PART II

SELECTED CURRENT ISSUES IN THE FOREST SECTOR

Enhancing economic benefits from forests: changing opportunities and challenges

Awareness of the economic, social, cultural and environmental contributions of forests and forestry has risen considerably in recent years, yet low investment and low incomes continue to plague the sector. Given its relatively small share of employment and national income – usually measured in terms of GDP – decision-makers give forestry a low priority in the face of competing demands for limited budgets. In response, attempts are being made to assess the value of all products and services, especially those pertaining to the environment. Efforts are also being undertaken to develop innovative financing mechanisms and to create markets for services in order to enhance income and to encourage investment in sustainable forest management.

Moving up the value chain and diversifying the product mix have led to a significant expansion of goods and services derived from forests. The growth of retail networks has made wood and wood products more accessible to consumers, enhancing opportunities for local communities, farmers and other resource owners in most countries. Yet the economic viability of forestry remains a concern as the sector grapples with two important issues: how to increase the size of the economic pie and how to divide it among the different segments of society.

This chapter of *State of the World's Forests 2005* analyses the contribution of the forest sector to income and describes the experiences of communities, governments and the private sector in increasing economic benefits from forests. It also identifies issues that the profession must address to make sustainable forest management an economically viable option.

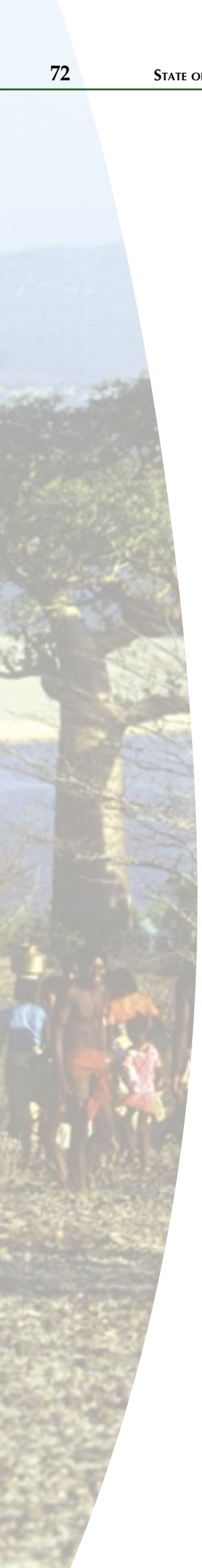
The forest sector is defined in this chapter on the basis of the ILO's International Standard Industrial Classification of all Economic Activities (ISIC) (United Nations *et al*., 2003). It includes forestry, logging and related service activities, wood industries, manufacture of wood and products of wood and cork (except furniture) and pulp and paper industries. Forestry includes the production of standing timber as well as the extraction and gathering of wild-growing forest materials except for mushrooms, truffles, berries and nuts. Forestry also includes products that undergo a minimal amount of processing, such as wood for fuel or industrial use.

FORESTS AND FORESTRY IN NATIONAL ECONOMIES

Income from forests and forest industry

Although current systems of national income accounting have serious limitations, GDP still forms the basis for assessing economic performance and allocating public funds to different sectors. Key trends related to the share of the forest sector in national income can be summarized as follows.

- Globally, the gross value added by the sector in 2000 (including forestry, logging and related activities, the manufacturing of wood, wood products, paper and paper products) is estimated at about US$354 billion, or about 1.2 percent of GDP (FAO, in preparation).
- Between 1990 and 2000, the gross value added by the sector registered a modest



growth of about 1.4 percent, while the global economy grew by about 30 percent because of gains in other sectors, especially manufacturing and services. As a result, the share of the forest sector in GDP declined from about 1.6 to 1.2 percent.

- Within the sector, the contribution of forestry *per se* remains low and appears to be declining. Globally, it accounts for about US$78 billion of the gross value added, or about 22 percent of the forest sector's contribution. Wood industries and pulp and paper make up the balance (Table 7).

The overall decline in the importance of the forest sector is consistent with that of most primary sectors, especially agriculture. The latter, which covers about 38 percent of land area and employs 44 percent of the economically active population, accounts for only about 6.2 percent of the global gross value added – ranging from 2.6 percent in developed countries to 11.9 percent in developing countries. In almost all countries, agriculture's share of GDP has declined over time (FAO, 2004a).

Interregional and intercountry differences

Considerable differences exist among regions and countries in the share of the forest sector's value added and in the contribution of subsectors (Figure 6). For example, North and Central America (mainly Canada and the United States) account for almost 40 percent of the global share of gross value added, compared with Africa's portion of about 2 percent. The forest sector's share in the gross value added is 14 percent in North and Central America and 58 percent in Africa, while that from wood industries and the production of pulp and paper is 86 and 42 percent, respectively. Since South Africa accounts for about 42 percent of Africa's share of value added in wood industries, including pulp and paper, the rest of Africa's share in processing is much lower.

Data in this chapter are based on a number of assumptions and should therefore be interpreted with caution. However, the following observations can be made.

- The existence of large forest areas is neither an essential nor a sufficient condition for developing a vibrant sector. Indeed, many countries with low forest cover have forest industries that compete in global markets, and most of the sector's gross value added comes from wood processing rather than wood production.
- Above all, a favourable investment climate is needed to build processing capacity. The ability to develop new products and processes, knowledge of markets and entrepreneurial skills are important factors as well.

Underestimation of forestry's contribution

In the face of competing demands, foresters have only experienced moderate success in convincing decision-makers, especially in the

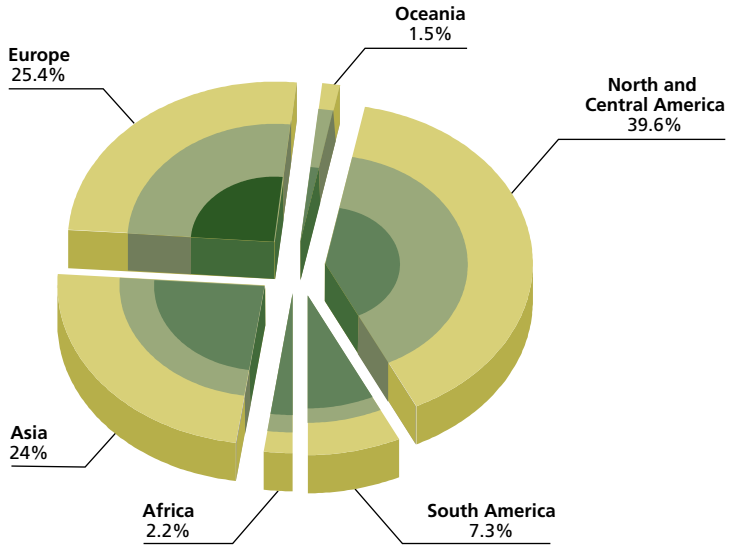
TABLE 7

Gross value added by the forest sector in 2000 *(million US$)*

Region	Forestry	Wood industries	Pulp and paper	Total	Contribution to GDP *(%)*
Africa	4 425	1 379	1 863	7 667	1.5
Asia	24 390	17 315	43 453	85 158	1.1
Europe	14 457	30 222	45 111	89 790	1.2
North and Central America	19 171	49 782	71 256	140 209	1.3
Oceania	1 176	2 553	1 655	5 384	1.3
South America	13 156	3 328	9 304	25 788	2.1
World	**76 775**	**104 579**	**172 642**	**353 996**	**1.2**

Source: FAO, in preparation.

