PART II
SELECTED CURRENT ISSUES IN THE FOREST SECTOR

Forests and poverty alleviation

This chapter focuses on the role of forests, particularly natural ones, in poverty alleviation in developing countries. While some attention is given to the potential of planted forests and agroforestry to alleviate poverty, space constraints allow only a passing reference to trees outside forests. Thus, while not attempting to provide an extensive analysis of the topic, the chapter defines forest-based poverty alleviation, examines the potential of forests in this regard, notes obstacles to progress, identifies conditions that may strengthen the role of forests in alleviating poverty, and proposes several strategies to improve the contributions of the forest sector.

Forests can be vital safety nets, helping rural people to avoid, mitigate or rise out of poverty. This function is unknown to many policy-makers and planners because it is not well understood or explained. One reason is that the contribution of forests to poor households is largely unrecorded in national statistics, as most of it is for subsistence or for trade on local markets. In addition, most wealth from timber goes to better-off segments of society, while some aspects of the access to and processing of timber resources actually inhibit their potential to assist marginalized people. Despite these obstacles, the contribution of forests to poverty alleviation can be increased, provided that decision-makers recognize and act on this potential.

DEFINITION OF TERMS

Poverty can be defined as a pronounced deprivation of well-being related to lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard, and powerlessness (World Bank, 2001). Thus, poverty alleviation can be defined as the successful lessening of the deprivation of well-being. This chapter specifies two types of poverty alleviation associated with forest resources, as seen at the household level. These are:

- poverty avoidance or mitigation, in which forest resources serve as a safety net or fill gaps, for example by providing a source of petty cash;
- poverty elimination, in which forest resources help to lift the household out of poverty by functioning as a source of savings, investment, accumulation, asset building and permanent increases in income and welfare.

The term "forest-based poverty alleviation" thus covers situations in which forest resources are used either to avoid or to mitigate poverty, and situations in which they are used to eliminate poverty. Forest-based poverty alleviation cannot be carried out in isolation. It tends to be linked to other land uses, in particular agriculture, grazing and mixed systems of crop and tree growing.

There are three main ways of achieving forest-based poverty alleviation: preventing forest resources from shrinking if they are necessary for maintaining well-being ("protecting the pie"); making forests accessible and redistributing resources and rents ("dividing the pie differently"); and increasing the value of forest production ("enlarging the pie"). All are vital, but they are applied differently, depending on forest use and the strategies adopted.

It is also recognized that, in examining the forest-poverty relationship, there is a need to consider all types of disadvantaged people, irrespective of their level of poverty or of whether they are landless or have access to land. Even small differences in the level and type of household assets influence how forest people use their local resources (Barham, Coomes and Takasaki, 1999).

OPPORTUNITIES AND OBSTACLES IN FOREST-BASED POVERTY ALLEVIATION

Poverty often occurs in natural forests, although not all forested areas are poor and not all poverty is found in forested areas. Natural forests are home to human evolution, and human populations that have lived there for millennia are at a relatively low level of socio-economic development. Moreover, migrant rural populations that colonize forested areas and seek new agricultural land are often relatively poor. Forests often serve as a last-resort employer for economically marginalized people (owing, for example, to skewed land distribution in the lowlands). In the course of history, forests have often served as a refuge for less powerful people fleeing oppression, conflict and war.

Hundreds of millions of people depend on forests. It is hard to be specific about numbers because such an assessment depends on how dependence is defined (Byron and Arnold, 1999; Calibre Consultants and Statistical Services Centre, 2000). Byron and Arnold (1999) identified three categories: forest dwellers, including hunter-gatherers and swidden cultivators; farmers living adjacent to forests, including smallholders and the landless; and commercial users, including artisans, traders, small entrepreneurs and employees in forest industries. An additional category is consumers of forest products among the urban poor.

Forests serve as a vital safety net for millions of people around the world. Their role in eliminating poverty is not as well documented, but probably concerns a smaller number (Wunder, 2001). Little is known of the extent to which forests can alleviate poverty in developing countries in the future. Much research needs to be done in order to shed light on this question.

This section summarizes basic information on the opportunities and obstacles for forest-based poverty alleviation as regards five categories of forest use: conversion of natural forests to agriculture; wood products; non-wood forest products (NWFPs); payment for environmental services; and employment and indirect benefits. It also notes that the destruction and removal of forest cover, on the one hand, and its maintenance and sustained use, on the other, can both support poverty alleviation. A critical role for research is to clarify where forest conservation and poverty alleviation converge and where they diverge as policy goals.

Conversion of forests to agriculture

Between 1700 and 1980, the world's forest cover decreased by 19 percent, and the area of agricultural land increased four and a half times (Richards, 1990). The driving forces of this conversion were forest rent capture (use of unexploited economic opportunities), commercial interests behind the establishment of agricultural trade and the conversion of forest land to agriculture. Rural smallholders have also benefited from this process. The conversion of natural forests to agriculture – in other words, exploitation of the soil nutrient-building function of forests – is probably their main contribution to poverty alleviation in terms of numbers, in that hundreds of millions of people have probably benefited throughout history. Where smallholders are concerned, the conversion of natural forests can be either temporary, as with swidden systems, or permanent, as with sedentary agriculture.

