



CHAPTER 4

Smallholder management

People's involvement in forest management as individual smallholders or households, rather than through collective bodies, is concentrated in the management of trees as part of, or in conjunction with, farming, and in small-scale commercial processing and trade of forest products. This chapter examines these two forms of smallholder management, but first considers the limited experience of management of forests at the household level.

Smallholder management of forests

As noted at the beginning of the preceding chapter, many situations exhibit features that favour management of forests on a scale too large to be easily handled by individual households, and are therefore more logically managed by a group of users, or by the State, or by a combination of the two. For example, the forest may need to be managed as an ecosystem rather than as a small plot; there may be pronounced economies of scale in some aspects of forest management and use, or more than one category of user with claims upon it; or there may be ecological and other 'externality' values involved. Such factors are likely to create constraints to efficient management of forests at the smallholder level. Management at this level is consequently found in only a few situations.

To date, privatization of public forests to individual households has occurred on a large scale primarily in countries in transition from socialist systems. By far the largest initiative to encourage smallholder households to take on responsibility for management of existing forests in developing countries has been that in China. In the early 1980s, the agricultural 'responsibility system', under which cropland under collective control was distributed among the member households, was extended to forest lands under collective control, on the grounds that household management of forest resources would be more efficient. Sometimes this involved transfer of ownership; more frequently it took the form of transfer

of usufruct rights to income flows and trees, with the land remaining under collective control. Generally, it was confined to plantation forests that had been established to provide non-timber products, to fuelwood forests, and to small patches of timber forests not suitable for collective management (Dachang, 2001).

After the transfer of forest resources, there was at first a marked decline in growing stock, even in area under forest. As this trend was later reversed, it appears that it was mainly the result of farmers' initial uncertainties about the security of their tenure. It is argued that, because of repeated earlier policy changes, farmers felt that their new rights could be reversed, and they seized the chance to exploit the resource while they could (Dachang, 2001).

The early destocking led in 1987 to a ban on further transfers to household control, and some local governments decided to restore collective management. Nevertheless, most of the area originally transferred has remained under household management. However, evidence has been accumulating that the fragmentation of forest resources to numerous smallholdings has increased the cost and difficulty of silviculture, protection and logging, adversely affecting the cost-efficiency of forest management. In response, there have been moves by both government and farmers to restore some of the economies of larger scales of working through various types of shareholder schemes. These take several forms, but in essence, all involve reverting to some form of collective management, with the contributing households benefiting in proportion to the share of pooled

land, use rights or other inputs that they contribute. In practice, therefore, some of the forest that had passed into household control is now again managed collectively, but in ways that should make those who now have property or use rights in the resource more directly involved in decisions about management and benefit distribution. It is reported that group management schemes initiated by farmers are generally proving more successful than those initiated by the government (Dachang, 2001).

Arguments that individual, private management of forests is more efficient have led to some devolution to this level in other countries as well. In 1997 the Government of Zimbabwe, for instance, made a policy decision to privatize woodland as well as arable land in resettlement areas, in response to arguments that this would result in a less destructive use of the resource (Goebel, 1999). However, the debate on smallholder management so far seems not to have sufficiently addressed counterarguments in favour of collective control, some of which have been reinforced by the experience in China. These include: the diseconomies of small scale associated with management of many forest types and outputs; the danger that smallholder owners will lack the resources to be able to conserve and manage a forest resource; the pressures to overuse forest resources when their full value is not reflected in market prices; the poor record of private owners in managing in an environmentally sound manner; and the likelihood that there will not be enough land for all those who presently draw upon the forests as a common pool resource, so that many will be left worse off by privatization (McKean, 2000; Bromley and Cernea, 1989).

Smallholder management in forest fringe areas

Farmers living in, or on the edges of, forest areas often develop tree management systems based on components of the forest. This can take the form of retention of parts of the forest cover, within or adjacent to areas put under crops, to be managed for particular products, or enrichment of the forest to increase the density of tree species of value. Prominent examples of enrichment systems include the açai and babaçu palms in parts of the Amazon basin (Anderson and Ioris, 1992; May *et al.*, 1985), indigenous fruit species in the forest belt in West Africa (Falconer, 1990), and



An experiment to reproduce wild fruit-trees in Brazil. Farmers in forest areas often develop tree management systems based on components of the forest.

various species and products in the forest zone in Southeast Asia (Michon and de Foresta, 1999).