FIGURE 6
Share of the forest sector's value added, by region and subsector



Share by subsector (%)						
Subsector	Africa	Asia	Europe	Oceania	North and Central America	South America
Forests	58	29	16	22	14	51
Wood industry	18	20	34	47	35	13
Pulp and paper	24	51	50	31	51	36

Source: FAO, in preparation.

ministries of planning and finance, to allocate more resources to the sector. While political considerations guide most such decisions, neglect of the sector in national budgets is sometimes rationalized on the basis of its low contribution to income and employment, raising questions about the reliability of the system of national income accounts. Shortcomings include:

- incorrect classification of activities so that income and employment from forestry are recorded elsewhere;
- exclusion of the informal sector, which contributes significantly to income and employment in many countries;
- failure to take environmental services into account that are often critical to the performance of other sectors (watershed protection and conservation of biological diversity, for example).

The first of these shortcomings can be addressed with relative ease through improved standardization and harmonized definitions. However, lack of data makes it difficult to account for the importance of the informal sector and the value of subsistence consumption in national income statistics (Lange, 2004). Most countries have neither the resources nor the capacity to assess accurately the role of the informal sector in the overall economy.

The System of Integrated Environmental and Economic Accounting (SEEA) (see United Nations *et al.*, 2003) aims to address problems of current approaches to national income accounting. Associated satellite accounts capture changes in the flow of environmental goods and services and asset depletion. This method represents an improvement over others, but its adoption has been slow, partly owing to lack of data.

Forestry activities in the informal sector contribute significantly to income and employment in many countries – but because they are excluded from national income accounts, the economic contribution of forestry is often underestimated

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FACTORS THAT AFFECT VALUE CAPTURE

If at the aggregate level the forest sector is not a major contributor to national income, resource owners can still perceive it to be economically important. Their view of its profitability is influenced by the complex interaction among resource characteristics, ownership characteristics – especially socio-economic status and entrepreneurial skills – and market characteristics under different policy and institutional settings.

Resource characteristics

Depending on the characteristics of land and vegetation, including productivity, biological diversity and topography, the potential to realize economic benefits differs with the mix of products and services offered. For example, some species-rich tropical rain forests may be commercially less valuable, while the biodiversity and environmental services they provide could be significant. Similarly, vast tracts of woodlands in the dry tropics are important to local communities despite low levels of wood production and economic returns. Their value is seldom fully reflected in income statistics.

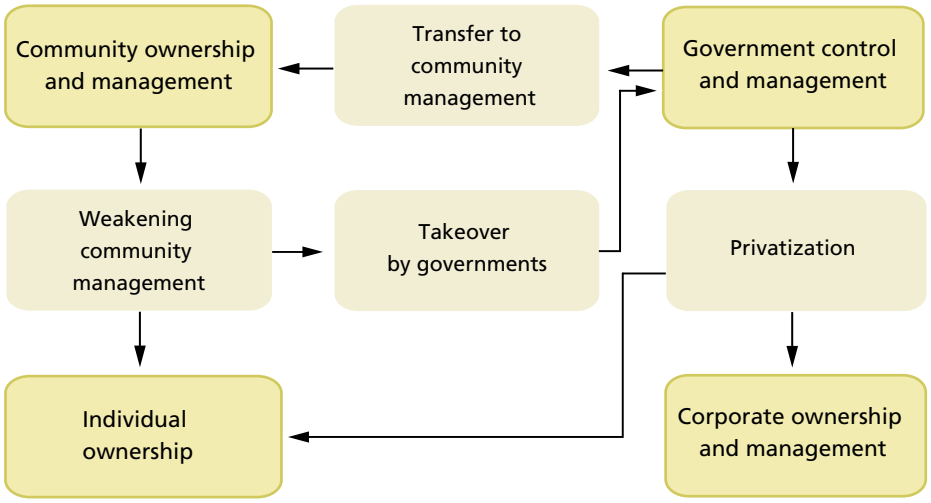
Realizing economic benefits from forests often depends on their accessibility and proximity to markets. In the 1970s and 1980s, several commercial-scale planted forests were established without considering their viability, in particular end uses and markets. Even today, these resources often remain underutilized and poorly managed. However, large isolated forest areas offer new opportunities to provide global public goods, such as carbon sequestration and the conservation of biological diversity. Remote forests also serve as a major attraction for nature-based tourism that caters to high-value niche markets (see page 27).

Ownership characteristics

Forest ownership is in a state of flux in response to policy and legislative changes (Figure 7), reflecting society's preoccupation with balancing efficiency and equity. Although most forests are publicly owned (White and Martin, 2002), the trend towards community and private sector management is increasing, based on a common view that community and public ownership enhances social and environmental benefits, while private ownership improves economic efficiency. Weak policies and legislation encourage overexploitation and inhibit long-term investment. The following factors affect the capture of forest values.