Population increases in developing countries and the increasing demand for land are among the forces propelling forest conversion. According to FAO (1995), the area of agricultural land in developing countries, excluding China, will have to increase from 760 million to 850 million hectares by 2010 to meet the demand for food. Dyson (1996) and Evans (1998) claim that potentially cultivable land is abundant and that there is, in theory, no constraint in terms of supply. However, as Evans (1998) explains: "Much of the presently uncultivated area is already used for grazing livestock or is of poorer quality, too remote or subdivided to be economic, vulnerable to erosion, or cherished in its present state." The consequences of clearing all available cultivable land to meet demand are potentially disastrous. Most future increases in the demand for food will have to be met through more efficient use of existing agricultural land (Dyson, 1996; Rosegrant *et al.*, 2001). Some transitional land-use options, such as complex agroforests,

tree crop plantations and scattered trees on farmland, can potentially assist with poverty alleviation while conserving forests. However, win-win opportunities are few, and trade-offs must be made to prevent forests from disappearing (Tomich *et al.*, 2001; Lee, Ferraro and Barrett, 2001).

Local constraints on clearing large tracts of forest for agriculture are that some forest land has poor-quality soil or is in marginal, hilly or erosion-prone areas. In addition, permanent clearing means losing the safety net and income-generating functions of forests. At the global level, possible checks on further forest clearing include the consequences of a diminished capacity for carbon sequestration and the loss of habitat and biological diversity.

Wood products

Timber is by far the highest-value forest product in most forests. In 1998, the export of industrial roundwood, sawnwood and wood-based panels from developing countries accounted for US$10.4 billion (FAO, 2001a). (This figure excludes woodfuel, pulp for paper, and paper and paperboard. It also considerably understates the total value of timber, because most timber by volume is traded within countries and not internationally.) With so much wealth stored in developing country forests, the question arises as to why little has gone towards alleviating the poverty of people living in their midst. There are two reasons.

First, both timber extraction from natural forests and tree growing have certain features that

Community forestry in the United States: learning from developing countries

Community forestry is an emerging movement in the United States and is drawing heavily on lessons learned in many developing countries.

Tucked into forested mountains throughout the United States are numerous small towns where residents struggle daily to make a living. Poverty, unemployment, isolation and limited capital are among the features common to such forest communities. By the 1990s, their historical dependence on forest resources had been sharply reduced by resource depletion, increased environmental protection and globalization. Seeking economic activities to fill the gap, some communities began to explore how they could create sustainable rural livelihoods based on forest stewardship rather than resource extraction. They therefore cast about for models – and found them in community forestry efforts in developing countries.

Community forestry, in which local residents share in the decision-making, benefits, labour and expertise involved in managing local forests, has a history spanning decades in Asia, Africa and Latin America. Practitioners from developing countries have been influential sources of new ideas for rural forest communities in the United States. United States researchers, foundation representatives and ex-Peace Corps workers have applied their international experience to their work with communities in the United States. Most notable for local residents has been direct contact with community forestry practitioners from developing countries. Foresters, activists and government personnel from such countries as India, Mozambique and China have visited community forestry projects in the United States, offering insights and inspiration to local people. Community foresters in California have linked up with colleagues from the Philippines and Zimbabwe to share experiences. Several people from the United States attended the 2001 International Conference on Advancing Community Forestry, held in Thailand, in order to learn from the 300 participants of 28 other – mostly Asian – countries. The lessons they brought back to the United States emphasize the common challenges of capacity building, forest microenterprise development and effective collaborative agreements.

The United States community forestry movement is now growing and connecting with other efforts throughout the nation and across the world. Its strategies and successes owe much to lessons learned from developing countries.

do not favour the poor. Although some production and processing of timber is on a small scale and for local markets, much is capital-, technology- and skill-intensive, tends to require large economies of scale and is aimed at specialized consumer markets. Tree growing for timber requires secure land tenure, and the poor are often landless or have only informal control over the land that they use. High-value timber for extraction tends to be in inaccessible humid forests, whereas the poorest people are more numerous in dry forests. Tree growing requires a long-term, high-risk investment, while the poor require income in the short term and strive to minimize risks. Nevertheless, many poor rural families that own land in established agricultural areas do plant some trees.

Second, some poor people are excluded from access to timber wealth precisely because the value of timber is so high and because they lack power (see Peluso, 1992). In many countries, forest tenure, laws and regulations were designed on the one hand to ensure State control, with holders of timber concessions being granted privileged access, and on the other hand to avert interference and counter-appropriation by the rural poor. Only in recent years has this begun to change.

