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Natural Resources and Pro-Poor Growth: The Economics and Politics

PART II

Chapter 7

Forestry for Pro-Poor Growth

The forestry sector contributes substantially to GDP and employment in many developing countries. A high percentage of people living in extreme poverty depend on forests for some part of their livelihoods. This chapter highlights management improvements that can help ensure long-term sustainability of the forestry sector and maximize its contribution to pro-poor growth.

7.1. Overview

The forest industry is a major source of growth and employment. In many countries the sector contributes more than 10% to GDP and provides formal and informal employment in developing countries for an estimated 40 to 60 million people. Many developing countries also rely on timber for export earnings. Over 90% of people living in extreme poverty depend on forests for some part of their livelihoods (World Bank, 2004a). But global forest cover has been reduced by at least 20% since pre-agricultural times. While forest area has increased slightly since 1980 in industrial countries, it has declined by almost 10% in developing countries (WRI, 2000).

Natural forests, as distinct from tree plantations, are valuable resources which in most countries are under state ownership. But weak enforcement of forest management regulations and large-scale corruption limit the potential of the forest sector for poverty reduction in many countries. Better institutions are needed both for ensuring the long-term sustainability of the sector and for improving revenue capture by the state. There are positive experiences in South Asia, Latin America, and Africa from which lessons can be learned.

7.2. Contribution of forests towards growth and the economy

The forestry sector in Africa makes a valuable and significant contribution to national economies, especially in terms of income and exports. In addition, informal activities in the sector contribute to income and employment generation.

7.2.1. Forests and growth

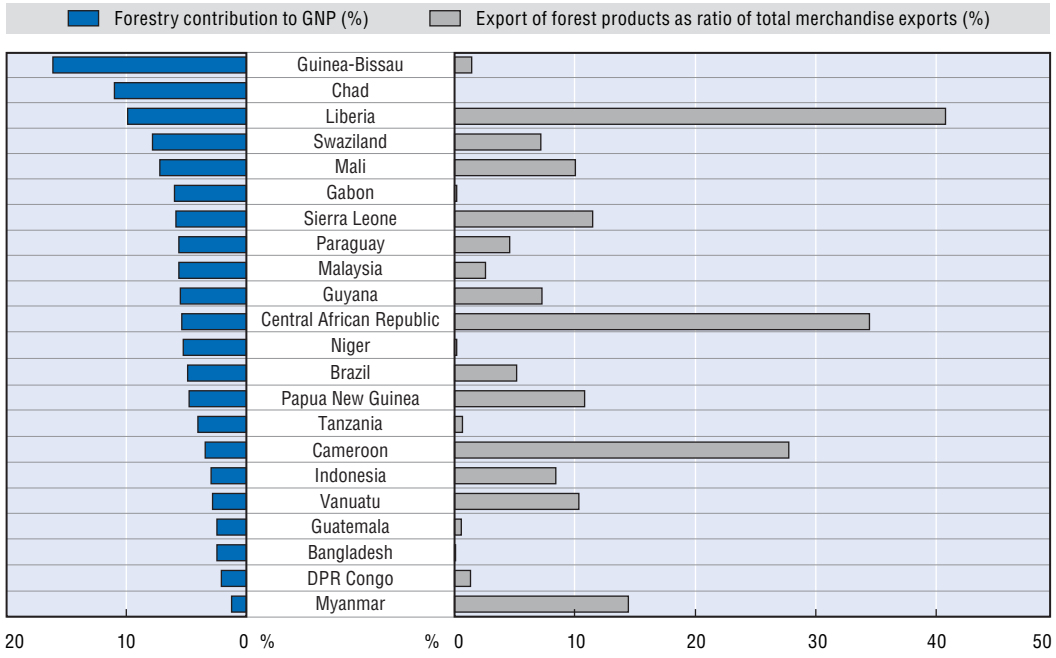
The formal forest sector provides significant contributions to growth in many developing countries. At various times throughout the past decade, forest-related activities have accounted for at least 10% of the GDP of 19 (forest-rich and forest-poor) African nations and more than 5% for many more countries around the world. In absolute values, the contribution of forests to growth in Africa stood at USD 8 billion in 2000 (World Bank, 2004a; Lebedys, 2004).