In the Amazon, and elsewhere in Latin America, there has been a rise in recent years in smallholder management of timber as part of such systems (Wentzel, 1999). In addition to the common practice whereby smallholders occasionally harvest timber trees from the forest cover on their land, there is growing evidence that households practise longer-term management of forest plots for valued timber species, and that smallholders plant selected timber species within managed patterns of forest fragments, fallow and agriculture (Pinedo-Vasquez *et al.*, 1998). Although some studies emphasize the

low productivity of such systems, it is reported that smallholder timber forest management for commercial purposes has proved to be viable on scales from about 40 ha in operations in Brazil, from 20 to 30 ha in Costa Rica, and from as little as 20 ha in Ecuador (Wentzel, 1999).

In the outer islands of Indonesia, which contain some of the world's main concentrations of long-standing agroforest systems derived from a forest base, cinnamon, illipe nut, rattan, rubber, damar (resin), fruits such as durian, and even some timber species, are among the more important products cultivated in this manner. Such agroforest products can provide much of the income of the producing households. Some may be managed as semi-permanent tree crops, or as enrichment planting in semi-managed forest gardens around settlements, but most form part of long fallow rotations, alternating and intercropped with agricultural crops and often incorporating an understorey of other plants of value that increase the overall productivity of the system (Michon and de Foresta, 1999).

These agroforest systems often occur in areas in which village lands and surrounding forest lands have traditionally been managed as common property, with smaller extended family groups controlling access to planted trees that is based on descent from the earlier planters, and with individuals having private property rights to trees they have planted. As the commercial importance of products increases, rights to use particular trees controlled by descent groups is often vested in individuals, if only temporarily, in order to facilitate timely decisions on



Smallholder timber forest management for commercial purposes has proved to be viable on scales from as little as 20 ha in Ecuador.

harvesting and marketing. Therefore, a combination of communal and private rights can prevail at present (Peluso and Padoch, 1996).

Such systems continue to evolve and change in response to changing demands, shifts in access to markets, the availability of alternative sources of income and employment, and growing restrictions on resource availability. Increased prices for some smallholder products, as rural forest areas have been opened up, have led to their being exploited at rates in excess of what can be sustained by the production system, so that over time they are declining or are being replaced by plantation sources. The opening up of forest areas, and the emergence of new activities such as logging, also offer rural people alternative ways of diversifying out of predominantly subsistence activities. With more people leaving villages for wage employment, there are fewer to maintain labour-intensive agroforestry production systems (Peluso and Padoch, 1996).

In some places, such systems are also being eroded by competing claims on the forest and the land over which local people have had historic *de facto* rights. Forest is being cleared to make room for growing populations and migrant settlers. Increasingly, areas of remaining forest are being allocated by the government to logging concessions, which can overlap with the areas used by local people for forest gardens. Where the species managed for smallholder products also have timber value, they are likely to be harvested as timber, as has been the case with Shoreas which produce illipe nuts (Peluso, 1993).

Thus, though increased market demand can mean that the agroforestry systems become more important parts of smallholder livelihood systems, some of the changes taking place are also putting them under threat. The systems are little understood, and suffer from lack of formal recognition of customary rights. Compared with agroforestry tree planting within farm landscapes, such agroforest systems within forest areas have received little attention, and there is a risk that this important form of community forestry will decline as a result.

Planted trees in farm landscapes

Tree planting by farmers appears to be increasing in a wide range of situations. Tree growing generally increases as people move towards more intensive agriculture and land use, and as access to natural tree stocks declines. Within most systems there also appears to be a general progression over time towards more 'planted' trees, as agriculture intensifies and existing tree stocks diminish (Arnold and Dewees, 1997; Warner, 1993; Shepherd, 1992).

The reasons for this vary. One widespread shift that has contributed to it appears to be the emergence of labour as a limiting factor in agriculture in many rural situations, as more people seek work off farm and fewer children are available for farm work because they are at school. As tree growing is less labour intensive than most agricultural crops, this



Fewer children are available for farm work because they are at school. This can contribute to an increase in tree growing, which is less labour intensive than most agricultural crops.

fact, together with the related increase in the role of income from non-farm sources, has encouraged increased use of trees (see Box 12). Where constraints on the availability of capital prevent or limit the purchase of inorganic fertilizer, or construction of soil protection structures, there is often increased reliance on trees to help maintain site productivity. Farm trees generally also have a role in diversifying the farm economy, helping to even out seasonal peaks and troughs in output and demands on labour, and providing protection against damage from wind, water and sun.

