after liberalisation, TDCC has almost stopped buying 'free' NTFPs.

The key suggestion being made by NGOs² (Ibid) is support for price-based aggressive buying of NTFPs by state agencies, as for wheat and rice, which alone, according to the NGOs, can break the dominance of the wholesale traders and their linkages with the village level market.

Whereas some of the suggestions are unexceptionable, it is doubtful whether assigning a bigger role to government institutions – who were earlier accused of inefficiency, collusion with traders, and callous attitudes towards forest gatherers – would work in the long run, unless there is all round improvement in governance and in efficiency of the States' organisations. Price support combined with aggressive buying from government can certainly improve gatherers' incomes, and therefore the NGOs are right in suggesting this³, but it becomes difficult to sustain it over a long period. Government corporations make huge losses, and therefore the entire operation requires continuous subsidy from the government. While such subsidies can be justified easily as a part of the poverty alleviation programmes, continued subsidies can result in subsidising inefficiency and corruption of government organisations. Trifed, an Indian Government corporation lost about Rs140 million, as it bought tamarind at Rs 7 kg in 1999–2000, but was not able to dispose it off in time when the market rose (Sahu 2002).

Thus neither government policy of complete monopoly over the NTFPs nor withdrawing from the scene leaving the tribals unprotected has been beneficial to tribals.

STRUCTURE, CONDUCT AND PERFORMANCE OF NTFP MARKETS

The need to study tribal markets

Low returns to forest gatherers were not only due to policy distortions arising out of public and private monopolies, and to traders' hold over the poor and ignorant forest dwellers. They were the result of the very nature of dispersed and uncertain production combined with fluctuating demand and undeveloped markets. These issues may help to explain why removing government controls in March 2000 in Orissa did not lead to a rapid increase in gatherers' incomes. Therefore it is worthwhile analysing the peculiar features of interaction of the forest dwellers with trade, and how this trade is different from marketing of foodgrains in agriculturally surplus regions of India. In the specific context of NTFP gatherers, there are several

factors that explain why they are in a weak bargaining position vis-a-vis the traders, even for those products which are not nationalised. The reasons are located in the nature of the product, its peculiar supply and demand features, and in the interaction between the gatherers and buyers. Each of these is discussed below.

Nature of the product

- **Fluctuation in production** – Annual fluctuations of most NTFP commodities in production vary by a margin of 300–400%, leading to wide variation in supply. This is in sharp contrast to agricultural commodities where variation in production in the State rarely exceeds 20% of the norm.
- **Lack of uniformity** – NTFPs are natural products and can therefore never be totally uniform in their characteristics. The size, shape, colour and other physical properties depend upon factors like rainfall, temperature, moisture etc. that varies from year to year and from location to location. This is one of the major disadvantages in marketing as the consumers want steady supply and uniform quality. This is particularly relevant for the industrial user.
- **Seasonal collection** – Most NTFPs are collected seasonally, though they may be demanded throughout the year. Selling them locally during flush season creates excess of supply over local demand, thus depressing prices. The short season becomes an even bigger constraint when it coincides with the monsoon in India, as drying of the products and its transportation becomes a serious problem.
- **Low volumes** – The NTFPs in the forest are found in a scattered form and the quantity available from one place often makes collection and transport uneconomic. The low volume of NTFPs reduces the bargaining power of the producers resulting in lower returns.
- **Fluctuating demand** – The demand for these products fluctuates widely, as much depends on the production of its substitutes and the changing export environment. Sometimes it is to the advantage of primary gatherers, for example, hill brooms are greatly in demand in 2002–03, leading to many traders from the neighbouring State camping in the villages of Orissa and even paying a high price of 15 per kg, but often a combination of uncertain production and equally uncertain demand works to the disadvantage of the gatherers.
- **Competition with synthetic substitutes** – With the development of synthetics for various commodities, many of the traditional NTFPs have lost their market or have to face stiff competition with them, as well as domesticated species. For example, compared to the non-edible oils available within the forests, the imported palm fatty is cheaper, having been planted extensively in Malaysia and Indonesia.
- **Exports** – Some NTFPs that are primarily exported and are therefore highly susceptible to international demand and prices. This may lead to over-harvesting or a price crash as a result of boom and bust syndrome. Indian

² Such as Vasundhara, Agragaamee, and Pragati

³ The experience of giving higher prices to farmers in India for wheat and rice suggests that they do benefit, but other actors, such as employees of the government parastatals, contractors, and middlemen benefit much more. It also leads to inefficiencies with the result that the subsidy bill keeps on rising (Planning Commission 2000).

shellac and rubber went through this cycle in recent times.