Social and economic condition of owners. Individuals and governments with few alternative sources of income are less willing and

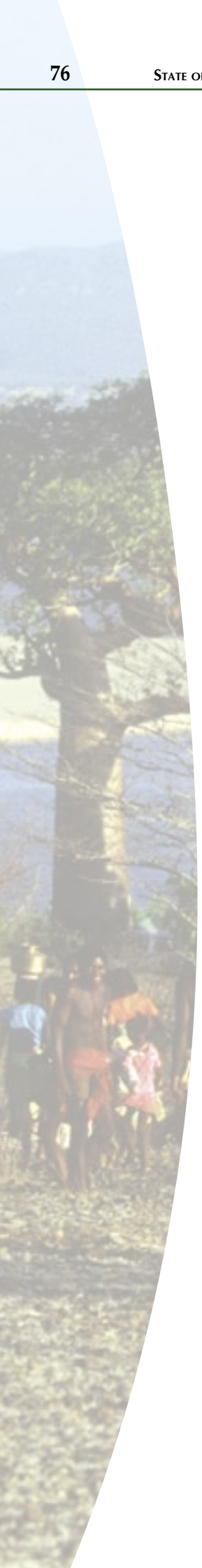
FIGURE 7
Forest resource ownership changes



able to invest in sustainable forest management. Instead, they give a high priority to activities that require low investment and generate high economic returns over the short term. Such behaviour is also common in parts of the corporate sector, especially transnational logging companies. Governments that use revenue from forests to develop other sectors can raise funds, for example, either by selling forest products or by converting forest land to more productive uses such as cattle ranches and cash crop plantations, depending on markets. Social and economic conditions also influence access to technology and capital.

Institutional capacity. The ability to realize economic benefits from forests is tied to institutional capacity, especially the capacity to understand changing environments and the capacity to seize the opportunities they bring. Many community groups and small-scale forest owners are at a disadvantage in this regard, although the establishment of cooperatives and associations is helping to overcome some constraints. Institutional weaknesses are also evident in government management and contribute to significant leakage of benefits, including through illegal logging (see Box on page 76). Forestry administrations in many countries are understaffed and underpaid and lack the motivation to tap the full potential of the resource. On the other hand, many corporations are able to influence markets, foresee emerging opportunities and develop strategies for the deployment of resources.

Ability to move up the value chain. Wood industries, including pulp and paper, account for a major share of the gross value added (Table 7), suggesting that moving up the value chain is key to enhancing economic benefits. The ability to do so, however, differs among owners. Profit-driven corporate ownership and management can often both identify the need for new products and services and develop them more effectively than governments and other owners. Integrating all aspects of production – from making the raw material to manufacturing the final product – has been an important strategy to increase profitability. However, many producers of wood and non-wood forest products are not in a position to set the prices, and their income is often determined by others. In the context of declining prices, sustaining primary production, including wood, often depends on direct and indirect subsidies.



Loss of income due to illegal logging

According to the World Bank, illegal logging results in a loss of US$5 billion annually and a further loss of US$10 billion to the economies of timber-producing countries. In many cases, the proportion of illegally produced timber far exceeds legal production. The activity depresses prices, undermines profitability of legitimate enterprises and helps to finance wars and civil strife. Several initiatives are addressing the problem of illegal logging, including the EU Action Plan on Forest Law Enforcement, Governance and Trade, the World Bank's Africa Forest Law Enforcement and Governance and the United States' President's Initiative Against Illegal Logging.

Market characteristics and changes

Recent decades have witnessed significant changes in the markets for forest products and services. Indications are that these will accelerate in response to changes in demography, economic performance, technology and social, political and institutional environments. At issue is the ability of resource owners to seize emerging opportunities.

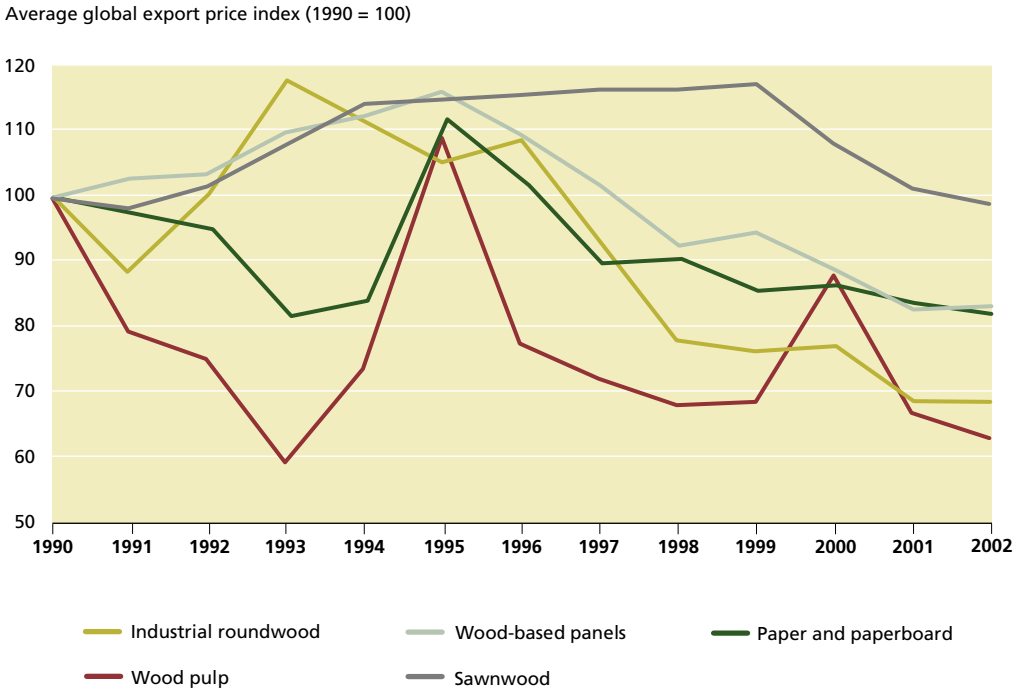
Ability of consumers to pay. Markets for forest products and services are highly segmented and cater to consumers with varying ability to pay. For example, woodfuel (charcoal and fuelwood) consumed by low-income households seldom generates returns that encourage investment in production. Higher returns require the production of goods and services for high-income markets. However, this option is unavailable to many producers because of the need for large initial investments. Income from low-value products could be enhanced by increasing the quantity, but this possibility is also beyond the capacity of many small-scale entrepreneurs.

Competition. As more producers enter markets for forest products, competition is intensifying. Although the forest industry is still fragmented, some consolidation through mergers and acquisitions is taking place, especially in the pulp and paper sector. Again, such options fall outside the realm of small businesses. Market competition in highly processed items is particularly intense, exacerbated by a greater supply of less environmentally friendly commodities such as steel, plastic and concrete.

Demand for wood and wood products. The demand for wood, including woodfuel, is expected to grow, although at a slower rate than in the past. Demographic trends in many developed countries suggest a decline in demand that will drop further as recycling and processing technologies improve. On the other hand, the low per capita consumption in many developing countries suggests significant increases in demand in response to rising incomes. This trend is already evident in emerging economies such as China and India where imports of wood and wood products are escalating, bringing about important changes in the direction of global trade in forest products.