Forests are consistently and seriously under-evaluated in official statistics. For example, in Indonesia official data show that forests contribute 1% to 2% of GDP, whereas the World Bank estimates that the potential value of forests to that economy is closer to 15% to 20% of GDP. Forests provide important watershed, soil management, pollination and pest management functions that usually are not captured by markets. While extremely difficult to quantify, there is general agreement that the value of forest ecosystem services outside formal markets is significant (World Bank, 2004a).

7.2.2. Forests and exports

While production in most developing countries is consumed domestically, forests contribute significantly to exports in several states. There are about 10 developing

Figure 7.1. **Contribution of forest to GDP, and ratio of forest exports out of total exports, for selected countries**



Source: Lebedys, A. (2004).

countries where forestry accounts for more than 10% of total exports, and 10 more countries where forestry makes up over 5% of exports. In countries such as Cameroon, the Central African Republic and Liberia, forests contribute from nearly 30% to more than 40% to national exports (Figure 7.1). Forestry contributed to exports worth USD 3 billion in Africa, USD 6 billion in Latin America and the Caribbean and USD 16 billion in the developing countries of Asia and the Pacific (Lebedys, 2004; World Bank, 2004a).

7.2.3. Forests and employment

Forestry provides more than 10 million jobs in developing countries (Dubois, n.d.). In several African countries such as Swaziland, Gabon, Equatorial Guinea and South Africa, the formal forestry sector contributes around 1% or more to total formal employment (Lebedys, 2004). The formal forest sector in Africa, including forest activities, woodworking and the pulp and paper industry, employs some 550 000 people (Whiteman and Lebedys, 2006).

Informal sector employment in most developing countries largely exceeds that in the formal sector, providing employment for another 30 to 50 million people. Additionally, unpaid subsistence work primarily for fuel wood harvesting represents about 13 million full-time job equivalents in developing countries (ILO, n.d.).

7.2.4. Subsistence income from forests

The value of non-commercial goods and services provided by forests may well exceed that of the commercial output. Forestry is often a very important element of rural economies, providing complementary income to agriculture and offering jobs in regions where few other employment opportunities exist.

About 1.2 billion people in developing countries rely on agro-forestry farming systems that help sustain agricultural productivity and generate income (World Bank, 2004a). A quarter of the world's poor and over 90% of the people living in extreme poverty depend on forests for some part of their livelihoods. An estimated 400 million people live in or near forests and rely heavily on forests for everyday subsistence. The 60 million indigenous people living in the rainforests of Latin America, Southeast Asia and West Africa who almost entirely depend on forests belong to this group (Patosaari, 2005).

Forests often provide a safety net to the poor and the landless, because the harvesting or hunting of their products do not require strong rights to the land, as opposed to agriculture. As much as 20% of the daily livelihood needs for rural families comes directly or indirectly from forests, including 20% of the disposable income used by the landless and poor families to pay for school fees and meet other family needs (World Bank, 2004a). Charcoal and fuel wood are a main source of cash for poor people living in and around forests (FAO, 2006; FAO, n.d.). Apart from timber, charcoal and fuel wood, forests provide a wide range of non-timber forest products, *e.g.* wild fruits and roots, grasses, vines, mushrooms, medicinal substances, gums, honey, game, meat, etc. Some 1 billion people worldwide depend on drugs derived from forest plants for their medicinal needs (World Bank, 2004a). It is important to note that while strong rights to land are not essential for such forest related benefits, legal rights to the forest must be compatible with commercial harvesting of both timber and non-timber forest products by local people. Such access rights must be designed to prevent over-exploitation of the resource and to ensure worker and environmental protection while simultaneously allowing for local profitable exploitation of forest resources.

7.3. What is the potential for forests to lift the poor out of poverty?

Forestry can contribute to growth, and is clearly important for the livelihoods of poor people. But while forest products are vital to maintain incomes and prevent further vulnerability, can forests actually provide a way to escape from poverty? For forests as with other resources, the challenge is to: *i)* generate growth; *ii)* ensure that the poor benefit from growth; and *iii)* sustain growth by managing the forestry resource.