Nature of the actors involved

- **Poverty of gatherers** – Most forest extractors are poor, chronically indebted to middlemen or landowners, and are thus not in control of their labour or other terms of exchange. Therefore underdeveloped rural credit markets and extreme poverty influence the disposal of NTFPs at a low price (Mott 1998).
- **Gender dimension** – The above mentioned problems become more acute for women entrepreneurs. Burdened with other roles within the family traditionally assigned to women, their ability to look for far-off markets is restricted. The small size of production further aggravates the problem forcing them into a vicious cycle of a small market, low production and (leading to) small surplus (Agarwal 1989).
- **Too many intermediaries** – There is a long and vertical chain between primary gatherers and end-users. There are village level traders who work for market-based commission agents or wholesalers, who would then supply to other wholesalers outside the state. For medicinal herbs, the share of the gatherers in the final price in most of the cases is less than 33%, and often as low as 10% (Saigal *et al.* 2002). Despite the large number of middlemen, gatherers do not have the choice of many intermediaries. In a competitive and efficient system there should be a choice of several buyers.
- **Nature of buyers** – The intermediaries are capable of maintaining a stronghold in the marketing network due to their ability to meet immediate needs of the primary gatherers. They offer quick and timely credit, make quick payment and also have a good network of procurement at the doorstep of the producers. A combination of factors such as, gatherers' lack of knowledge of market price, poor marketing structure, poverty and impoverishments of the gatherers, as well as ineffective state-agencies also strengthen the middlemen's hold. Furthermore, poor communication and transportation facilities, highly segregated markets and unequal bargaining powers between buyers and sellers makes the situation more profitable for middlemen (FAO 1994).

Nature of the market and marketing operations

- **Restrictions related to storage, transportation, processing and marketing** – The laws relating to the amount of NTFPs that can be stored whether by gatherers or growers vary from item to item. The law also requires registration of growers of specified forest products whose production is in excess of the specified quantity. Similarly, for transporting NTFPs, transit permits issued by the forest department are still required for most products for their movements within and outside the state. Restrictions for primary level value addition may also exist, for instance sal plates made of sal leaves need transit permit. Higher level processing requires

permission through registration from the Forest Department. The processor/manufacture is supposed to submit the prescribed declaration, accounts and returns. The Forest Department is the enforcing authority for these laws. These restrictions and permits mean that the traders are continually reliant upon and affected by the actions of the Forest Department.

Transit rules are often changed, and it is difficult for farmers to keep themselves up to date with the latest rules. For instance, eucalyptus and *Acacia auriculaeformis* were free from transit regulations throughout the state, but in March 2000 this facility was withdrawn for some districts. No reason was assigned in the government order justifying the new restriction. Similarly when restrictions are removed, harassment of the forest dwellers continues as there is no publicity of the relaxation in rules.

Laws restricting free movement of NTFPs, even when they are not nationalised, bring uncertainty in market operations, and inhibit gatherers from maximising returns to production. Government controls lead not only to corruption but also imply greater hold of existing players on the market rendering it difficult for new players to enter the market. A limited number of buyers thus operate under monopolistic conditions.

- **Harvesting** – In order to increase their immediate income, the tribals sometimes tend to collect the produce when it is not fully ripe for marketing or use methods of extraction that are not scientific and have the potential of destroying the trees. The present access rights give the tribals the freedom to collect forest produce, but do not encourage them to develop a long-term commitment for developing the forests. Similarly little attention is paid to post-harvesting techniques due to which losses in terms of quantity and quality are substantial.
- **Grading and storage** – The grading and storage of the produce also need improvement. The gatherers bring produce in a mixed form and then it is graded at the pooling point, which results in extra cost. The ungraded goods fetch lower prices. Generally the price applicable for the lowest quality is paid for the mixed product. Storage in thatched roof godowns where goods remain to be transported for a number of days affects the quality of goods. It sometimes becomes infested by insects, or lost to rodents or the moisture content of the product increases resulting in deterioration of quality, particularly during the period of monsoon. Returns on NTFPs such as tamarind, mahua, and aonla can be doubled if stocked in a cold storage for 5–6 months.
- **Market information** – Gatherers' information and awareness about buyers, the prevailing market price, and government rules is inadequate. Gatherers hardly know what the consumers want or need. The longer the marketing chain, the less likely that this information will be available to the producer/gatherer. Lack of fit between what the final consumer wants and the actual product results in wastage and low prices.