As a rule, most farm-level tree management is conducted primarily to meet household needs. Trading

in tree products usually develops as local markets for fruits, fuelwood and other tree products emerge; as shortages develop; as increasing demands on the time of household members leave less time for gathering what is needed to meet household needs; and as rising cash incomes allow some the option of purchasing rather than gathering or growing. Households that are managing tree stocks in order to provide themselves with such products will sell what is surplus to their needs, to exploit the opportunity to generate additional income. Production for urban and industrial markets is more likely to be practised by farmers in areas where the process of agrarian transition has evolved towards greater involvement in commodity markets and an entrepreneurial approach to agriculture based on cash crops (Arnold and Dewees, 1997).

CONTRASTING FARM FORESTRY PROGRAMMES

In practice, though, much of government and donor support for tree growing by farmers has encouraged growing for the market. In one of the largest farm forestry support initiatives, the Social Forestry programmes of the late 1970s and 1980s in India, although the intention of the farm forestry initiative was to focus on meeting household needs for fuelwood, in practice most planting that has taken place has produced wood products for sale. This reflected a strong extension presence by forest departments, pressures on them to achieve ambitious targets for numbers of seedlings raised and distributed (which led them to focus on a few known industrial forestry



Trees and land and labour allocation

BOX 12

Supply and demand for land and labour interact in a number of ways that can influence the decision of households to cultivate and manage trees on their holdings.

- As tree planting and husbandry requires less input of labour than most other crops, it may be seen to be a feasible land-use option when the opportunity costs of labour are high because there are good wage opportunities in other labour markets.
- Problems with hiring and supervising labour can act as incentives for households to plant or to maintain trees instead of other, more labour-intensive crops.
- Older households, with a smaller resident active labour force on which to draw, may adopt less labour-intensive forms of land use, such as tree growing.
- Trees may be planted by households with access to sufficient income from non-farm sources, which consequently have less need to cultivate their land intensively.
- The quality of land within a holding, as well as across holdings in a given agro-ecological zone, may vary greatly. Trees may be planted in those areas which would require most labour to cultivate in order to even out labour demands.
- Trees may be planted and maintained as an alternative to sale of land that is surplus to the household's immediate needs in order to retain resources that can be passed on to the next generation. Tree growing may also be preferable to renting out surplus land because the latter might jeopardize the tenure holder's long-term rights of ownership.

Source: Adapted from Dewees and Saxena, 1997

species, particularly eucalypts), cash subsidies for planting in many of the states, and information about prices that made tree crops seem more attractive than agricultural crop alternatives on some sites.

However, after the first growing cycle, eucalypt growing was discontinued by many farmers due to costs that were higher than anticipated, lower crop

yields in the vicinity of the planted trees, falling output prices as the additional supplies created an imbalance with demand, and uncertainties over yields and markets. Farmers' access to markets was adversely affected by government controls on private production and transport of wood products, government sales of pulpwood at administered prices, and price controls on domestic fuels (kerosene and gas)



Building a house with eucalypt poles.

that kept fuelwood prices artificially low. Small producers proved to be at a further disadvantage in selling to industrial and urban markets because the size of supplies from State forests and plantations often enabled them to capture advantages of scale in the negotiation of prices and in marketing agreements. Industries and traders preferred to buy from a few large suppliers rather than from a multitude of small, dispersed producers.

In some areas adjacent to urban and industrial markets, farm forestry has continued to be profitable, and in some situations trees have become a major crop. In general, though, eucalypt planting proved to be a viable option mainly for wealthier farmers who had more land and more assets, faced shortages of labour and problems of supervision, and had diversified sources of incomes (Saxena, 1992).