Changes in the product mix. Significant diversification of product mix has taken place in recent years with products such as medium-density fibreboard, oriented strandboard and other engineered wood products entering the market. These products often replace sawnwood, affecting the demand for large logs and thus the income of forest owners. Investments in industrial research and development are expected to accelerate the process. Efforts to cater to niche markets by customizing both wood and non-wood forest products have also been noteworthy. The rapid growth in the market for herbal products, for example, is providing new opportunities. The production and trade of secondary wood products, especially furniture and joinery, have also increased dramatically in recent years.

FIGURE 8
Recent trends in global forest product export prices

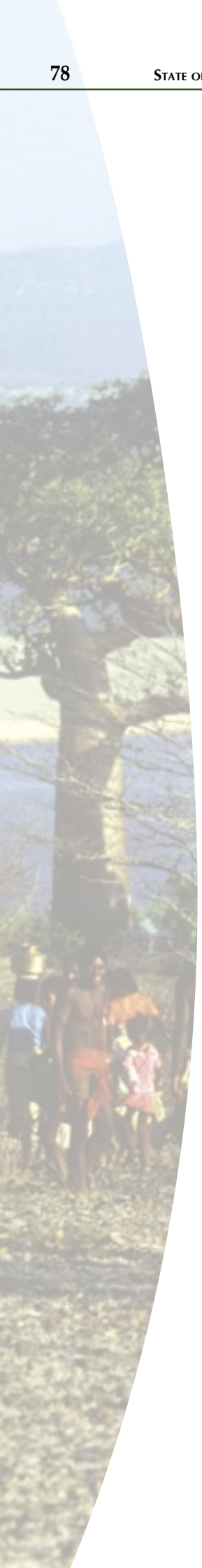


Source: FAO, 2004b.

Declining prices. Global prices for forest products have declined in the past decade (Figure 8), affecting the economic viability of the sector in many countries (New Zealand Forest Industries, 2004). In the United Kingdom, for example, the decline in stumpage fees has been significant (see Box on page 78, top) (Forestry Commission, 2002, 2004). Although deforestation in the tropics remains a concern, wood supply is not a critical problem, except in countries where limited local supply combined with a surplus capacity in wood processing have inflated prices and promoted illegal logging. In many temperate and boreal countries, removals are far below the annual allowable cut. Additional supplies from planted forests and improvement in processing technologies have also led to declining prices. On the demand side, environmental policies in developed countries have encouraged greater utilization of wood residues and recycled wood products. In addition, concerns related to sustainability and illegal sourcing are discouraging consumers from using forest products, particularly tropical sawnwood and panel products.

Trade liberalization. Aided by improved transportation technology and trade liberalization, markets are spreading from the local to national and global levels. Several locally used products such as medicinal plants, bushmeat and ethnic foods are now exported legally and illegally, often in response to demand from people who have emigrated. Imports of low-cost forest products are increasing competition in local markets, undermining the economic viability of local production.

Markets for certified products. Markets for products certified according to specific environmental, social and economic standards have recently emerged. Consumer groups and



Income from forestry in the United Kingdom

According to United Kingdom indicators of sustainable forestry, the nominal three-year annualized return for Sitka spruce plantations declined from almost 10 percent in the period 1993–1996 to -5.4 percent in 1998–2001. This was almost entirely a result of timber prices' falling by more than 50 percent. The sector's gross value added declined from £344 million (about US$540 million) in 1995 to £298 million (about US$450 million) in 2000, or 0.04 percent of the gross value added in the economy in 2000. Most value addition is in wood processing (manufacture of wood, wood products, pulp, paper and paper products), which accounted for a gross value addition of £6 379 million (almost US$9 700 million), or about 0.64 percent of the total. Forestry, logging and related services thus accounted for less than 4 percent of the sector's contribution to gross value added, while nearly 96 percent came from processing.

Source: Forestry Commission, 2002.

Carbon markets

A recent assessment indicates a rapid growth in carbon markets, especially for project-based transactions. The market has been growing steadily from about 13 million tonnes CO_2 equivalent in 2001 to about 29 million tonnes CO_2 equivalent in 2002 and more than 70 million during the first three quarters of 2003. While developed countries are the main buyers, the share of emission reductions contracted in transition economies and in developing countries rose from 38 percent in 2001 to 60 percent in 2002 and to 91 percent during the first three quarters of 2003. Much of this increase comes from Asia and Latin America. This expansion is expected to accelerate after the Kyoto Protocol enters into force.

Source: Lecocq and Capoor, 2003.

NGOs have helped to segment these markets based on whether products are sourced from sustainably managed areas or not. Current shortages of certified products provide some limited price advantages, but this is unlikely to last as certification schemes spread. Given the high cost of implementing them, especially for small-scale producers, attempts are being made to explore alternatives such as group certification. Interestingly, most certified forests are found in boreal and temperate regions, even though certification was initiated to improve the management of tropical forests (Richards, 2004).

Markets for environmental services. The market for environmental services from forests is growing rapidly, often facilitated by national and regional policies as well as international conventions and agreements (Scherr, White and Khare, 2003). Certain segments of society that are able and willing to pay for these services are creating new opportunities for resource owners. For example, payment to protect watersheds is expected to become more widespread, especially when the linkage between upstream owners and downstream users can be institutionalized.

Market and regulatory frameworks are also being developed to address biodiversity conservation and carbon sequestration (see Box on facing page, bottom). Whether the market for environmental services will grow significantly and the extent to which it will benefit resource owners remain uncertain (Landell-Mills and Porras, 2002). For example, the substantial economic benefits anticipated from biodiversity prospecting ten years ago have not yet been realized (Katila and Puustjärvi, 2003; Laird and ten Kate, 2002).

ECONOMIC BENEFITS TO FOREST RESOURCE MANAGERS

Local communities

Increased recognition of the role of communities in protecting and managing forests in the past two decades has led to a major shift in forestry development (Alden Wily, 2003). Joint forest management and forest user groups have increased community participation and helped to achieve economic, social and environmental goals that governments sometimes have difficulty meeting. Although much remains to be done, in many countries the rights of indigenous communities to own, use and manage forests and other natural resources are being recognized. For communities to take advantage of emerging opportunities, the following are needed:

- policy and legal frameworks that protect community rights over resources;
- access and proximity to markets;
- expertise and access to information, especially on markets and prices;
- institutional capacity to manage resources, add value to products and services and negotiate with other players.