7.3.1. Increasing growth and the role of forests

Ensure that large scale forest harvesting is not subsidised. Timber extraction and processing are often linked to the political elite who benefit from artificially low log prices and subsidised credit. In the medium term, low timber prices encourage excessive processing capacity, which eventually will destroy the viability of the industry. In many countries, however, reforms are underway to improve the management of forests.

Increase public revenues from forests. Forests have a significant potential to generate public revenues, but this potential is hardly realised. Profits generated by timber extraction are mostly captured by the private sector, with limited benefits for society at large. In Africa, only 3.7% of the value added from forestry activities was paid as forestry charges during the 1990s, while 95% of value added from forestry on the continent was paid to investors (*i.e.* holders of felling and forest concession licences) (Whiteman and Lebedys, 2006). An important reason for low revenue generation is failure in revenue collection. Many countries distribute valuable natural forests for political gains while ignoring revenue generation, as in Cambodia and Indonesia. The World Bank estimates the annual revenue loss from failure to collect taxes from forest concessions at more than

USD 5 billion. In addition, the annual market value of losses from illegal cutting of forests is placed at over USD 10 billion (World Bank, 2004a).

But forest revenue problems can be corrected by more appropriate forest pricing policies for timber and forest concessions, coupled with improved forest fee design, collection and enforcement. Some countries manage to generate higher public revenues. Governments in Brazil and Indonesia capture less than 15% of potential rent, while this percentage reaches around 30% in Gabon and Laos (OECD, 2005). Countries such as Cameroon and Ghana are raising forestry prices through auctions and timber taxes, despite some resistance. In Cameroon, national fiscal revenues from forestry grew from USD 3 million to USD 30 million from 1995 to 2001, and now provide 25% of national tax revenue. Furthermore, local community returns grew from negligible amounts in 1995 to more than USD 8 million in 2002 (UNEP, n.d.; Cassells, 2003).

Increase value added in the forest industry. This can be done by encouraging value-added processing and investment in tree plantations focusing on the most commercially viable species. The USD 327 billion annual global trade in forest products in 2004 remains largely dominated by industrialised countries (FAO, 2007a). Africa still mostly exports unprocessed logs from natural forests. While Asia continues to increase the number of forest plantations, Africa, despite favourable conditions, continues to have very few. South Africa is the exception, and its private plantations are certified for sustainable management.

7.3.2. Ensuring the poor benefit from growth from the forestry sector

Ensuring that forest concessions do not harm the poor. Despite growth in participatory forestry in the forest-rich tropics, the area reserved for commercial logging continues to be much larger. Many of these concessions impact negatively on the poor and are not covered by properly defined and enforced management plans.

Channelling revenues raised from forests to pro-poor expenditures. In addition to allocating resources to pro-poor public services, *e.g.* in the health and education sector, this can be achieved by allocating some of the revenues received from the forest to local authorities in forested, low-income areas (OECD, 2005). In Bolivia, municipal governments retain 25% of forestry fees, while in Guatemala municipalities retain 50% (Contreras-Hermosilla and Ríos, 2002; Ferroukhi and Echeverría, 2003).

Enhancing opportunities for small and medium-sized forest enterprises. Most forestry value-added production is capital-intensive and skill-intensive technology. It also requires improved access to transport infrastructure, overcoming local purchasing monopolies, support with certification and new sources of demand. Poor producers often benefit from grouping themselves into associations, in order to negotiate better terms for the sale of their products, as was the case in Latin America and in some African countries, such as Uganda and South Africa. For example, in South Africa, poor households are gaining income as out-growers (Box 7.1). Access to technologies and information about lesser-known but commercially valuable wood species also helps.

Improving institutions and policies to protect and secure the forest assets of the poor. To manage the natural forest and plant trees on private land, poor people need secure tenure as provided by India and Nepal's forest programmes. Over 20% of forest area in eastern Nepal now has some control by poorer households (Mayers, 2007). Countries such as Guatemala and Laos are experimenting with community logging concessions.

