

ITTO Tropical Forest UPDATE

A newsletter from the International Tropical Timber Organization to promote the conservation and sustainable development of tropical forests



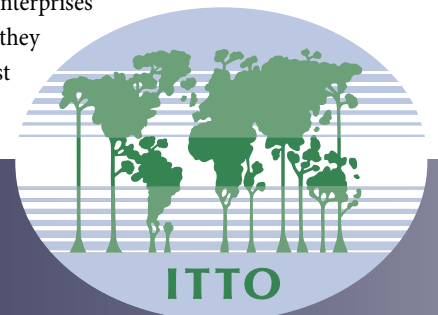
How deep does your cash flow?

MANY TIMBER ENTERPRISES in the tropics walk a narrow plank between profitability and bankruptcy. They have to buy equipment, pay employees and meet dozens or hundreds of monthly expenses. Sometimes, though, there's not enough money to go around. Maybe a customer forgets to pay, or a vital piece of equipment, such as a saw, breaks down. When the cash stops flowing, small businesses can end up in a deep black sea of debt and despair.

Economic viability is one of the three basic tenets of sustainable forest management (SFM). SFM might be perfectly feasible technically, but it will

still fail if the enterprises that are supposed to be implementing it struggle to make ends meet.

One of their big problems is the availability of finance. Banks are reluctant to lend to timber operators, particularly small ones. The bottom line is that small businesses stay small, with the ever-present possibility of shrinking away to nothing. Larger enterprises might be more resilient, but they might also find best forest practice elusive if they



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Cover image Indonesian workers unload timber from a ship out of Kalimantan. Photo: © Paula Bronstein/Getty Images

continually have to pay high rates for their capital.

Who is going to invest in natural tropical forest management? Articles in this edition of the *TFU* explore this question. Kerstin Canby (page 4) lists some of the problems faced by small and medium-sized forest enterprises, many of which hinge on access to reasonably priced capital. She also describes ten different kinds of private investor, sets out the factors that influence the investment choices of international investors, and makes several recommendations to encourage more investment in natural tropical forest-based enterprises.

Peter Vind Larsen (page 8), who works for a major forestry investment broker, says that institutional investors such as pension funds have huge sums of money ready to sink into the tropical forest sector. However, such investors must be convinced that the risks and uncertainties often associated with natural tropical forests can be managed.

James Mayers draws out issues associated with investment in small and medium-sized forestry enterprises. He says that these businesses play a huge role in tropical forestry; they are not going to go away and deserve much more attention from policy-makers than they've received in the past. He suggests that governments and development assistance agencies should support the formation of enterprise associations to help reduce transaction costs and shape the policy environment and that judicious subsidies should be applied to support the little guys.

Adrian Whiteman (page 32) takes a broader look at the changing nature of investment in natural tropical forests. He says that the management of secondary tropical forest—or logged-over primary forest—is barely profitable, particularly compared to other land-uses such as tree crops and other forms of agriculture. Compounding the problem is the low level of funding of forestry administrations in many countries, the delegation of responsibility over forests to lower levels of government (which might lack the capacity to support SFM), and other factors. Therefore, he says, there is little scope for increased commercial

investment in long-term natural tropical forest management. If such management generated additional sources of revenue, perhaps for the ecosystem services the forests provide, it might be more viable, but that possibility seems remote. He suggests that investment in natural forest management should focus on small and medium-sized forest enterprises to meet local demands and supply niche markets.

Closer to the ground, the ITTO diagnostic mission to Mexico presents a summary of its report on page 12. It found evidence that SFM in community forests struggles on economic grounds, reporting that “forest communities find themselves in a vicious circle: the income derived from forest activities is not sufficient to justify the investments required to add value to products or improve the efficiency of operations”. The mission sees scope for an increase in payments for ecosystem services such as carbon sequestration and the provision of clean water.

Tropical Africa has lagged behind Asia and particularly Latin America in certification, but this might be about to change. Bjorn Roberts reports on the certification of a timber concession in Congo (with assistance from ITTO and others) and the possibility of more certification in the reasonably near future. In this case, there seems little doubt that the company's need to maintain its markets in Europe has been a prime motivating factor in its pursuit of certification. Such a motive, however, doesn't always apply to the smaller operators that supply domestic markets, and other incentives need to be found.