Despite the benefits arising from community ownership and management, pitfalls have also been identified. Transfer of responsibilities is often limited to forests with little commercial value. Low productivity of such areas implies the need for significant investment and for effective institutions to capture and distribute benefits equitably. While communities are in a good position to identify and cater to local needs, they are less able to deal with national and global markets. Isolated communities face high transaction costs and have difficulty understanding consumer needs, adapting production to changing requirements and linking products with end users. Overcoming such constraints often depends on external support.

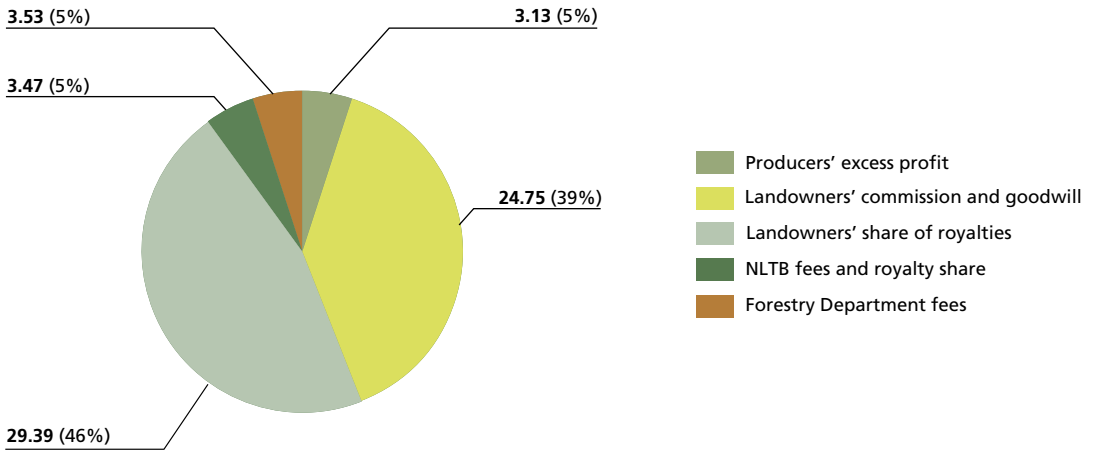
Communities that own valuable forest resources, as in Papua New Guinea (see Box above), face similar challenges to those that gain control through policy and legal changes. Interacting with external markets requires a good understanding of changing demand and prices and the ability to negotiate with logging companies and wood industries. Institutional weaknesses and lack of information undermine the capacity of communities to take full advantage of economic benefits and, consequently, they receive only a fraction of the income. The opposite holds true where institutional arrangements are well developed, communities are well informed and industries depend on local wood supplies. A recent study on revenue capture by native landowners in Fiji revealed that well-informed communities receive a significant share – about 85 percent –

Income from logging to customary owners in Papua New Guinea

Although communities in Papua New Guinea control 97 percent of the land, they have little say in the operations of foreign companies that are awarded logging contracts. Customary landowners receive about 12 percent of the value of logs through a complicated and indirect system of payments from central government or from local funds that are intended to facilitate development but are open to mismanagement. Current approaches largely aim to generate revenue for the government.

Source: Hunt, 2002.

FIGURE 9
Income to forest owners in Fiji (F$/m³)



Source: Whiteman, 2004.
Notes: 1 Fiji dollar (F$) = US$0.53 (2003).
NLTB = Native Land Trust Board.

of the value of wood obtained from land under customary ownership, through royalties fixed by the Native Land Trust Board and through direct negotiations with concessionaires (Whiteman, 2004) (Figure 9).

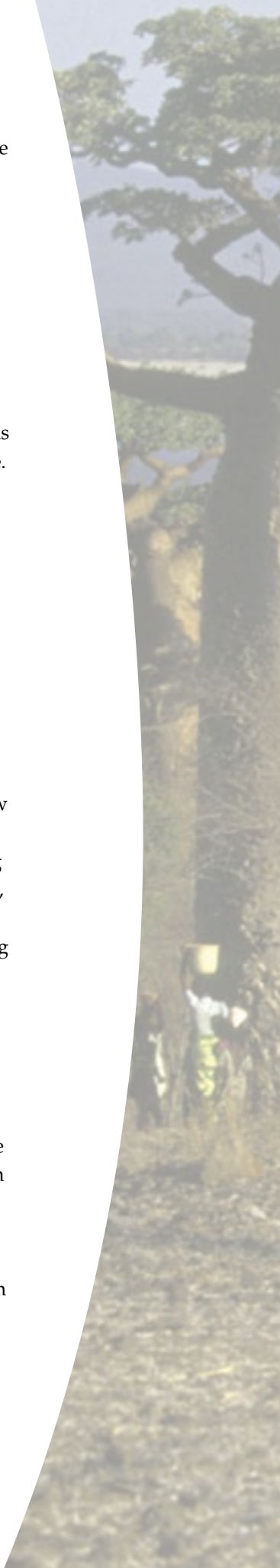
Where forests are more productive and valuable, the involvement of communities in their management has been limited (Oyono, 2004) and mostly at the insistence of NGOs or donor organizations. Even when communities are assigned valuable forests, insufficient information on markets and technology and weak institutional frameworks limit their ability to benefit. Although many countries are now involving communities in the management of wildlife, low financial returns are discouraging their participation (Akumsi, 2003).

With knowledge becoming an important source of wealth, significant efforts are being made to protect intellectual property rights and develop mechanisms for the equitable sharing of benefits arising from the use of traditional knowledge with local communities. However, the degree to which intellectual property rights protect this type of knowledge varies considerably, but partnerships with research institutions and enterprises are helping (see Box on facing page).

Fair trade certification (see Box on the left), which attests that procured goods adhere to well-defined environmental and social criteria, including payment of fair prices to producers, has been attempted with NWFPs such as babassu oil. However, this type of scheme only covers a fraction of trade in such products.

Criteria of fair trade certification

- Fair prices for farmers and decent working and living conditions for workers
- Direct trade with farmers, bypassing intermediaries
- Free association of workers and cooperatives, with structures for democratic decision-making
- Access to capital
- Sustainable agricultural practices, including restricted use of agrochemicals



Benefiting from traditional knowledge

The forest-dwelling Kani community in the Indian State of Kerala traditionally uses the fruits and leaves of *Trichopus zeylanicus* (locally known as *arogyapacha* or health-herb) for its anti-fatigue and anti-stress properties. Based on information from the community, a public-sector organization conducted research and registered two national patents in 1996. A pharmaceutical company paid a licence fee to the organization to produce and market the drug, which the research institute and community share equally through a community-managed trust fund. The success of this arrangement has largely been a result of:

- the role of individuals in the research organization and of civil society initiatives to compensate the local community;
- effective local research and development capacity;
- linking research with production and marketing to add value;
- transparent arrangements and an effective legal framework.