Box 7.1. **Outgrower schemes in South Africa (2000)**

South Africa has the most developed industrial pulpwood industry in Africa. Some 19 000 households are involved in small-scale commercial timber production, mostly in KwaZulu-Natal Province. Most have been contracted by two international pulp and paper companies (Sappi and Mondi) to grow eucalyptus. The total planted area is about 43 000 hectares. Although this industry started in the 1980s as a corporate social responsibility exercise, the partnership has become good business, allowing economies of scale in plant operation. The arrangements also bring significant economic benefits to the small-scale farmers who receive the inputs and guaranteed harvest in six to seven years. It is estimated that the outgrower schemes contribute 12% to 45% of the income needed to remain above the "abject poverty line".

Source: Mayers and Vermeulen (2002).

7.3.3. Sustaining forests for pro-poor growth

Loss of natural forests has in some cases imposed high social costs on the people dependent on them, as in Cameroon and in China, and has been partly linked to incidences of large-scale flooding. As a result, some countries such as China, Thailand and Sri Lanka have banned commercial logging altogether in certain areas. Such drastic measures should be carried out in ways that minimise the impact on the poor.

Pro-poor forestry management should reconcile the different functions of forests. A first step in this respect is to distinguish between forests which can be used for timber extraction purposes and those which are too fragile, depleted or otherwise degraded; and to recognise those on which many landless poor or indigenous communities depend, as well as those with high cultural, social and spiritual value which should be preserved from commercial-scale, or even any, logging activities.

In many forest-rich, low-income countries, the priority is to foster a shift towards sustainable logging techniques (including "reduced impact logging") and sustainable forest management as quickly as is economically viable. Enforcement of regulations is often deficient or undermined by large-scale corruption. But there are some hopeful examples of these problems being addressed, such as recent crackdowns in Indonesia and parts of Brazil's Amazon.

Fiscal instruments can be important in sustaining the resource base. In many countries, timber prices and forest fees do not adequately reflect the captured rent and externalities associated with logging. This can encourage excessive processing capacity and decreased revenues for the government. Forest revenue problems can be corrected by more appropriate forest pricing policies for timber and forest concessions, coupled with improved forest fee design, collection and enforcement.*

Pro-poor management of natural forests can be complemented by promoting plantations on degraded lands. Plantations provide an increasing volume of harvested roundwood (wood in its natural state as felled, with or without bark). It may be round, split, roughly squared or in other forms, amounting to 35% of the global harvest in 2000 (Millennium Ecosystem Assessment, 2005). Plantations can be very productive with average yields of 7 m^3/ha compared to 2 m^3/ha from natural forests. But plantations should

* These questions are examined in detail in, for example, Leruth *et al.* (2001).

not be on lands that are important for the livelihoods of the poor. Furthermore, fostering plantations should not lead to increased conversion of natural forests where soil, climatic and other factors are not conducive to plantations (Box 7.2).

Box 7.2. **Can forest conversion be economically beneficial and pro-poor?**

Whether forest conversion is beneficial or harmful depends on what happens after such conversion. Planned conversion of natural forests to tree crops (cocoa, coffee, oil palm, rubber) or tree plantation can yield long-term economic benefits provided that soil, climatic and other factors are conducive to such crops. Conversion of natural forests to agriculture (*e.g.* soybean) can also be economically beneficial provided that the soils are suitable. But forest soils are often very poor and unable to sustain agriculture on a long-term basis. In such cases, conversion to agriculture generates a host of negative externalities (notably soil erosion) and does not represent a sustainable, let alone pro-poor, option.

In other cases, forest conversion is not planned but conducted illegally by landless farmers following logging operations. Deforestation is primarily caused by extending land for agriculture. This often causes irreversible land degradation and does not represent a long-term sustainable option. The World Bank estimates that 83% of the area of the Amazon is unsuitable for agriculture and ranching and that continuation of these activities in forests will result in extremely low returns from this type of land use, as well as permanent loss of the forest areas (World Bank, 2004a).

Box 7.3. **The potential for harnessing carbon markets to support forestry development**

There is increasing global interest in the connections between climate change mitigation, forest management and carbon markets. In fact there is growing recognition that forests can play an important role in all three types of mitigation-GHG emission reduction, enhancement of carbon sinks and carbon substitution. The following forest management options correspond to these mitigation options:

- enhancement of carbon sinks: afforestation, reforestation (as defined in the Marrakesh Accords) and forest restoration which is enhancement of sinks in degraded forest areas;
- GHG emission reductions from deforestation and forest degradation: sustainable yield management and forest conservation;
- carbon substitution through increased use of wood products or bio-energy plantations.