SFM remains one of the best bets for sustainable development in tropical forest landscapes, but it will not survive on love alone. It needs money, lots of it. The international community must continue to seek ways to ensure that the revenues generated by SFM justify investment in it.

Alastair Sarre

Putting up the money

ITTO and partners have initiated a round of forums aimed at encouraging new investments in tropical forest enterprises engaged in sustainable forest management

FLOURISHING forest enterprises based on a sustainable supply of forest raw materials and services are essential for achieving sustainable forest management (SFM). The development of such enterprises requires investment but, unfortunately, significant investments in enterprises based on the sustainable management of natural tropical forests are rare. There are several reasons for this, including: poor investment climates created by local or national governments with laws that are too restrictive, administrative requirements that are overly bureaucratic, and a lack of incentives; political instability; limited possibilities for (micro-) credit and insurance against risk; and insufficient market knowledge and links between producers and market opportunities.

Attempts have been made at many levels to encourage more investment in SFM. At the international level, for example, the World Bank and its partners convened a Forest Investment Forum in October 2003 in Washington, DC (www.profor.info). However, there is still an urgent need to promote more private investment in natural tropical forest-based industrial development in developing countries.

Therefore, on 26–27 April 2006, ITTO and two partners—the non-government organization, Forest Trends, and the Mexican National Forestry Commission, CONAFOR—convened the International Tropical Forest Investment Forum in Cancun, Mexico. This brought together representatives of major stakeholders, including governments, local communities, large-, medium- and small-scale tropical timber industry enterprises, conservation agencies and financial institutions, to identify major constraints to investment in natural tropical forests, devise strategies for overcoming these, and pursue consensus on priority areas for future work. About 30 presentations were made by representatives of stakeholders, including the International Finance Corporation, a forestry insurance company, a forest investment adviser, a forestry equipment supplier, governments, and civil society groups. The articles on pages 4–11 in this edition are drawn from presentations made at the Forum.

The forum made a significant contribution to increasing the level of understanding on opportunities and constraints for investments in natural tropical forest-based enterprises, and on the kind of information and types of tools available or needed to promote more responsible investment. Questions that were addressed included:



Where did they get the money? A portable sawmill in Guyana.

Photo: J. Mentore, Farfan & Mendes Ltd

- who are the potential investors in natural forest-based enterprises in the tropics?
- how do they make investment decisions, and what kind of information do they need?
- what characteristics of natural tropical forest-based enterprises are particularly attractive to investors?
- how does the overall country-level business climate affect the attractiveness of forest-related investment, and particularly of natural tropical forest-based enterprises?
- how can governments or firms attract more investments for natural tropical forests and what are they currently doing?
- how can an investment promotion strategy improve both international and domestic investment? and
- what other mechanisms can be used to make investments for tropical natural forests more attractive?

ITTO and its partners are now planning three regional investment forums—one each in Latin America and the Caribbean, Africa, and Asia and the Pacific—to follow up on the initial global forum. The regional forums will focus on the specific constraints and opportunities within each region and will aim to promote more investment in natural tropical forest-based enterprises in ITTO producer member countries.

More information on these regional forums will be posted on the ITTO website as soon as their venues, dates and programs become available. All presentations and background materials of the International Tropical Forest Investment Forum in Cancun are available at <http://www.itto.or.jp/live/PageDisplayHandler?pagelD=223&id=1213>

Investing in natural tropical forest industries

The low level of investment in natural tropical forest-based enterprises is a major limiting factor in the spread of sustainable forest management. Can it be raised?

by Kerstin Canby

Forest Trends

Washington, DC, USA

THE FORESTRY SECTOR offers an unusual opportunity to demonstrate how strongly commercial interests (the marketplace) and development and conservation objectives (the public good) can be aligned. Over the past decade, a small but growing number of companies in the forest products sector have emerged as innovators in the movement towards sustainable forestry. Low-impact forestry methods, local community involvement, forest management certification, green buyers' groups and affirmative government procurement programs have all become prominent. The idea that managing forests for multiple uses within the bounds of ecological limits makes solid economic sense in both the short and long terms is gaining momentum.