Two models of wood production – local management of natural forests and tree growing by smallholders – can possibly alleviate poverty, but significant obstacles are attached to both. Local management of natural forests is hampered by weak and slow-changing institutions, rent capture by local élites, inconsistent laws and regulations and cumbersome bureaucracy. In addition, communities lack control of downstream activities, and much of the forest rent is captured by those involved in processing and marketing. Although the use of trees for subsistence, for example for fuelwood, is an important function, overexploitation is common (e.g. Rathore, Singh and Singh, 1995; Schulte-Bisping, Bredemeier and Beese, 1999). While tree growing by smallholders can potentially produce substantial income, it requires access and land tenure security, which the poorest people tend not to have.

Non-wood forest products

NWFPs provide a wide range of goods for domestic use and for the market, among which are game, fruit, nuts, medicinal herbs, forage and thatch. In contrast to timber, NWFPs tend to require little or no capital and also to be available in open-access or semi-open-access circumstances. The poor generally use various types and are thus able to spread risk among different activities. There is strong evidence that the poorest people around the world are those most engaged in extracting NWFPs. This then raises the question of whether or not these products contribute positively to the livelihoods of the poor.

From a positive perspective, NWFPs can be viewed as a safety net. They are a source of emergency sustenance in times of hardship – when crops fail, when economic crises hit, in times of conflict or war, or when floods wash away homes. NWFPs tend to be seasonal or to fill gaps, and are sometimes a form of savings, but are rarely the primary source of household income (Byron and Arnold, 1999; FAO, 2001b), although there are important exceptions.

NWFPs can also be a poverty trap. Rural people rely on NWFPs because they are poor, but it is also possible that they are poor because they rely on NWFPs and economic activities for which remuneration is low. Some characteristics of the forest environment and the NWFP economy make it difficult or impossible for those who depend on them to rise out of poverty. Natural forests are often inferior production environments with little infrastructure, high transport costs because of remoteness, few buyers and exploitive marketing chains. The net benefits of NWFPs are often too low to justify articulating property rights, and as a result there is limited incentive to invest and increase yields. In the few cases where NWFPs have high value, the poor are often excluded from access (Dove, 1993). Furthermore, a sustained increase in the demand for NWFPs can lead to the collapse of the resource base, intensive production on plantations outside forests or the production of synthetics that are more competitive than NWFPs (Homma, 1992).

FAO COMMUNITY FORESTRY UNIT/CFU/000104/R. FAIDUTTI

Forests provide a safety net: a young farmer in Burkina Faso picks the leaves of a baobab tree (**Adansonia digitata**)*, for use as a food condiment*

The safety net and poverty-trap aspects of NWFPs are linked, inasmuch as the features that make them attractive to the poor also limit their potential for generating increased income. The key issue is how to preserve the role of forests as safety nets in locations where they are more than dead-end poverty traps and where other forms of social insurance cannot take their place.

Environmental services

The ecological services of forests are relevant to poverty alleviation in two ways. First, forests provide direct benefits to people living in or near them. Second, people living in or near forests that they own or manage can receive transfer payments for non-local services provided by them.

Forest dwellers can benefit directly from maintaining healthy forest ecosystems. For example, healthy forests can protect the quantity and quality of water supplies (WRI, 2000) and maintain or enhance agricultural production by restoring soil fertility in agroforestry systems (Sanchez, Buresh and Leakey, 1997). Forest biological diversity also provides various ecological benefits, including germplasm for crop improvement. The direct use of forest environmental services is related to the poverty avoidance/mitigation function of forests.

This section focuses on transfer payments, whereby off-site users pay forest dwellers to maintain the ecological services of particular forests. These payments could potentially improve the livelihoods of forest dwellers and help to eliminate poverty. However, while the potential benefits are immense, the challenges to implementing such schemes continue to be daunting.

Carbon storage and sequestration schemes seek to mitigate the contribution of forests to global warming, either by a reduction in forest degradation and deforestation or by reforestation, or by some combination of the two. Thirty forest-based carbon offset schemes have been developed to date, but sceptics point to high transaction costs and economies of scale that limit the involvement of the poor (Bass *et al.*, 2000; Smith *et al.*, 2000). The Clean Development Mechanism of the Kyoto Protocol must include safeguards to avert risks to local livelihoods and provide incentives for social benefits in forestry projects (Smith and Scherr, 2002).

Since the 1970s, integrated conservation and development projects have aimed at protecting forest habitats and biological diversity while improving livelihoods. Most have been unsuccessful, especially in terms of conservation objectives (Wells and Brandon, 1992; Gilmour, 1994). The main problem is that the employment provided through such projects does not necessarily reduce the incentives or the means for forest encroachment. In fact, such programmes may relax capital constraints and enable farmers to convert more forests to agriculture (Wunder, 2001). An alternative

approach is to pay people directly for the ecological services they protect, a tool that is under rapid development.