Under the current regime for the first commitment period of the Kyoto Protocol only the Clean Development Mechanism (CDM) provides a formal mechanism to undertake forestry related projects in developing countries. Two forestry activities are eligible within the CDM: afforestation and reforestation (A/R CDM). However, due to the extremely complex system developed for the registration of these projects, the sequestration potential is underutilised. Indeed by April 2008 only one A/R CDM project has been validated.

Forest restoration as a mean for sequestering carbon has not yet been included in any formal market mechanism.

Box 7.3. **The potential for harnessing carbon markets to support forestry development** *(cont.)*

At COP 13 in Bali, and after a two years process, the UNFCCC Parties agreed on promoting a piloting phase for exploring the potential of Reducing Emissions from Deforestation (and Forest Degradation) – REDD. Experiences from pilot activities at the national and sub-national levels should provide enough knowledge for making decisions on REDD for a post 2012 regime. Considering that over 40% of the emissions from deforestation and forest degradation is directly caused by poverty and that in these cases the opportunity costs of reducing these emissions is relatively small, around USD 3 per ton CO2e, it is clear that even a conservative carbon payment for avoided deforestation has significant potential for promoting sustainable development.

In the case of carbon substitution the situation is different for the promotion of wood for bio-energy as for the use of wood products. While the use of bio-fuel plantations in energy CDM is recognized, the use of wood products for substitution is not recognised neither for industrialized countries (Annex I) nor in the CDM.

Altogether forestry has significant potential as a CC mitigation option, comprising:

- REDD: 3.76 GtCO2e per year, about 77 GtCO2e until 2030.
- Afforestation/Reforestation: min. 18 GtCO2e until 2030.
- Forest Restoration: estimated to 117 GtCO2e until 2030.
- Natural Forest Management of existing production forests: 6.6 GtCO2e until 2030.

The role that carbon markets can play in the context of development cooperation thus depends on a number of key elements:

- market conditions (access, price, liabilities);
- ensuring enabling conditions (policies, legislation and capacities for law enforcement);
- carbon accounting systems (with the challenge to design an accurate by using existing data and capacities).

Source: Blaser and Robledo (2008); Chomitz (2006). Blaser J. and C. Robledo (2007). *Initial Analysis on the Mitigation Potential in the Forestry Sector*. Report prepared for the Secretariat of the UNFCCC. August 2007. *http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/blaser.pdf*.

7.4. The politics of increasing the role of forests to promote pro-poor growth

While many of the policies and investments needed for forests to sustain pro-poor growth are known, they are often not implemented. This section identifies how to make change happen and provides some examples of how this has taken place. It demonstrates what coalitions are needed to make investments in forestry and what management improvements need to happen, including the empowerment of the poor and the supporting role of donors.

7.4.1. Making large-scale commercial forestry sustainable and pro-poor

In many low-income countries, natural forestry resources represent a valuable commodity. However, these are often distributed on a patronage basis for political gains. Revenue generation for the treasury tends not to be an objective. This is evident in many forest-rich countries such as Cambodia, Ghana, Indonesia, Myanmar, Cameroon, the Central African Republic and Liberia (WRI, 2000). The timber-processing industry is often

closely tied to the political elite and benefits from artificially low log prices and subsidised credit.

There are some countries, such as Cameroon and Ghana, where reforms are now being attempted to raise forestry prices through auctions and timber taxes, but these face major resistance. In countries such as Ghana and Indonesia where the forest industry is largely run by nationals, the resistance is domestic, but in many other places, such as many African countries, commercial logging is conducted by foreign firms.

There are one or two exceptions, demonstrating that large-scale commercial forestry can be sustainable. Inspiration Furniture is a Malaysian-based moulding and garden furniture exporter with sales of USD 20 million, which received the Forest Stewardship certification in 2001, and saw profits increase by 5% with new demand in Germany and elsewhere in Europe (FSC, 2004). Latin America shows signs of having some of the most pro-active private sector operators, such as Bolivia. The country is among the most forested countries in Latin America and now has 25% of its forest area certified. This is the highest proportion of any tropical country (Box 7.4).