Clearly, one of the largest and least-addressed obstacles constraining the expansion of the sustainable forestry sector worldwide is the industry's lack of integration into the capital markets and, consequently, its poor access to mainstream private capital—especially in developing countries, where most of the world's remaining natural tropical forests are located. Today, private capital is a particularly critical issue, given the extent to which private capital flows to developing countries are rapidly outpacing public-sector financing.

The global economy is worth about US\$55 trillion (US\$55,000,000,000,000) per year (gross world product) and continues to grow. In the United States alone, US\$2.16 trillion in assets sit in professionally managed portfolios using some form of socially responsible investment screen. Harnessing the financial power of private investments is essential if the potential of well-managed forests to contribute to poverty alleviation, the protection of environmental services and sustainable economic growth in developing and transition countries is to be maximized.

The importance of domestic investment

When discussing the need to attract investment to the forest sector in developing countries, many organizations and governments tend to focus on large-scale international investors. However, the majority of the markets are domestic:

for example, as much as 86% of the wood harvested in the Brazilian Amazon is consumed within Brazil, while log exports from West and Central Africa account for only 20% of the 25 million m³ harvested per year. Although developed countries now consume approximately 70% of industrial roundwood, the growth of consumption in developing countries is narrowing the gap: the consumption of industrial roundwood in developing countries grew by 3.2% per year in 1961–1997, in contrast to developed countries, where it grew by only 0.6% per year (Victor & Ausubel 2000). In the forest sector, it would be logical for much of the new global private investment to try to capture the financial gains from these rising domestic markets in developing countries, where the majority of the world's natural tropical forests are located. This aligns with global trends that show that while foreign direct investment (FDI) remains important in developing countries for foreign exchange earnings, skills and technology transfer, the bulk of private investment remains domestic across all sectors (Figure 1).

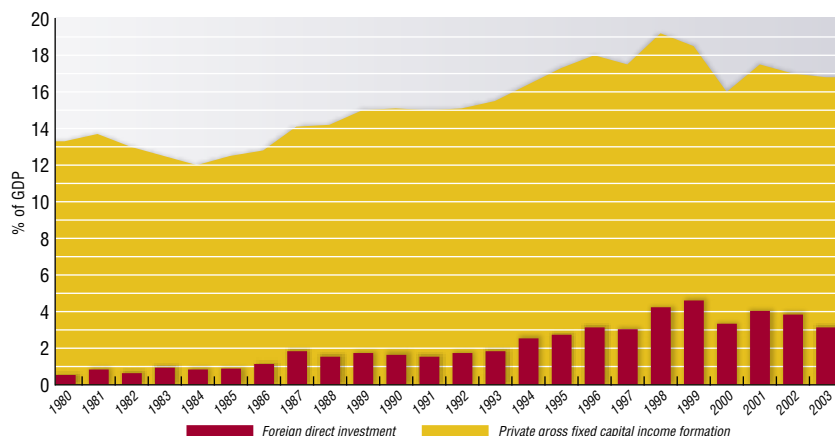
The diversity of the industry and the importance of small and medium-sized enterprises

Particularly in ITTO tropical producer countries, the forest products-related industry is quite diverse. It spans a broad range of products, services, firms and entrepreneurs, from individuals working informally, to small and medium-sized forest enterprises (SMFEs—see article page 10 for a working definition of these and a general discussion of them), to local manufacturing companies and multinationals. Primary manufacturers might include chainsaw operators or small sawmills, as well as large corporations, the annual sales of which might be larger than the GDP of many developing countries. All have the potential to invest productively, create jobs and expand—thereby contributing to economic growth and poverty reduction. Each type of business (or investment opportunity) can be affected differently by changes in international and domestic markets, as well as by changes in governmental policies and the general in-country business and investment environments.