There have been payment schemes, mainly in Latin America, to compensate upstream forest owners for the protection of hydrological services. Examples include payments by hydroelectric plants, drinking-water consumers and users of irrigation systems in Colombia, Costa Rica and Ecuador (Pagiola, 2001) and tax benefits to forest-rich municipalities in Brazil (Grieg-Gran, 2000). The welfare implications of these schemes are not yet known. Landell-Mills and Porras (2002) state that the key hurdles facing the poor in watershed protection schemes are their lack of bargaining power and their lack of access to markets.

While tourism companies benefit disproportionately from forest-based tourism schemes, there is evidence that even small absolute cash transfers per tourist from nature-based tourism can benefit local people significantly. Examples are the CAMPFIRE project in Zimbabwe (Zimbabwe Trust, Department of National Parks and Wildlife Management, and CAMPFIRE Association, 1994), the Annapurna Conservation Area Project in Nepal (Gurung and Coursey, 1994), international ecotourism operations in Ecuador (Wunder, 1999) and nationally controlled tourism in forest areas in Brazil (Wunder, 2000).

Employment and indirect benefits

Very little is known about alleviating poverty through formal or informal forest sector employment and through indirect benefits, such as local multiplier effects or trickle-down effects. As limited empirical evidence is available, the present section lists only basic information about these aspects.

Employment. In the late 1990s, there were roughly 17.4 million employees in the formal forest sector worldwide, and roughly 47 million if informal employment was also included (ILO, 2001). Forest sector employment is understood here as encompassing forestry (including logging), wood industries (including furniture making) and pulp and paper production, but as excluding employees in government forest services and people involved in the transport, marketing and trade of forest products who are not employed by forest industry firms. A study of six developing countries found that forest-based enterprises accounted for 13 to 35 percent of all small-scale rural enterprise employment (FAO, 1987).

Local multiplier effects. It is possible that forestry activities alleviate poverty through local multiplier effects. For example, opening a forest concession and bringing in a logging workforce creates a demand for food, goods and services, as well as employment opportunities. Likewise, creation of a logging road not only enables the transport of logs, but also opens up access to markets for other goods, potentially increasing local incomes. It can also give local people access to outside health and schooling services. However, negative effects must also be considered, among which are reduced NWFP production from logged-over forests, conflicts with logging companies and disruptions resulting from the collapse of the economic boom after the logging has ended.

Trickle-down effects. Not enough is known about the extent to which forestry contributes to poverty reduction through its impact on overall economic growth, or about whether cheaper forest products from increased market supplies improve the economic status of urban consumers. The contribution of the forest sector to gross domestic product (GDP) tends to be a small fraction in most developing countries. It should be noted, however, that the value-added figure for the forest sector significantly underestimates the total, inasmuch as a large share of forest products are not registered because they are used for subsistence and trade on local markets. Moreover, low GDP contributions can also reflect the simple fact that in many cases forest products are not scarce and are therefore cheap (Simpson, 1999). Furthermore, although timber wealth often represents only a small share of GDP, it tends to be important for economic development, as the

capital from liquidated timber resources is used to establish economic activities outside the forest sector.

ENABLING CONDITIONS AND STRATEGIES

This section identifies recent developments and presents strategies that may improve the potential of forests to alleviate poverty.

Enabling conditions

The following changing socio-economic, political and environmental conditions present opportunities to enhance the role of forests in alleviating poverty. However, they do not guarantee a positive outcome. If forests are to serve effectively in this regard, conscious and dedicated efforts must be made.

Decentralization. Decentralization of authority and resource control is now occurring in many developing countries. This process increases – although by no means guarantees – the possibility of greater local access to forest rents. In some disappointing cases, mechanisms to exclude the poor have merely been reconfigured.

Forest tenure changes. As a result of extensive redistribution of forest resources in developing countries, 22 percent of the total forest area in these countries is now owned by or reserved for communities and indigenous groups (Scherr, White and Kaimowitz, 2002; White and Martin, 2002). Again, this does not guarantee that poverty will be alleviated, but may improve the chances.

Democratization. The trend towards democratization in many developing countries potentially increases the bargaining power of rural communities *vis-à-vis* the State and large enterprises. In Indonesia, for example, rural villagers are now freer to stake a claim to forest land and resources than they have been in the past 30 years.

Anticorruption campaigns. Corrupt practices in the forest sector tend to work against the interests of the poor (e.g. Hill, 2000). Together with democratization, anticorruption campaigns can boost opportunities for the rural poor to obtain a larger share of forest wealth.

Withdrawal of concession holders. In many countries, after concession holders have overharvested timber, they have not renewed their concessions. Their withdrawal presents an opportunity for forest communities to intercede and compete for access rights prior to the maturing of marketable timber stems.

Growing markets. Rapidly growing urban markets provide new opportunities for smallholders, especially those living in peri-urban areas, to market forest products. The increased scarcity of some forest products, such as fuelwood, makes it more profitable to grow them on-farm.