Source: La Vina, 2002; UNDP, 2004.

Governments

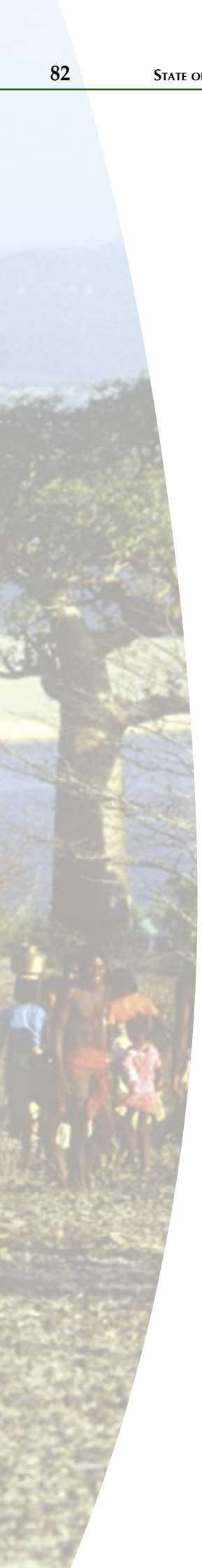
In many countries, ownership and management of most forests are in the public domain, justified by the need to protect the wealth of the nation. Other reasons include the failure of markets to achieve social goals or to provide public goods such as watershed protection and biodiversity conservation. Inevitably, the involvement of governments entails choosing between competing objectives, sometimes at the expense of economic efficiency. Revenue from forests is often used to finance the development of other sectors rather than to reinvest in sustaining production. In several countries, governments also manage wood industries and are involved in wood processing on social grounds and to develop rural areas. However, in recent years the management of wood industries is increasingly being divested to the private sector.

State of forests and value capture. Public-sector management in many countries focuses on forests that have commercial potential or fulfil critical environmental functions. Forests considered of low value require significant investment – often beyond the means of governments – and the costs to protect such areas are much greater than the revenue they generate. Hence, they are the first to be transferred to the private sector or to communities.

Governments manage high-value forests, either directly or through concessionaires, primarily for timber production. The priority assigned to wood production has led to most other forest products being termed "minor forest products" because of the small contribution they make to government revenue. In addition, national parks and game reserves in most countries are managed for social and environmental benefits, notwithstanding the low incomes they generate. As a result of declining returns from wood production caused by falling prices and the exclusion of large tracts of forests, forestry agencies are paying more attention to service functions such as recreation and charging for them (Leslie, 2003).

Institutional arrangements for value capture. Although markets for environmental services have expanded, wood production remains the most important source of income from forests. Where forests have limited potential for revenue capture, management costs are high, resulting in their neglect and deterioration. As governments move out of wood processing and value addition, they have to pay more attention to capturing the full income from wood production and forest-derived services. Various approaches to achieve this are noted as follows.

- ***Market-based price determination.*** Market-based prices, primarily through tender or other bidding systems that



enhance competition, are replacing charges determined arbitrarily. Yet, in many countries, administrative approaches prevail and undermine efforts to capture the full potential income. Moreover, market imperfections persist because of monopolies or oligopolies in the production, and in some countries, in the purchase, of wood. To enhance value capture, substantial market research would be required to understand changing demands, supply and prices. However, most public-sector forestry organizations are ill equipped to conduct such studies, making price fixation susceptible to non-economic considerations, including rent-seeking by vested interests.

- ***Improving tax collection.*** In many countries, forestry administrations lack the capacity to collect royalties, as inadequate as they may be, and institutional competence has not kept pace with the rapid expansion in logging. Hiring independent firms to collect taxes is one way to address corruption, illegal logging and loss of income to governments. Cambodia, Cameroon, Ecuador, Papua New Guinea and Suriname have tried this approach with varying degrees of success. Inspection and tax collection at exit points are not economically viable if products can be moved out of the country through several points. Moreover, control at exits does not ensure the sustainability of wood production.
- ***Separating revenue capture from other government functions.*** Most forestry organizations in the public sector find it difficult to fulfil administrative and commercial functions simultaneously, especially when objectives conflict. Assigning business-related functions to more autonomous bodies such as corporations, authorities and boards is one solution. The success of such arrangements largely depends on efficient management and the extent to which businesses can operate freely and flexibly. An effective auditing system that allows public oversight is critical to ensure economic efficiency. In addition, the long-term viability of forest enterprises will depend on their adapting to rapidly changing opportunities.
- ***Privatizing commercial functions.*** The establishment of quasi-state commercial enterprises has not always improved the ability of governments to capture the full income from forests. Several countries have privatized wood industries and

TABLE 8

Revenue from the management of state forests in Eastern Europe, 1999 to 2001

Country	Employees per 1 000 ha of forests	Revenue per ha (€)	Transfers to/from government per ha (€)	Funds per ha after transfer (€)
Bulgaria	2.0	12.1	+1.4	13.5
Czech Republic	2.6	330.8	+4.1	334.9
Estonia	1.7	69.1	-16.4	52.7
Hungary	10.6	185.7	-1.3	184.4
Latvia	0.4	22.0	-10.0	11.9
Lithuania	7.5	81.0	-6.2	74.8
Poland	4.9	123.4	-0.7	122.7
Romania	5.5	28.8	-1.4	27.3
Slovakia	13.4	120.3	+5.8	126.1
Slovenia	n/a	91.0	-9.1	81.9
Turkey	1.1	20.3	+9.9	30.2

Note: n/a = not available.
Source: Simula, 2003.

planted forests as part of a larger policy of economic liberalization. In many former centrally planned economies, forests are being returned to previous owners. In other instances, governments are attempting to divest themselves of money-losing enterprises, but potential buyers are primarily interested in acquiring businesses that are profitable. Managing the privatization process is not without problems, including the significant potential for vested interests to misappropriate funds; the undervaluation of assets of enterprises as a result of a lack of transparency and professional competence; and social concerns, especially regarding employment.

Economic viability of public forestry. Even if they own extensive tracts of forests, many government organizations struggle to make ends meet because net revenues are very low and because they have limited ability to capture the full economic potential from the resource. Another reason is high management costs in some countries, for example in Eastern Europe (except Estonia and Latvia) (Table 8). Studies on fiscal policies in Africa reveal a similar situation. Harvesting old-growth or mature forests generates high returns to governments, provided the institutional capacity is adequate to prevent leakages.