Reflecting the fact that the overwhelming majority of global wood products are sold domestically, most forest operations (excluding pulp and paper) are small to medium in scale. Globally, small and medium-sized enterprises represent one of the faster-growing industrial sectors in the world. Brazilian small and medium-sized enterprises have grown annually by 2.8% and 4.7%, respectively, since 1995—much faster than have larger enterprises. This is despite the fact that they have a higher turnover failure rate than do larger companies, with 39% failing in Brazil within the first year (a reasonably average failure rate globally for small and medium-sized enterprises; May et al. 2003). Logging by SMFEs in Guyana contributes an almost equal amount to the revenue of the Guyana Forestry Commission as do large enterprises (Thomas et al. 2003). In China, more than 90%

Foreign vs domestic

Figure 1: Global private gross fixed capital income/foreign direct investment as percentage of GDP



Source: World Bank 2004

of the total value of wood products is generated by SMFES (Sun & Chen 2003). Because of their abundance, SMFES employ large numbers of rural people: an estimated 17.4 million people (full-time equivalents) worldwide earned their living in the 1990s from formal-sector employment in forestry, wood industries, furniture and pulp and paper, but another 30 million were estimated to be employed in the informal sector (International Labour Organization 2001), where the size of enterprise is generally very small.

While SMFES can potentially make a huge contribution to a country's overall economic development and poverty reduction objectives, they also face many more constraints to growth than do larger or multinational firms. Large firms share many of the characteristics of international firms—with more business and assets they have better access to capital and can better absorb fixed administrative costs such as permits, licences, certification costs and even bribes. Smaller operations, however, suffer from:

- **social isolation:** local ownership and management without access to a larger body of corporate protocols, expertise and advice;
- **financial vulnerability:** heavy reliance on owners' immediate financial resources, usually without substantial financial reserves (see Figure 2);
- **political marginalization:** little influence over the market (due to low market share) and those who govern the market; and
- **corporate expediency:** driven by immediate needs without the reserves or scale efficiencies to implement long-term sustainability (Thomas et al. 2003).

Many smaller enterprises—in particular those that are community-based—have only recently been able to register and move from the informal sector to more formal arrangements. As new enterprises, they must quickly gain experience and resources in order to comply with existing regulations—and with quality criteria for export markets. Smaller firms face higher constraints to entering the certified timber market due to certification costs, the difficulty in marketing small volumes of certified wood, access to buyers, and product quality issues.

Temporary working capital: the forgotten finance need

Much of the attention on investment needs in forestry has focused on the acquisition of major assets, with little attention going to the short-term financing needed to overcome temporary working-capital problems. In an ideal setting, firms would use cash reserves in bank accounts to cover periods in which their costs temporarily exceed revenues or when shortfalls are created by delays in the receipt of sales revenues. Firms with cash shortfalls find their liquidity problems turning into solvency problems when they cannot pay expenses or take on new orders while they wait to collect on the last sale. The inability to take on

Types of private investment and investors

Developed financial markets have many types of lenders and investors with a large variety of credit and equity products and financial services. In the tropical emerging markets, however, only a few types of investors and lenders appear relevant at this time.

Industrial investors invest strategically in forestry operations to use the wood as raw material inputs in their manufacturing operations. Industrial investors may set up listed companies where stock exchanges allow companies to include concession rights as qualified assets, thus giving the corporation access to large capital markets. The operations can be highly leveraged¹, permitting the corporation to control significant forestry assets with very little of its own capital at risk.

Investment funds generally take minority stakes in the marketable securities (stock and bonds) of qualified forestry and forest product companies. They market shares in the fund to retail and institutional investors. This excludes their direct participation in non-listed private companies (such as middle-market companies and informal forestry operations).

Timber investment management organizations (TIMOs) are investment funds that actively manage forestland assets on behalf of other investors, such as pension funds and wealthy private investors (see article page 9).

Pension funds provide coverage of future retirement liabilities and therefore seek long-term assets to match the timing of cash inflows against long-term liabilities to retirees. Pension funds are good candidates for forestland investment, but not in high-risk, emerging markets. Some are constrained by their guidelines from owning any foreign equities.

Like pension funds, **foundations and endowments** have long-term or perpetual investment horizons. They are conservative and seek to maintain the purchasing power of their portfolios and generate current income to support their grants and mission objectives of a charitable or educational organization.

Private equity investors provide equity and debt to enterprises, earning capital gains from the appreciation in value of their investments. They might buy a company, grow a company, sell it or take it public, recouping their principal and releasing their gains.