Market deregulation and liberalization. Market deregulation and liberalization can favour forest-based poverty alleviation in two ways. First, it can be a force behind the elimination of regulations that prevent tree growing on farms. (In the past, such tree growing has been more controlled than the growing of annual crops.) Second, it can lead to the reform of forestry marketing regulations that have tended to discriminate against small producers. However, trade liberalization does not always favour the interests of the poor, and government monopolies can easily be replaced by private ones. Government intervention is therefore needed to protect vulnerable people against negative effects (J. Mayers and S. Vermeulen, unpublished).

New technology. Small portable sawmills with lower capital requirements should favour a more decentralized production system for sawnwood, which should in principle make it easier to involve local entrepreneurs. Technological changes in the plywood industry allow the use of smaller-diameter trees and more species. This could increase the commercial value of the less valuable forests over which local communities have, at least in the past, had control. However, there is a risk that technologies that make new

areas and species commercially profitable for logging will speed up deforestation.

Growing global environmental threats. The growing threats of global warming and greater loss of biological diversity increase the likelihood that developed countries will be willing to compensate forest dwellers in developing countries for such environmental services as carbon sequestration and conservation concessions.

Strategies

The following six strategies are among those that hold the most promise of contributing to poverty alleviation.

People-centred forestry. Improved use of forest resources to alleviate poverty requires, above all, that forestry be people centred (FAO and DFID, 2001; Warner, 2000). Operationally, this means that the poor in forested areas must have a much greater say in determining their destinies and livelihoods. Local people should be the main stakeholders where forests continue to be central to livelihoods, and meeting their needs on a sustainable basis should be the main objective of forest management (Warner, 2000). As explained by Peluso (1999), "people's relations with others are as important to understanding their use of the forest as are their direct forest management activities". In view of the fact that conflicts tend to arise over access to forest resources, policies should formally recognize that intervention is needed to defend the interests of those who are powerless.

Removal of tenure and regulatory restrictions. A pro-poor forest use strategy requires the transfer (or return) of public forest land to local control so that local people can enter into long-term business contracts (Scherr, White and Kaimowitz, 2002). The elimination of excessive regulations, as well as regulations that discriminate against smallholder and artisan production of and trade in forest products, is equally important (Scherr, White and Kaimowitz, 2002; Arnold, 2001; FAO and DFID, 2001). In general, people should be allowed to decide whether to plant or harvest trees on their own land. If management plans really are required because of important external benefits, they should be kept simple. In some cases, regulations designed to exclude poor people are redundant, because large enterprises have overharvested and exhausted high-value timber rents. If local governments are inefficient or corrupt, or if local élites monopolize the benefits, the devolution of control over forest resources may not be advantageous to poor people. However, with good governance, devolution can work in their favour.

Improvement in marketing arrangements. Forest market policies that subsidize or provide privileged access to large-scale producers and processors must be eliminated, so as to move towards a "level playing field" for marginal producers (Scherr, White and Kaimowitz, 2002; FAO and DFID, 2001). Other measures to redress unfairness include: the elimination of tied credit deals and minimum volume or area requirements; the establishment of special sorting yards and services that provide information on prices and markets; and the active involvement of local producers in policy negotiations affecting forest markets (Scherr, White and Kaimowitz, 2002). Intervention strategies must distinguish between people who are involved in forest product activities because they lack other income sources and those who are responding to market opportunities (Arnold and Townson, 1998).

Partnerships. Closer partnerships between smallholders or communities and commercial companies, as in the case of outgrower schemes, would be an important step forward. An effective partnership between poor people and the private sector needs to be based on each group's comparative advantages. The poor can supply cheap labour and land, while companies have easier access to capital, knowledge, technology and markets. Mayers (2000) and Desmond and Race (2001) summarize lessons learned from such arrangements. Genuine

partnerships facilitate secure contractual obligations between communities and companies, in that communities receive an adequate economic return and companies are assured a supply of wood. The bargaining power of individuals and communities is often weak, and producer associations and alternative market outlets strengthen their power. NGOs have a crucial role to play in strengthening the negotiating power of farm foresters and producer associations by making the contract process transparent and by assisting the flow of information. Government is also an important player, since an enabling environment is required for effective partnerships to take root.

Redesign of transfer payments. The lack of secure land tenure and the high transaction costs of contracts with smallholders make it difficult to involve the poor in compensation agreements for the provision of environmental services. Moreover, many poor people are unaware of these income-earning possibilities and have no advocate to act on their behalf. Since poor people control an increasing share of tropical forest land, it is crucial to involve them if goals related to climate mitigation are to be achieved. One approach is to compensate governments for not logging certain areas (conservation concessions). Another is to pay local people for not deforesting and for safeguarding biologically diverse forest on their land (conservation easements). Under these arrangements, direct payments are made on the basis of the monitored quality of the forest resource. Setting aside of areas in this way is still in a pioneer

The Role of Forests and Trees in Poverty Alleviation
Cortevecchia, Italy, 4 to 7 September 2001

To explore further the ways in which forests and forestry can contribute to the United Nations' Millennium Development Goals and the targets of the World Food Summit, FAO, with support from the United Kingdom Department for International Development (DFID), convened an international forum that brought together some 60 policy-makers and practitioners to identify ways in which forest policy, legislation and programmes can alleviate poverty. Discussions resulted in an agenda for action that identifies four main areas.