In contrast, fewer projects have focused on strengthening the multispecies, multiple-product strategies found in many existing small farmer systems. One that has done so was a Cooperative for Assistance and Relief Everywhere (CARE)-supported project in an area in western Kenya, where on-farm tree planting and management had become progressively more intensive with the transition to permanent cropping, the disappearance of communal tree resources and the rise of local cash markets for fuelwood, poles, seedlings and fruit. Planting of trees was historically in underused parts of the farm, such as areas around homesteads and along field pathways and borders. During the period from 1985 to 1989, a farmer-responsive extension service substantially increased the 'menu' of tree-related options available to households, and farmers responded by employing a larger number of

different tree species and management practices. Cropland became the dominant site for tree planting, and building poles replaced fuelwood as the principal use, with green manure, fruit, shade, medicinal products, timber and stakes as other uses.

The predominant reasons why farmers increased the numbers of trees and the land area in trees, under conditions of increasing land scarcity, appear to have been to obtain critical consumption goods that would otherwise have to be purchased, to diversify their sources of cash income, and to protect food security in the face of declining crop yields. While the initial focus was on self-sufficiency objectives, interest quickly turned to commercial opportunities, with consequent demand for greater assistance with marketing (Scherr, 1997).

REFOCUSING SUPPORT STRATEGIES

Recent work in Central America has similarly concluded that, for the majority of farmers for whom farm trees mainly serve a self-sufficiency role, support should focus on helping them move forward incrementally by providing information about unfamiliar species and planting configurations (Current *et al.*, 1995). It also supports the view that the earlier focus on intervening primarily to stimulate an increase in supply of tree products is insufficient, and may be wrongly focused. There is evidence that planting subsidies in some programmes lead to undesirable distortions in land use, such as displacement of sharecroppers and grazing, and reduction in

smallholder subsistence production of food crops to the point where household food self-sufficiency levels could be adversely affected (SIDA, 1990).

It has been argued that more attention should be paid to matching production with demand (Arnold and Dewees, 1997; Current *et al.*, 1995). In particular, higher priority should be given to changing policies and practices that presently constrain farmers' access to markets and depress market prices for their tree products. Private producers are frequently subjected to costly controls on harvesting, transport and sale, which are designed to protect against illegal felling for sale from State forests, or to control competition with timber production from the latter. In China, this kind of heavy regulation seems to have discouraged farmers from planting timber species, contributing to a shift towards non-timber forest product species on forest lands that have been transferred to household control (Dachang, 2001).

It is frequently argued that investment in a relatively long gestation crop, such as trees, requires the security of tenure provided by having title to the land on which they grow. However, it appears that, rather than the form of tenure, what usually seems to be important is people's sense of security that they have assured access to the fruits of their investment within whatever system of land tenure they are located (Fortmann, 1985). Though there are situations where title to the land is needed (for example, when it is necessary to take out a loan) and some tenurial conditions (such as sharecropping or uncertainty over the state of landowner claims to tree-bearing land) that will preclude tree growing, farm-



A farmer transporting tree seedlings for planting on his land.

ers' decisions about growing trees are usually found to be influenced more by economic than by tenure considerations (Current *et al.*, 1995; Shepherd, 1992; Godoy, 1992).

Trees as contract crops

Forest industries in many parts of the world draw a large part of their wood and fibre raw material from small growers, generally farmers, under some form of agreement. In some, companies acquire their supplies through trading intermediaries, and do not have a direct relationship with the growers. Others are initiatives of

the growers rather than the companies, such as the initiatives of cooperatives to create a collective marketing or processing channel for their outputs. Others involve companies contracting to rent land from farmers on which to grow trees, or contracting with farmers to grow trees on company or public land. Still others obtain supplies from nearby farmers who are linked to the company as 'outgrowers'.

The potential advantages of outgrower arrangements include the benefit to industry of limiting the need to invest in land, labour and the other costs of managing and harvesting a forest resource, and the benefit to growers of an assured market and access to technical services. For the farmers, it can provide assured and equitable access to markets, as well as access to technical support and credit.

However, the development of such arrangements in developing countries has been limited. Well-developed outgrower programmes, usually set up by pulp and paper companies for farmers to grow pulpwood for them on their farms, exist in South Africa and the Philippines, and on a smaller scale in Brazil and India and elsewhere (Desmond and Race, 2000; Clarke *et al.*, 1997; Roberts and Dubois, 1996). Some of these have achieved a considerable measure of success in delivering benefits both to the growers and the company.