Venture capitalists provide equity and debt to enterprises, particularly young firms that have significant growth prospects and little or no access to regular capital markets. They may be general partners in forest management companies, majority shareholders, joint-venture strategic partners, private equity investors or hedge funds. Like private equity investors, their strategy is usually to grow a company, sell it or take it public and make returns from capital gains.

The socially responsible investment (SRI) market, which screens for socially responsible objectives, controls US\$2.16 trillion in assets in the United States alone. In most cases, SRI investors screen out companies that violate good governance, environmental and social standards. One of the inclusive screens used for forestry-related assets is certification.

Lenders: equity provides a capital borrowing base, but most operations mainly need simple, affordable working capital and equipment finance.

Project funding and commercial banks: banks provide credit, working capital lines of credit and equipment leasing. Commercial banks and other debt providers expect to be repaid their principal and interest from the earnings and cash flow of the company, and therefore their analyses focus on the enterprise's cash flow to measure debt service capacity and the probability of repayment. They require collateral and security as secondary sources of repayment.

Revolving credit facilities serve to bridge cash-flow shortfalls and timing delays for customers. As a rule of thumb, asset-based lines of bank credit will provide up to 70% of the value of uncollected customer invoices (accounts receivable) and 30% of the value of unsold inventories.

In tropical countries, banks often shun all but the largest corporate players in the forestry industry. With credit guarantees in place, banks may be willing to relax some of their requirements. Local loans backed by bank guarantees are the first window of commercial finance open to forestry enterprises in most developing countries.

Equipment manufacturing and distribution companies: in a lease, the customer has rights to the use of the assets, but the ownership of the assets resides with the lessor. In many places, equipment leases finance about 85% of the equipment value, with 15% put up by the firm as its equity stake. Equipment leases are particularly valuable to new forest operations or expansions as they give asset-based access to medium-term financing (which banks rarely provide in developing countries).

¹Leverage is the proportion of debt-to-equity in a business. The result you get after dividing debt by equity is the percentage of the company that is indebted (or 'leveraged'). Where debt funds a large proportion of assets, the company becomes exposed to fixed-debt service obligations.

new or larger-than-usual orders places a severe constraint on a firm's ability to expand.

In economies with more developed and competitive banking sectors, commercial banks are used to bridge cash shortfalls or to fill a large order that would otherwise have to be declined for lack of liquidity or working capital. But in lesser-developed financial sectors, banks tend to avoid retail credit risks and usually do not provide producers—particularly SMFES—with such working capital. Many banks will only provide cash-flow support if the company has real-estate assets or other solid collateral; it is rare to find developing-country banks providing lines of working capital based on the sales and inventory of a company. Many smaller enterprises may gain access to finance through informal money-lenders but face high interest rates when they do so.

Many banks will only provide cash-flow support if the company has real-estate assets or other solid collateral; it is rare to find developing-country banks providing lines of working capital based on the sales and inventory of a company.

Who are the international investors and what are they looking for?

Using analyses of varying degrees of sophistication, all investors systematically assess the nature of investment prospects and their perceived benefits and risks. They identify the sources of value in the investment and the factors that pose risk to profitability and asset value. Different investors emphasize different aspects of the investment, and their assessments reflect this. Direct investors such as industrial groups and pulp-and-paper companies value natural forests as a source of low-cost raw material. They are looking not so much for profits on the forest management side but for cheap fibre, which gives them higher margins downstream and low prices that allow them to conserve cash flow. Forest product companies issuing securities have large capitalization, good market liquidity, investment research coverage, and a long cycle of market history. Liquidity in investments is a key factor for most investors, particularly in cyclical investments. The box lists the main types of investors and their interests.