Box 7.4. **Bolivia is a world leader in certified timber**

The recent commitment by the Bolivian timber company, CIMAI/IMR to certify 300 000 hectares of its forests will bring Bolivia's certified forest area to over 2 million ha. The company already has several thousand hectares of certified forests, which has led the marketing director to state: "*Without FSC we would not have a business today*." This increase means that 25% of Bolivia's forest area will be certified by the Forest Stewardship Council – the highest national coverage of any tropical country. The certified forests, mostly in the southwestern Amazon, include 13 forest concessions on state lands, two private properties and one indigenous communal land. Certification has helped generate USD 16 million a year in exports especially to the American and European markets where demand for certified timber is strong. The environmental and economic benefits of certification include product diversification. Before 1985, 85% of wood products were of mahogany, but by 2004, there was a marked growth in demand for FSC-promoted products and exports of abundant, but lesser known, species. The FSC standards also protected the rights and welfare of neighbouring people. The certification process was helped by a decade of the most progressive forest laws in the region.

Source: IUCN (2005); FSC (n.d.).

7.4.2. Create opportunities for small and medium sized producers

While forest management and tree-growing by smallholders can potentially produce substantial income, it requires access and land tenure security, which the poorest people tend not to have (FAO, 2003). Furthermore, there are strong asymmetries of information, power, and organisation between the beneficiaries of deforestation and those who bear its burdens. The diffuse interest groups favouring forest conservation find it hard to organise themselves to counterbalance the concentrated interests of forest degradation. Therefore, political challenges over access rights, transparency and accountability must be addressed. In particular, constituencies for conservation and better governance should be supported; public monitoring and disclosure of forest conditions and management should be improved; forest and agricultural products should be certified; and more flexible

approaches to environmental regulation should be introduced. These measures can help diverse groups to organise, to check abuses of power and to cut the costs of reaching agreements for pro-poor forest management.

There is already some positive experience in South Asia, Latin America and Africa from which lessons can be learned. As a result of extensive redistribution of forest resources in developing countries, 22% of the total forest area in these states is now owned by, or reserved for, communities and indigenous groups (Scherr, White and Kaimowitz, 2004). Again, this does not guarantee that poverty will be alleviated, but it may improve the chances. One positive example is the development of extractivist reserves in Brazil (Box 7.5). Driving these positive developments are innovative coalitions for reform that bring together the poor themselves, often supported by civil society actors, and in some cases, international pressures from donors, NGOs and consumers.

Box 7.5. **Extractivist reserves in Brazil: Sustaining pro-poor growth**

Some of the most impoverished groups in Brazil live in the forests. Rubber-tappers live isolated deep in the forest, depending on rubber and other forms of "extractivism". They are largely migrants from the northeast, whose families tapped rubber during the early part of the 20th century. However, unable to compete with Asian rubber, the government decided to shift to other forms of development, such as agriculture, cattle-ranching and mining, leaving the tappers marginalised. The return of Brazil to democracy in 1985 helped precipitate major efforts by marginalised groups in Brazil to become organised. Indigenous Indian groups formed the Indigenous Peoples Union (IPU). At the same time, the National Council of Rubber Tappers (NCRT) was formed with Chico Mendes as its first president. In 1986 the NCRT joined the IPU to create the Alliance of Forest Peoples. The rubber-tappers helped stimulate calls for what have become known as "extractive reserves". With considerable civil society support, both within Brazil and internationally, and pressure from the World Bank, the government was forced in 1995 to create almost 900 000 ha of extractive reserves. As of 2000, this had grown to 16 reserves covering 3.4 million ha with more under discussion. However, there are still challenges in making the reserves work. In the 1990s these included middlemen who dominate the extractivist economy and falling rubber prices. However, by 2000 some of the early challenges were being overcome as local families shifted into more diversified agricultural I sources of income and then benefited from rising rubber prices.

Source: Brown and Rosendo (2000) and Ruiz-Perez *et al.* (2005).

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