Small-scale owners

Policy and institutional changes are creating new opportunities for farmers and other landowners, resulting in increased investment in small-scale tree cultivation and other activities, including wood processing. In a few places, landowners are also managing private conservation areas, taking advantage of ecotourism and the benefits that this growing industry is bringing (see page 27). The decision to go this route largely depends on market opportunities; the social and economic situation, including resource ownership; and institutional capacity. In broad terms, private-sector forest management ranges from low-intensity systems, where owners increase incomes based on a number of products and services, to intensively managed systems that focus on one or a few items.

Investments and returns to Chinese farmers from forestry

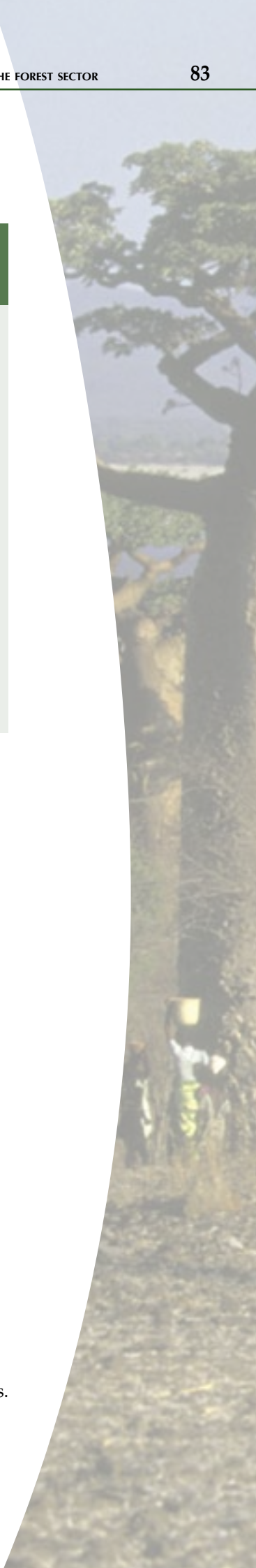
A rural household survey in China revealed that:

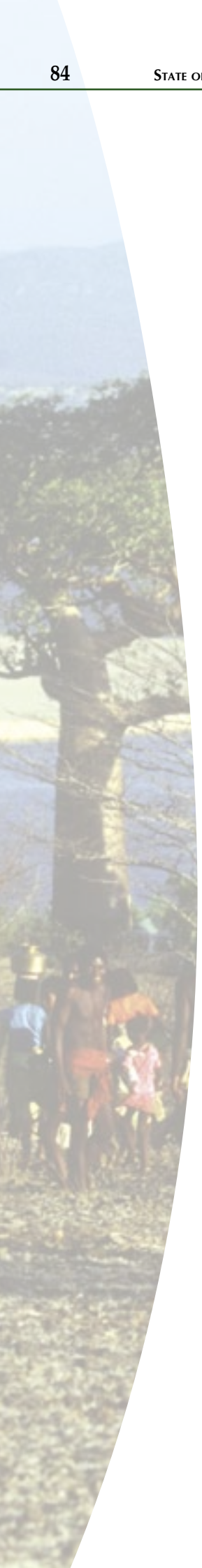
- in 2001, the average household expenditure on forestry was 0.61 percent of the total;
- in 1999, 2 percent of the national labour force was involved in forestry;
- of the land and water pond areas that rural households managed, 27 percent were forest lands;
- in 2001, income from forestry accounted for about 1.5 percent of net household income.

Source: Zhang, 2004.

Low-intensity management systems. Trees form an integral part of many farming systems such as home gardens in the humid tropics and agroforestry parklands in Sahelian West Africa. Holdings are usually small, and limited local demand encourages a low-investment/low-return management regime. Often, owners maintain trees and other vegetation for the social, cultural and environmental benefits they provide rather than for economic reasons (see Box above). However, these resources are an important source of products and income in emergencies. Since shortage of labour and lack of investment funds constrain most farmers, land-use intensity is low, and reluctance to take risks is high.

Intensively managed systems. Expanding markets and declining supplies of wood and other products from natural forests are encouraging farmers to plant more trees and cultivate plants for NWFPs, including medicines. Thus, the proportion of wood from farms has risen in recent years and, in some countries, is surpassing the share originating from forests.





Farmers also plant trees to hold on to land for future security or for speculative purposes, especially if they have alternative sources of income. Increasing demand for herbal products has led to intensive cultivation of popular items, mostly for overseas markets.

Outgrower schemes and other partnership arrangements between industry and landowners are emerging as well (Mayers and Vermeulen, 2002). Industry often provides improved planting materials and technical advice on management practices and agrees to buy wood at market prices at the end of the rotation. While this approach benefits smallholders, industry also gains by reducing risks associated with owning and managing large plantations.

The rising demand for nature-based recreation has led to increased private-sector involvement in the management of parks and game reserves, for example in Costa Rica, Kenya, Namibia, South Africa and the United States. In South Africa, private protected areas exceed those that are publicly owned and managed (Katila and Puustjärvi, 2003). Game management is a low-intensity option based on ownership of extensive areas, the presence of wildlife populations and unique natural environments. Adding value involves improving access, marketing and building facilities for visitors. Several private game reserves are providing packages that cater to the different needs of customers, and many owners are forming partnerships to manage large conservation areas jointly.

Corporations

Corporations are major players in forestry, including in the management of forests, logging and wood processing, and are a driving force behind the globalization of the sector, capable of moving investment, technology and raw material transnationally. Investors fall into two categories: those focused on logging and those who integrate forest management with wood industries. Opportunities for short-term investments in logging, with little regard for sustainability, have recently expanded in a number of countries. Investors have been taking advantage of weak policies and institutions to earn substantial income by logging above permissible quantities and outside concession areas, undermeasuring, using transfer pricing and evading taxes. These types of operators have created considerable uncertainty in the timber industry, undermining the economic viability of legitimate investments. Most corporations, however, take a long-term approach to resource management, investing in improvements as well as in processing, with a view to enhancing value capture through value addition, reducing costs through better technologies and increasing their market share as described below.

Value addition. Since most income is derived from processing and marketing, corporate efforts have focused on developing new products and services, aided by technologies that help to reduce labour costs and requirements for raw materials. Most corporate players are investing significantly in research and development of new products and processes and are using

Timberland investment management organizations

As forest industry began divesting forest ownership, groups of forest owners formed timberland investment management organizations (TIMOs) to take advantage of emerging opportunities. United States-based TIMOs expanded operations to several other countries, especially in the Southern Hemisphere – Argentina, Brazil, Chile, New Zealand and Uruguay. Low unit prices, long-term potential for value appreciation and high productivity increased institutional investment in timberland from about US$1 billion in 1989 to about US$14.4 billion in 2002, over an area of about 7.4 million hectares.