Risk ranking

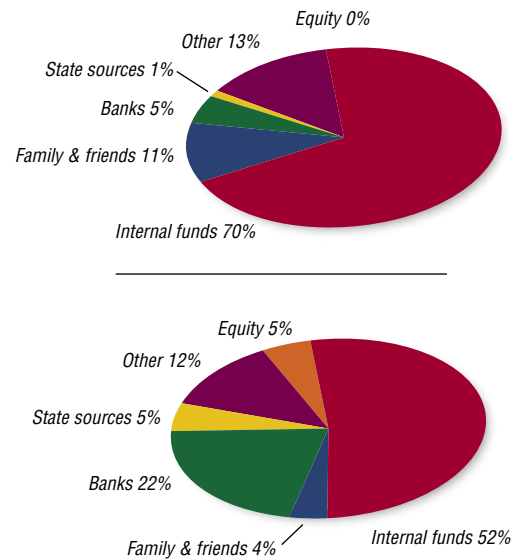
Number of ITTO producer countries appearing in each of the four quartiles of two global investment climate indices (2005)

PERCENTILE OF ALL COUNTRIES	EUROMONEY COUNTRY RISK INDICATOR (ORIGINAL SCORES)	TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTION INDEX (ADJUSTED SCORES*)
Top 25%	0	1 (Malaysia)
2nd Quartile	14	12
3rd Quartile	9	9
Bottom 25%	10	10

*Adjusted score missing for Vanuatu
Adapted from Euromoney Country Risk Indicators (2005) and Transparency International Corruption Perception Index (2004)

Money-lenders

Figure 2: Sources of financing: small firms (top) versus large firms (bottom)



Source: World Bank 2004

Professional investors usually have a systematic process for screening large numbers of prospects before progressively narrowing down the qualified selection pool ('deal flow'). They weigh the risk versus the likely return: in this terminology, risk is just the inverse of return and therefore risk/return can be thought of as opportunity versus constraint. The first screens are fast and inexpensive, but screening becomes progressively more detailed and expensive as prospective 'ideas' emerge from the pool. Tropical forestry investment in developing countries is often eliminated in the first screen simply on the grounds that the prospects are in countries with poor investment climates (governance problems, political instability, etc).

Factors that influence investment can be broken down into three differing levels of risk/return.

- 1) **Country investment climate factors ('country risk' or 'general business environment')**: here, investors consider the broad economic, legal, regulatory, political and social factors that could affect an investment. Figure 3 shows the major factors affecting overall private investment, of which political uncertainty and macroeconomic instability are generally the most important.

The benefits of lower costs in labour and raw materials in many tropical forested countries have been countered by factors related to an overall poor investment climate at the country level: the added costs of poor infrastructure and telecommunications and the high cost of capital, power outages, bribes and other inefficiencies. The World Bank's investment climate surveys and other expert polls attempt to quantify the cost of country-level governance failures to the firm-level bottom line. Surveys of Cambodian businesses across all sectors,

for example, report that 18.9% of their annual sales are lost due to three sub-indicators alone: percentage of sales lost to bribes, crime, and electricity outages. For these same indicators, Brazilian surveys report losses of up to 6.6% of sales, and in Ecuador 14.4% of sales. In expert polls, it is reported that the number of days required to enforce a contract in Brazil was 566 in 2004. In Guatemala and the Democratic Republic of Congo, these numbers soar to 1459 and 909 days, respectively. This is compared to the average 280.2 days reported in high-income countries, and the world average of 388.3 days (World Bank 2004).

International investors might consult several of the many investment climate indicator analyses published by international organizations and specialized research organizations, or industry publications such as *Euromoney's* country credit ratings and *The Economist Intelligence Unit's* country risk service. These indices all consider criteria such as government and currency stability, infrastructure provision, levels of corruption, crime and law enforcement, and the adequacy of legal systems as major factors affecting the investment climate in a particular country. Many ITTO producer countries do not fare well according to these aggregated rankings (see table).

- 2) **Forest industry factors ('industry risk')**: these factors include the commercial viability and behaviour of an industry, supply and demand conditions, the level of industry maturity and growth, the degree of competition, technology change, and other factors that could affect sales and margins for a business in the industry. They can be broken down into global industry risk and country industry risk. The structure of the industry in the country, rather than the types of trees or products, often determines whether a forestry portfolio will develop. Key factors include a clear (probably private) ownership structure, a close link between forest management and market penetration, clear legal

liability for the effects of forest management strategies (damage to the environment and the impact on local communities), and a realistic pricing of the forestry asset for the companies concerned. It is important to understand the federal, provincial and state roles in regional economic development plans as well as the outlook for pending legislative changes and renewals regarding import or export restraints.