STRENGTHENING RIGHTS, CAPABILITIES AND GOVERNANCE

- Support the decision-making power of the poor
- Strengthen the forest rights of the poor and the means to claim them
- Recognize the links between forestry and local governance

REDUCING VULNERABILITY

- Make safety nets, not poverty traps
- Support tree planting outside forests
- Cut the regulatory burden on the poor and make regulation affordable

CAPTURING EMERGING OPPORTUNITIES

- Remove the barriers to market entry
- Base land-use decisions on the true value of forests
- Ensure that markets for environmental services benefit the poor
- Support associations and financing for local forest businesses

WORKING IN PARTNERSHIP

- Simplify policies and support participatory processes
- Promote multisectoral learning and action
- Enhance interagency collaboration
- Make NGOs and the private sector partners to reduce poverty

Further details are available on the Internet at www.fao.org/forestry/fon/fonp/cfu/brochure/brochure.stm.

phase, but its application is rapidly expanding because of the growing demand for these services (Ferraro, 2000; Cutter Information Corporation, 2000). Improvements of transfer payment initiatives must be supported by policy research (Gutman, 2001).

Integration of forestry into rural development and poverty reduction strategies. The elimination of poverty in forested regions will involve not only the forest sector but also other sectors, such as agriculture, health and education. Forest-based poverty alleviation must be part of an overall rural development strategy and cannot be carried out in isolation. By the same token, efforts in other sectors must recognize the current role of forests in mitigating and avoiding poverty, and their potentially larger role in eliminating poverty. At the national and local levels, forests must be seen as an important asset to fight poverty (Gordon, Berry and Schmidt, 1999). A crucial first step is to review national poverty reduction strategies to ensure that, wherever appropriate, they recognize the importance of forests and include measures such as those proposed above.

SUMMARY AND CONCLUSION

At the beginning of the twenty-first century, poverty remains a problem of huge proportions, with 1.2 billion people, mostly in developing countries, living on less than US$1 a day (World Bank, 2001). In such circumstances, it is important to join forces to face the moral challenge, and the potential of the forest sector to contribute to poverty alleviation must be examined.

The present chapter makes a distinction between two forms of poverty alleviation in relation to forests. First, forest resources help marginal people to avoid poverty or mitigate the poverty that they are experiencing. NWFPs have a special but ambiguous role in this regard, because although their relative accessibility and low capital requirements make them valuable safety nets, these same qualities may make them poverty traps. Second, forests can help people lift themselves out of poverty. This potential is often unrealized because high-value timber tends to attract powerful competitors and because certain characteristics of timber make it relatively inaccessible to the poorest people.

Various forest uses provide both opportunities for and obstacles to poverty alleviation. Nine types of sociopolitical change may favour a greater role for forests in the future, although this is not assured. These changes are: decentralization; more secure forest tenure; democratization; better governance; overharvesting and withdrawal by concession holders; growing urban markets; market deregulation and liberalization; new technology; and a greater willingness to pay for environmental services.

Poverty alleviation is best pursued through policy reform. A forest-based poverty alleviation strategy should include the following elements: establishment of a people-centred agenda; removal of tenure and regulatory restrictions; improvement in marketing arrangements for marginalized people; creation of partnerships between poor people and forest enterprises; redesign of transfer payments; and integration of forest-based poverty alleviation efforts into rural development and poverty reduction strategies.

In closing, three points deserve emphasis. First, it is useful to note the recent attention to forests and poverty. In the 1960s, it was believed that forests could and would play a key role in alleviating poverty in developing countries. In the 1980s, disillusionment set in with the realization that the forecast of the 1960s had been overly optimistic (Westoby, 1987). At the dawn of the new millennium, there is renewed attention to this topic and a new call for people-centred forestry. While certain enabling conditions present a tentative basis for optimism, substantial benefits to poor people are unlikely unless they can achieve a degree of political power and influence that they currently lack.

Second, natural forests are under severe threat throughout the developing world, and the poor people who depend heavily on them are those who stand to suffer the most from their disappearance and degradation by outside agents. The practical implications of this situation are that equity and social justice must

be raised as additional reasons for natural forest conservation, and that the forest-dependent poor are a potentially important constituency in the mobilization to conserve forests. In some cases, giving poor people a greater voice assists not only the poverty alleviation goal, but also forest conservation.