- **Lack of infrastructure facilities** – Due to lack of infrastructure facilities the full potential of the forest is not tapped. As a result the NTFPs are collected from the periphery forests only.

SUGGESTIONS

The issue is, can we think of a better way of developing markets that reduces the dependence of poor gatherers on government parastatals altogether? Below is a suggestion of a number of measures that do not distort the market, but will still help improve the incomes of the forest dwellers.

Processing and micro-enterprise development – Some NTFPs require simple and easily handled processing and packaging technologies. They usually have a long shelf life, and can withstand long storage. However, to achieve these advantages, there needs to be local storage, and complete security of tenure over the collected items. In practice, the sale of most NTFPs is done without any processing or value addition, due to a fear that houses would be raided if they store NTFPs. Freeing the artisans from such constraints can itself lead to widening the base of entrepreneurial activities in the village, as these value added activities can very well be undertaken in their own cottages. Pre-processing includes quality grading, storage and preparation of a product for sale to processors or intermediaries. Simple processing activities such as broom making, leaf plate making, tamarind processing, mat and rope making should be encouraged in the household/cottage sector.

Involving NGOs may make processing more efficient and improve market access. In southwest Bengal, an NGO provided improved sal plate processing technology and marketing support that improved producers' incomes to Rs 11 to 12 for an eight hour day compared to Rs 5 to 6 for other communities dependent on middlemen (Poffenberger and McGean 1996).

Thus support for micro-enterprise development should be a crucial part of the Government NTFP policy. For encouraging micro-enterprises the following inputs are required:

- Social inputs for facilitating and organising women and men gatherers into User Groups/ Cooperatives.
- Working capital through the banks, as credit is a critical input needed for these enterprises.
- Skill upgrading programmes for value addition, packaging, stocking, accounts and other management skills.
- Storage and transport infrastructure.
- Market information and access.

Industrial processing – Some products would require setting of small-scale units with modern technology for processing, but the general climate for industrial growth in Orissa is quite bad, with poor infrastructure, high rates for power and its uncertainty, and weak governance being the main factors. Two paper mills are lying closed. Even several

existing plants for oilseeds have been closed down in the last ten years. They depended too much on state support and subsidies, and did not diversify by shifting a part of their raw material requirement to groundnut, rice husk, and other easily available agricultural products. Thus the Orissa government needs to improve the industrial infrastructure that would lead to the revival of industries that use forest-based raw materials.

Promotion of tribal interest – Several initiatives need to be taken, if the incomes of tribals and forest dwellers are to be improved. A government agency such as the Forest or the Tribal Development Department assisted by civil society should be involved in informing tribals and gatherers about the prices prevailing in different markets, improve marketing practices, and act as a watch-dog. It is better to set up promotional Marketing Boards rather than commercial corporations with responsibility for dissemination of information about markets and prices to the gatherers, and for organising them into self-help groups.

These Boards should also encourage bulk buyers and links with exporters. This has happened in a few locations where manufacturers of herbal medicines such as Dabar have bought aonla directly from the producers, but not on a significant scale to boost its production or price.

The government should also address issues such as creating proper marketing yards, market information system, storage space and cold storages at the local level. These are at present not attended in the new Policy but could go a long way in supporting the NTFP market.

DISCUSSION AND POLICY ANALYSIS

The present policy change towards liberalisation and de-regulation reflects the good intention of the government, but needs to be strengthened in several ways. Clearly *laissez faire* is not going to help the poor in all cases. Where the government alone undertakes marketing it is inefficient, and where it is left to private trade it may still not provide sufficient returns to the gatherer for his labour (Chambers *et al.* 1989). Scrapping government controls and *laissez faire* will produce positive results in regions where gatherers and producers are quite vocal and organised, with low levels of poverty and a long experience of marketing. An obvious example is freeing farm eucalyptus from controls on harvesting and transport in Gujarat or the Punjab. But farming systems and production conditions vary a great deal from region to region in India, and so does the level of information among the peasantry, their political influence, and the infrastructure for marketing. Markets in eastern and central regions, which are subsistence-oriented and where most forests are located, are relatively underdeveloped when compared to markets in the commercialised wheat or cash crop growing regions (Kahlon and Tyagi 1983). Here, in addition to government monopolies there are several other sources of market imperfections that need to be addressed (Kumar *et al.* 2000).