For such outgrower arrangements to function satisfactorily, there needs to be a balanced and equitable relationship between the producers and the company (see Box 13). The arrangement also needs to be

consistent with the needs and possibilities of both sides. Outgrower schemes become attractive to a company when they can supply wood at lower cost than the alternatives, often in situations where costs can be influenced by indirect factors associated with the holding of land and employment of large labour forces. Thus, issues of land tenure, good neighbour relationships and labour management can be important.

Tree outgrowing can be appropriate for smallholders when they have sufficient annual income from other sources to secure their ongoing needs, and when the land that they can use for trees is not needed for food crop production or for other basic needs. Tree growing is likely to be attractive when the features of an assured market and access to technical advice and inputs make tree crops a more stable source of income than alternative uses of the land.

These features, and the probable need to have title to their land to be eligible for a loan, indicate that tree outgrowing is unlikely to be feasible for very small or poor farmers. As was found to be the case with contract farming of agricultural tree crops, it is more likely to attract the 'middle peasantry' among smallholders (Baumann, 2000). Outgrower schemes that have failed have sometimes done so because they have attempted to introduce tree crops to farmers for whom they were not suitable for these reasons.

In areas where tree outgrowing is well established, there are often other programmes for farmers who cannot, or do not wish to, enter outgrower contrac-

tual arrangements. In South Africa, for instance, smallholders growing black wattle can market it and get technical support through a wattle growers' cooperative (Clarke *et al.*, 1997). In the Philippines, the company operating the outgrower programme also has a programme for those without title to land to grow trees under contract on company land (Arnold, 1997).

In recent years, there has also been a revival of interest in developing schemes to enable farmers or the landless to grow trees on public land. In the past, a number of countries ran *taungya* programmes, under which farmers were temporarily allocated plots on public forest land on which they were allowed to cultivate agricultural crops between



Eucalypts grown for industrial users. Forest industries in many parts of the world draw a large part of their wood and fibre raw material from small growers, generally farmers.

Framework for assessing forestry outgrower schemes

BOX 13

PRINCIPLES

These include:

- mutual acceptance of each partner's aims under the arrangement;
- a fair negotiation process in which all partners can make informed and free decisions (including allowance for a third party to negotiate on their behalf);
- the realistic prospect that all partners can derive benefits proportional to their contributions and risks; and
- long-term viability and commitment of partners to optimize the returns from the arrangement, in terms of commercial, socio-cultural and environmental attributes.

CRITERIA

These include:

- a positive local socio-cultural, policy, economic and environmental context in which all the principles noted above can develop;
- partners who are willing and able to contribute to arrangements within the socio-economic and environmental parameters of their household/business

over the contractual period, with opportunities for renegotiation or inherent flexibility within contracts (i.e. partners need to avoid high-risk arrangements);

- arrangements that are formalized (i.e. have legal status), with clear details of when and how multiple benefits can be arranged (e.g. collection of non-timber forest products, grazing, intercropping), contracts can be nullified, and compensation would be forthcoming (it would also appear useful for a credible and independent third party to be nominated to arbitrate if disagreement arises); and
- partners who have access to accurate, in-depth and independent information on:
 - likely short- and long-term prospects (with contingency scenarios explored if arrangements are nullified);
 - current and likely long-term viability of prospective partners; and
 - likely long-term context for local forestry development (e.g. market trends, product volumes and competitiveness, necessary infrastructure, government policy, code of practices, local sustainable forest management practices, landholder/grower participation and wider community support).

Source: Desmond and Race, 2000

rows of young timber trees for two or three years in return for planting and protecting the tree seedlings. If land was available, they could then move on to another plot, leaving behind a maturing tree plantation. This provided forest departments with a low-cost means of establishing plantations, and provided farmers with some access to land on which to produce food crops in situations where there was shortage of arable land. However, the lack of security for those participating in such schemes meant that they were attractive only where farmers had no other option. Over time, most have been abandoned, in recognition that they were fundamentally exploitative in nature. Those which survive, such as the *tumpang sari* system in Java, continue to suffer from the same limitations.

If the new schemes are to succeed, they will have to avoid the weaknesses of *taungya*. Most have focused on encouraging participants to use the land just for trees, rather than for trees and crops (sometimes because of the perceived risk that crops would strengthen farmers' claims to longer-term tenure of the land). But the intermittent nature of income flows from tree growing makes it an unsuitable basis for livelihood security for the poor. Such schemes are therefore more suitable for those who have other land on which they can grow food crops, or other sources of income to meet ongoing needs.