Finally, it is important to recognize that much remains unknown about the relationship between forest resources and rural livelihoods. Developing such knowledge is crucial for designing forest-based poverty alleviation programmes that are effective, equitable and long-lasting. Greater understanding is particularly needed in three areas: how forests function as safety nets; ways of increasing forest income; and the significance of cross-cutting issues and political trends. ◆

REFERENCES

Arnold, J.E.M. 2001. *Forestry, poverty and aid.* CIFOR Occasional Paper No. 33. Bogor, Indonesia, Center for International Forestry Research (CIFOR).

Arnold, M. & Townson, I. 1998. *Assessing the potential of forest product activities to contribute to rural incomes in Africa*. Natural Resource Perspectives No. 37. London, Overseas Development Institute.

Barham, B.L., Coomes, O.T. & Takasaki, Y. 1999. Rain forest livelihoods: income generation, household wealth and forest use. *Unasylva,* 50(198): 34–42.

Bass, S., Dubois, O., Moura Costa, P., Pinard, M., Tipper, R. & Wilson, C. 2000. *Rural livelihoods and carbon management.* IIED Natural Resources Issues Paper No. 1. London, International Institute for Environment and Development (IIED).

Byron, R.N. & Arnold, J.E.M. 1999. What futures for the people of the tropical forests? *World Development,* 27(5): 789–805.

Calibre Consultants & Statistical Services Centre. 2000. *Number of forest-dependent people: a feasibility study for DFID's Forestry Research Programme.* Reading, UK, University of Reading.

Cutter Information Corporation. 2000. Focus report: saving the forest with a timber lease. *Global Environmental Change Report,* 12(19): 1–2.

Desmond, H. & Race, D. 2001. *Global survey and analytical framework for forestry out-grower arrangements.* Final report submitted to FAO. Canberra, Australia, Australian National University.

Dove, M. 1993. A revisionist view of tropical deforestation and development. *Environmental Conservation,* 20(1): 17–24.

Dyson, T. 1996. *Population and food: global trends and future prospects.* London & New York, Routledge.

Evans, L.T. 1998. *Feeding the ten billion: plants and population growth.* Cambridge, UK, Cambridge University Press.

FAO. 1987. *Small-scale forest-based processing enterprises.* FAO Forestry Paper No. 79. Rome.

FAO. 1995. *World agriculture: towards 2010,* N. Alexandratos, ed. Rome, FAO & Chichester, UK, John Wiley.

FAO. 2001a. *State of the World's Forests 2001.* Rome.

FAO. 2001b. *Forests and people: 25 years of community forestry,* by J.E.M Arnold. Rome.

FAO & DFID. 2001. *How forests can reduce poverty.* Rome, FAO & London, Department for International Development.

Ferraro, P.J. 2000. *Global habitat protection: limitations of development interventions and a role for conservation performance payments.* Department of Applied Economics and Management Working Paper No. 2000-03. Ithaca, NY, USA, Cornell University.

Gilmour, D.A. 1994. *Conservation and development: seeking the linkages.* International Symposium on Management of Rainforests in Asia. University of Oslo, 23–26 March. Oslo, Norway, University of Oslo.

Gordon, J.C., Berry, J.K. & Schmidt, R. 1999. Forests, poverty, and this book. *In* R. Schmidt, J.K. Berry & J.C. Gordon, eds. *Forests to fight poverty: creating national strategies,* pp. 8–22. New Haven, Connecticut, USA & London, Yale University Press.

Grieg-Gran, M. 2000. *Fiscal incentives for biodiversity conservation: the ICMS Ecológico in Brazil.* Environmental Economics Programme Discussion Paper No. DP 00-01. London, International Institute for Environment and Development (IIED).

Gurung, C.P. & Coursey, M.D. 1994. Nepal, pioneering sustainable tourism. The Annapurna Conservation Area Project: an applied experiment in integrated conservation and development. *Rural Extension Bulletin,* 5.

Gutman, P. 2001. *Forest conservation and the rural poor: a call to broaden the conservation agenda.* Washington, DC, WWF Macroeconomics Program Office.

Hill, I. 2000. Corruption in the forest sector in India: impacts and implications for development assistance. *International Forestry Review,* 2(3): 200–207, 240, 242.

Homma, A.K.O. 1992. The dynamics of extraction in Amazonia: a historical perspective. *Advances in Economic Botany,* 9: 23–31.

ILO. 2001. *Social and labour dimensions of the forestry and wood industries on the move*. Geneva, Switzerland, International Labour Organization (ILO).

Landell-Mills, N. & Porras, I. 2002. *Silver bullet or fools' gold?* London, International Institute for Environment and Development (IIED).

Lee, D.R., Ferraro, P.J. & Barrett, C.B. 2001. Introduction: changing perspectives on agricultural intensification, economic development and the environment. *In* D.R. Lee & C.B. Barrett, eds. *Tradeoffs or synergies? Agricultural intensification, economic development and the environment,* pp. 1–16. Wallingford, UK & New York, CABI Publishing.