According to Harris (1989), markets can perform both functions, allocative and exploitative. To the extent markets facilitate commodity production, and integrate producing regions with consuming regions, they help the producers in obtaining the best possible price. But markets may also play a retrogressive role by coercing producers to sell at a low price through collusion, interlocked contracts, fraud, credit and withholding of information.

Thus the NTFP issue is more complex than simply lifting of government controls and freeing market forces. In such a case the solution is not to subsidise purchases by government at an artificially hiked up price, as it increases inefficiencies and corruption, but to recognise the exploitative elements of the marketing environment that depress the village market price, and address these through specific policy interventions. The government budget is better spent on improving the marketing infrastructure that makes markets more competitive, rather than killing the markets by giving ever-increasing subsidies to an inefficient government parastatal.

At the same time the capacity of the village councils to look after the interests of the poor needs to be improved. These councils should be more inclusive and participative, whereas at present they are dominated by rich farmers or dictated by petty bureaucracy that controls the flow of funds to them.

While developing markets may help the gatherers in obtaining a better return on their labour, it may increase pressure on forest resources. In spite of the fact that the declining production of NTFPs is a very serious problem for both, forest communities as well as for maintaining biodiversity, the regeneration of NTFP has attracted very little official attention. This needs to be contrasted with the policy for agriculture where production issues have attracted vast amounts of funding for research and extension.

So far the main thrust of forestry has been towards growing timber, which calls for ruthless cutting back of all ground vegetation, except of the species chosen for dominance. It results in the removal of all the material, which could serve gathering needs. This calls for a modification of the existing silvicultural practices, not so much to achieve high forest as to restore to the forests an admixture in which a sensible balance of vegetation is available to meet the gathering needs. Policy change is also required in terms of the species that are planted in forests. Forestry programmes need to consider seriously how to regenerate trees that produce valuable NTFPs, such as tamarind, mahua, char (*Buchanania latifolia*), and medicinal trees like aonla, karanj (*Pongamia pinnata*), etc.

To conclude, rather than be a monopoly buyer of NTFPs or try to regulate price through administrative mechanisms, the government should adopt market-friendly policies, facilitate private trade and act as a watchdog rather than eliminate the trade. It should encourage local bulking, storage and processing by the forest dwellers themselves, and bring large buyers in touch with the gatherers, in order to reduce the number of layers of intermediaries.

Government should encourage formation of self-help groups among the forest dwellers so that such groups are better able to bargain with the traders. Finally, more effective implementation of credit-oriented and poverty alleviation programmes will help the poor in recovering from debt bondage, which is the single most important factor for their dependence on the traders, and depresses the price that forest dwellers are able to negotiate with the traders.

The implementation of the suggestions given in this paper will also require a significant shift in the attitude of policy makers in Orissa towards the poor. As already stated in the beginning of the paper, forest dwellers in Orissa are poorly represented in the power structure of the state, and are hence neglected. The federal Indian Government, as well as the civil society and the external donors, could put pressure on the Orissa Government to promote livelihoods of the forest dwellers. This could be addressed by targeting appropriate silvicultural techniques, and by providing information and marketing support and helping them to set up local processing units.

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Promotion of indigenous fruit trees through improved processing and marketing in Asia

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INTRODUCTION

The term underutilised indigenous fruit trees (UIFT) refers to the trees bearing fruits that are not highly researched and which are generally ignored by the commercial sector. Little research has been carried out on these species and information documented about their basic biology, growing habits, management practices, processing and utilisation is scant and scattered. Research is often carried out by isolated groups with their findings restricted to academic journals, and dissemination of information to a wider audience is poor.

Nevertheless, UIFT are an important source of food and nutrition, and contribute to the income of rural and urban people through the marketing of their products. They are grown mainly in home gardens and small farms and resource poor people, particularly tribal people, also gather wild fruits from the forests and other non-cultivated areas for their multipurpose uses. Women often play a major role in the gathering of UIFT (Ruiz Pérez *et al.* 1997) and are frequently involved in decisions about the sale of the fruits and their products. The extra income from the fruits is often spent on education, nutrition and health, and controlled by the women who gain greater