Where the land to be allocated previously had other uses, as was the case with the 'tree patta' leases on village land in India, other issues can arise. If there is insufficient cultivable land available to make it



Villagers working in their tree nursery.

possible to grant leases to all the landless in the community, problems of choice of participants arise. And those who do not benefit from the scheme are left with reduced access to the common pool resources on which they have depended for grazing, fuel, etc. In one of the most successful schemes, in West Bengal, farmers have been grouped together to grow trees on small plots of wasteland, which are then allocated to individual households. The farmers get long-term leases and are able to benefit from group economies of scale in planting, extension, protection and marketing.

In China, large areas of wasteland and degraded land have been allocated to households for use in creating tree plantations. Some of this land was allo-

cated as 'family plots': in these, the household acquired use rights and ownership of any trees it planted, but did not acquire ownership of the land. This has not proved to be a popular form of distribution, and there has been greater response to a parallel programme of leasing or contracting land to households that imposes no limit on how much the lessee can acquire. Planting is supported by loans rather than subsidies, and low-cost loans backed by funding from the World Bank have made tree growing a profitable activity for many. However, lack of subsidies restricts access by the poor. There are also concerns that the attractiveness of tree planting could be diverting land from agriculture (Rozelle *et al.*, 2000).

Given the large amount of non-arable wasteland present in many countries, the relevance of tree cover in keeping marginal and fragile lands in use, and the potential for tree crops to contribute to rural incomes, it can be expected that the search for viable schemes of this nature will continue. However, there is one feature of smallholder tree growing, on farms as well as on public lands, that needs to be kept in mind. To the extent that tree growing is expanding because of its efficiency as a use of resources in labour- and capital-constrained situations, it is to be expected that if these were to become more readily available the trend towards more trees would slow down or be reversed. If better-functioning factor markets were to enable farmers to purchase fertilizer and hire labour, for example, they would be likely in many situations to move back to more intensive uses of land.

Small-scale processing and trading of forest products

Forest products generate part of the income of large numbers of people and, for substantial numbers of people, they are a major part. In nearly every country where such information exists, small-scale forest product activities are to be found among the three largest categories of non-farm rural commercial activity, in terms of numbers of people engaged in them (Liedholm and Mead, 1993; FAO, 1987). For many, involvement in sale of forest products forms just one component of the overall activity of the household, frequently in conjunction with agriculture.

The large numbers of people who succeed in setting up new activities of this nature suggest that in general there is little need for measures to attract new entrants. However, high rates of attrition, particularly among new enterprises, indicate the need for interventions to encourage entrants to concentrate on the more viable and sustainable kinds and levels of activity.

As was pointed out in Chapter 2, the poorer people engaged in generating income from materials from forests tend to be concentrated in low-return product activities, many of which can offer no more than marginal, unsustainable livelihoods. This presents particular issues. Support to such activities, once higher-return or less arduous alternatives emerge,

could impede the emergence of better livelihood systems for the participants. Encouraging participation in production of products already facing saturated markets is also likely to result, at best, in redistribution among the poor (Haggblade and Mead, 1998). That being the case, it may be more fruitful to help people move into other, more rewarding fields of endeavour rather than seek to raise their productivity in their current activity. The alternatives may be other forest product activities, but they could equally well be activities not associated with forests or trees. In either case, care needs to be taken to ensure that future growth prospects are indeed better for the alternative product lines to which people are being encouraged to move (Arnold *et al.*, 1994).

In recent years, a number of initiatives have been launched to encourage trade in particular forest products for industrial or niche export markets. However, such product trades have often been driven by "donors and NGOs who form enthusiasms [for] various 'silver bullets' ... that are hoped to be environment-friendly and income boosters" (Hazell and Reardon, 1998). Many have proved to be susceptible to change in market requirements, to domination by intermediaries and to shifts to domesticated or synthetic sources of supply, and they have consequently not been sustainable. Therefore, they can expose rural households to high levels of risk, particularly when the trade has encouraged people to move away from more diversified and less risky agriculture-based livelihoods, as with some of the extractive product trades from the Amazon region (Browder,



Woodworking to make mortars and pestles for the market.

1992). Similarly, such interventions have sometimes led to product expansion on a scale that has resulted in depletion of the raw material resource as, for example, with a programme that successfully expanded export demand for decorative baskets made by households in Botswana (Terry, 1984).