Mayers, J. 2000. Company-community forestry partnership: a growing phenomenon. *Unasylva,* 200(51): 33–41.

Pagiola, S. 2001. Paying for water services. In *Forest trends.* Workshop on New Markets for a Green Economy. Teresópolis, Brazil, 24–26 March 2001 (available at www.forest-trends.org/whoweare/pdf/brazil2001/paying%20for%20water%20services.pdf).

Peluso, N.L. 1992. *Rich forests, poor people: resource control and resistance in Java.* Berkeley, California, USA, University of California Press.

Peluso, N.L. 1999. The role of forests in sustaining smallholders. *In* R. Schmidt, J.K. Berry & J.C. Gordon, eds. *Forests to fight poverty: creating national strategies,* pp. 38–64. New Haven, Connecticut, USA & London, Yale University Press.

Rathore, S.K.S., Singh, S.P. & Singh, J.S. 1995. Evaluation of carrying capacity with particular reference to firewood and fodder resources in central Himalaya: a case study of Baliya catchment. *International Journal of Sustainable Development and World Ecology,* 2(4): 285–293.

Richards, J.F. 1990. Land transformation. *In* B.L. Turner, W.C. Clark, R.W. Kates, J.F. Richards, J.T. Matthews & W.B. Meyers, eds. *The earth as transformed by human action,* pp. 163–178. Cambridge, UK, Cambridge University Press.

Rosegrant, M.W., Paisner, M.S., Meijer, S. & Witcover, J. 2001. *Global food projections to 2020: emerging trends and alternative futures.* Washington, DC, International Food Policy Research Institute (IFPRI).

Sanchez, P.A., Buresh, R.J. & Leakey, R.R. 1997. Trees, soils, and food security. *Philosophical Transactions of the Royal Society of London,* 352(1356): 949–961.

Scherr, S.J., White, A. & Kaimowitz, D. 2002. *Strategies to improve rural livelihoods through markets for forest products and services.* Washington, DC, Forest Trends. (In press)

Schulte-Bisping, H., Bredemeier, M. & Beese, F. 1999. Global availability of wood and energy supply from fuelwood and charcoal. *Ambio,* 28(7): 592–594.

Simpson, R.D. 1999. Introduction. Technological innovations in natural resource industries. *In* R.D. Simpson, ed. *Productivity in natural resource industries – improvement through innovation,* pp. 1–34. Washington, DC, Resources for the Future.

Smith, J., Mulongoy, K., Persson, R. & Sayer, J. 2000. Harnessing carbon markets for tropical forest conservation: towards a more realistic assessment. *Environmental Conservation,* 27(3): 300–311.

Smith, J. & Scherr, S.J. 2002. *Forest carbon and local livelihoods.* Policy Report. Bogor, Indonesia, Center for International Forestry Research (CIFOR) & Washington, DC, Forest Trends. (In press)

Tomich, T.P., van Noordwijk, M., Budidarsono, S., Gillison, A., Kusumanto, T., Murdiyarso, D., Stolle, F. & Fagi, A.M. 2001. Agricultural intensification, deforestation and the environment: assessing the tradeoffs in Sumatra, Indonesia. *In* D.R. Lee & C.B. Barrett, eds. *Tradeoffs or synergies? Agricultural intensification, economic development and the environment,* pp. 221–244. Wallingford, UK & New York, CABI Publishing.

Warner, K. 2000. Forestry and sustainable livelihoods. *Unasylva,* 51(202): 3–12.

Wells, M. & Brandon, K. 1992. *People and parks: linking protected area management with local communities.* Washington, DC, International Bank for Reconstruction and Development (IBRD)/World Bank.

Westoby, J. 1987. *The purpose of forests: follies of development.* Oxford, UK, Basil Blackwell.

White, A. & Martin, A. 2002. *Who own the world's forests? Forest tenure and public forests in transition.*

Washington, DC, Forest Trends/Center for International Environmental Law.

World Bank. 2001. *World development report 2000/2001: attacking poverty.* Oxford, UK, Oxford University Press.

WRI. 2000. *World resources 2000–2001: people and ecosystems. The fraying web of life.* Washington, DC.

Wunder, S. 1999. *Forest conservation through ecotourism income? A case study from the Ecuadorian Amazon region.* CIFOR Occasional Paper No. 21. Bogor, Indonesia, Center for International Forestry Research (CIFOR).

Wunder, S. 2000. *Big island, green forests and backpackers. Land-use and development options on Ilha Grande, Rio de Janeiro state, Brazil.* CDR Working Paper No. 00.3. Copenhagen, Denmark, Centre for Development Research (CDR).

Wunder, S. 2001. Poverty alleviation and tropical forests – what scope for synergies? *World Development*, 29: 1817–1833.

Zimbabwe Trust, Department of National Parks and Wildlife Management & CAMPFIRE Association. 1994. Zimbabwe: tourism, people and wildlife. *Rural Extension Bulletin*, 5. ◆