Source: Ravenel, Tyrrell and Mendelsohn, 2002.

technologies to improve trees and propagate clones in the context of planted forests.

Fibre security. A secure supply of raw material provides a competitive advantage to large wood industries, prompting a number of them to buy extensive tracts of forests or acquire large concessions, especially if the cost is low. Private corporations manage them, feeding processing units that may be spread across several countries. Moreover, investor-friendly legislation and incentives such as direct and indirect subsidies have contributed to the rapid expansion of industrial plantations (Enters, Durst and Brown, 2003). Improved management and the wider application of science and technology, including better processing technologies, have significantly boosted productivity and increased wood supplies, thereby reducing concerns. Consequently, many corporations are less inclined to hold on to their forest assets and are paying more attention to processing – their core competence.

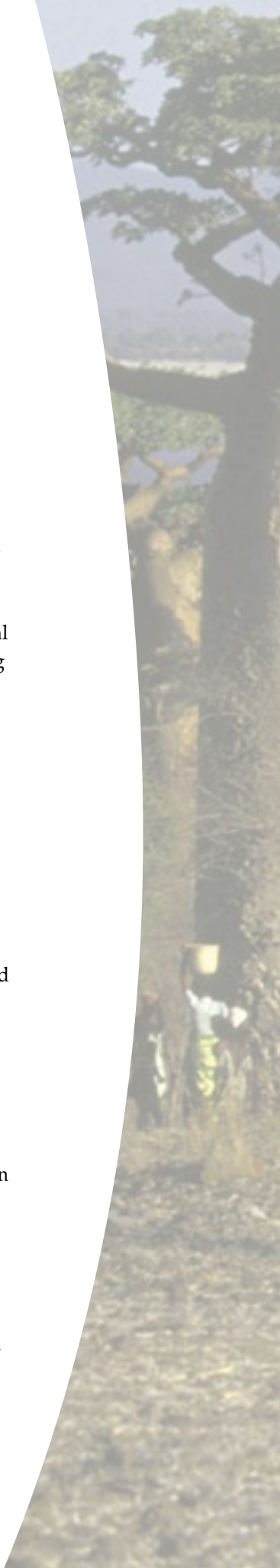
Asset valuation and stockholder pressures. Another reason that large corporations are divesting their forestry assets is that they must now value them at market prices. Holding on to land and forests when wood prices are declining is having a negative impact on balance sheets and compelling a number of them to sell off the forestry component of their enterprises. As a result, timber management organizations are emerging to buy assets at low prices and manage them on behalf of investors who seek low-risk, but stable, long-term returns (see Box on facing page) (Neilson, 2003). A turbulent market in forest property has also provided opportunities for short-term investors to buy low and sell as soon as the market experiences an upturn.

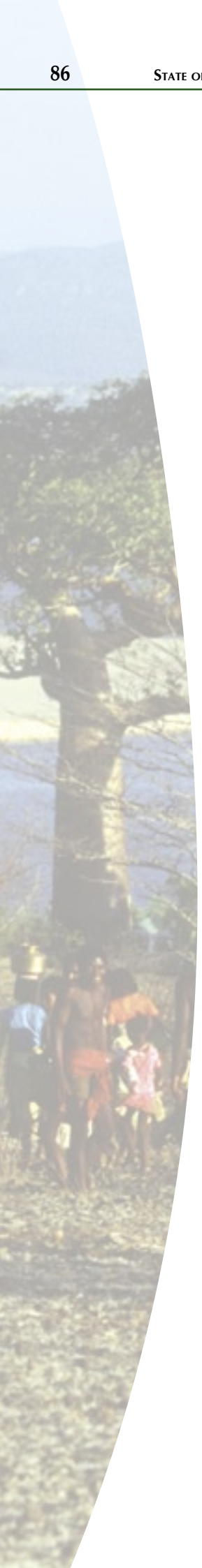
Global expansion through new investments and mergers and acquisitions. With competition becoming more intense, adding value alone is not sufficient to ensure survival. Expanding to new markets and consolidating through mergers and acquisitions are important strategies for many corporations. In their quest to dominate the marketplace, popular tactics include buying out and reorganizing losing firms, achieving economies of scale, reducing personnel and moving production to countries with low labour costs. In recent years, many leading transnational forestry corporations have shifted their operations outside their home country. For example, in 2003, 59 percent of the paper and paperboard capacity of Finnish companies was located outside Finland (Finnish Forest Industries Association, 2004).

CONCLUSION: VALUE, UTILITY AND ECONOMIC BENEFITS

Realizing the economic benefits from forests is complex and depends on a variety of factors. As with other primary sectors such as agriculture, forestry's share in national income is declining, along with profitability. Although environmental and other values that forests provide are gaining recognition, wood and wood products will remain an important source of income to most owners in the immediate future. Therefore, governments and other owners of the resource must endeavour to capture the full potential arising from wood production. Creating conditions for the development of efficient markets, including combating illegal logging, is a prerequisite. Moving up the value chain is another strategy, but because of various constraints it is not open to everyone. With wood supplies increasing, more needs to be done to promote wood as an environmentally friendly and energy-efficient product.

In some instances, resource owners may not be in a position to transform all current and potential uses of forests into economic benefits. Societies at various stages of development assign different values to products and services and, at any given time, direct only a small portion through the marketplace. The farmer who owns a few trees, a government forestry department that owns large tracts of forest, or a forest industry that manages a block of planted forests is not always measuring economic benefits from each investment component. Essentially, the focus is on enhancing all the benefits, only some of which are captured in monetary terms.





As society evolves, new demands arise and products and services that previously had no perceived benefit or price tag become important.

Putting a price tag on or creating markets for goods and services derived from forests is assumed to enhance investment in sustainable forest management. However, results have been mixed, as not all forest benefits can be practically exchanged in the marketplace. Notwithstanding efforts to date, a significant portion of forest goods and services will remain outside markets, preventing resource owners from appropriating any associated revenue. Therefore, society at large must cover the costs of providing such goods and services.

The justification for forests and forestry, as with other human pursuits, needs to progress beyond the narrow domain of economic benefits. This requires society to take a broader view of the sector. The forestry profession must also convince decision-makers to look past national income estimates, recognize the significance of conserving natural resources and look beyond their market prices. ◆

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