Interventions are likely to be more effective if they are directed towards types of forest product activity involving large numbers of people. The huge presence of small-scale activities producing and selling forest products in rural areas reflects the fact that demand for most of this output is also rural (FAO, 1987). Large increases in the prospects for smallholder and small enterprise commercial activities in the forest sector are, therefore, more likely to result from agricultural growth and the demands this generates. As discussed above, this kind of change also

opens up the more rewarding income-generating forest product-based opportunities.

In short, much of the effort to date has not been focused in ways that are most likely to materially enhance the potential for forest product activities to contribute to rural livelihoods. Interventions to encourage or support greater participation in income-generating activities need to be better informed about the realities of the commercial environment within which people are being encouraged to operate. This applies equally to programmes to stimulate tree growing for the market. The abandonment of eucalypt growing by so many farmers in India was largely due to the farm forestry programme's failure to anticipate the limited size of the

market and to provide farmers with the information that would have enabled them to make their own informed decisions about the profitability of growing trees (Saxena, 1992).

Smallholder and artisanal production and trade of forest products take place overwhelmingly in the unregulated, informal sector. The potential for such activities rests in part on the existence of an overall regulatory environment that does not discriminate against this category of production and trade. In particular, many types of small-scale operation could not remain viable if they were obliged to observe regulations designed for larger, formal-sector operations, as the cost of doing so would weigh disproportionately heavily on them. In this connection, recent moves to require small producers to adhere to product certification requirements must be of some concern. A review of timber certification for the International Tropical Timber Organization (ITTO) has shown that this places particular burdens on small producers (Simula and Ghazali, 1996). Imposing certification requirements on some non-timber forest product trades could prove even more onerous for small producers and traders (though it has been shown that it can assist some in getting access to particular markets for which their products are suited).

As noted above, in many countries governments intervene to control the trade in forest products in ways that, directly or indirectly, hamper smallholder producers. Because they give high priority to conservation objectives, many governments have set in place forest and environmental policies and



Wood products and handicrafts for sale in Bolivia. Interventions to support or encourage forest product enterprises need to be well informed about the realities of the commercial environment.

regulations designed to limit, rather than to encourage, private production and sale of forest products. Restriction of output by means of regulations is often favoured because it is seen as easier than controlling forest use on the ground (Deweese and Scherr, 1996).

Forest departments may also impose charges in order to capture a share of the value. Producers may be obliged to sell to government marketing bodies, or to traders to whom concessions have been granted. Farmers are often subjected to controls on harvesting, transport and sale of wood and other tree products from their land, which are often motivated by the need to curb illegal felling from State forests. If they cannot be abolished, controls of this kind can often be reduced and simplified, such as excluding exotic species that are grown by farmers but that do not occur in the natural forests.

In many countries, the government also intervenes in the market directly, as a producer from State forests. Some products are made available at subsidized prices because of their importance to the poor. Others are effectively sold at below-cost prices because the process of setting and collecting royalties fails to capture an appropriate share of the economic rent. The result is that the private producer is confronted with competition from subsidized sources. There is a danger that, by hindering farmers' access to tree product markets in these ways, governments may inadvertently be interfering with the shift from a subsistence to a market economy.

One of the fundamental policy issues that many governments need to address, therefore, is this conflict within their overall strategy to provide forest products. While providing support to production by smallholders and small enterprise activities through one part of their forestry programme, they constrain and compete with them through the industrial forestry component. In the short term, the scope for improving the position of the latter probably lies mainly in removing or relaxing regulatory constraints that reinforce the structural and scale advantages that the government, through its forest department, possesses as a producer of many forest products. A logical longer-term solution would be to phase out State production in those markets where smallholder production has a comparative advantage.

This would contribute to meeting a more fundamental concern that has been raised (Dove, 1993); namely that the potential for community forestry to contribute to improving the livelihoods of the rural poor will continue to be limited as long as the latter are unable to participate in the more profitable and dynamic product activities. If local people cannot participate proportionately in activities that realize the benefits to be obtained from timber and other high-value products of the forest, they will remain confined to the low-value activities, which provide them with only limited opportunity to escape from poverty. Real empowerment for local users should mean providing them with equitable access to all the opportunities that a forest resource could provide.