- 3) **Company (firm-level) factors (company risk)**: these assess the asset quality, competitive strategy, products, growth prospects, production, marketing, management, operating and financial performance and funding capabilities of an investment prospect. One of the key elements of successful venture capital investments is the ability of the entrepreneurs to manage their businesses successfully (Moles 2003). To gain mainstream investor attention, prospective companies must have a history of successful operations, at least in the areas of operations and sales. Good management is scarce.

China and India provide compelling examples of investment climate improvements at the country level that have driven economy-wide growth and fuelled poverty reduction.

Conclusion

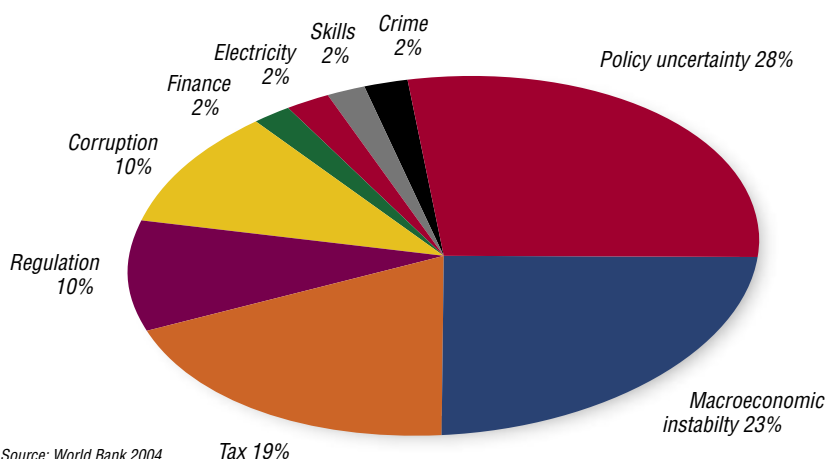
Governments have an important role to play in creating a climate in which forest product-related firms and entrepreneurs of all types—from micro-enterprises to local manufacturing companies and multinationals—have opportunities to invest productively, create jobs and expand, and thereby contribute to growth and poverty reduction. While governments cannot change the geography or natural resource base of a country, they have significant influence over important factors such as the security of property rights, the approaches taken to regulation and taxation (both within and at the border), the provision of infrastructure, the functioning of finance and labour markets, and broader governance issues such as corruption. Governments are increasingly recognizing that their policies and behaviour play a critical role in shaping the investment climates of their countries. China and India provide compelling

examples of investment climate improvements at the country level that have driven economy-wide growth and fuelled poverty reduction. Governments, industry and other members of the international community can encourage investment in natural tropical forest-based enterprises in a number of ways, as described below.

More attention needs to be paid to supporting the growth of small and

Money worries

Figure 3: Major concerns determining private investment, global



Source: World Bank 2004

medium-sized enterprises: development agencies such as the World Bank and the International Finance Corporation should create mechanisms to address barriers to growth in SMFES.

There is no substitute for good governance: governments must balance measures to encourage private investment with other broader societal interests, such as ensuring an adequate tax base for financing governmental programs—which bring positive benefits back to companies in the form of infrastructure development or educational programs that produce skilled labour—and safeguarding environmental and social rights. International firms can work more proactively with governments to make them aware of the negative impacts of poor governance. Retailers and private financial institutions could require certified sustainable or legal wood products, thereby helping governments to eliminate the problem of illegal logging, which undercuts the profits of legal operations.

Several investment institutions now recognize the importance of independent verification to ensure that forest products from developing countries maintain their credibility in environmentally sensitive markets, especially parts of Europe.

Skilled worker and labour markets are needed: increased funds and modern technology will not improve an enterprise that lacks sound management, good products, sales channels and successful buyer relationships. Governments can foster a skilled workforce through basic education programs and labour market interventions that promote higher skills and help workers cope with change.

Investment and risk guarantee mechanisms which work in developed countries need to be adapted to the natural tropical forest context: many investment mechanisms in use in developed countries today are simply not useful in the tropical natural forest-based industry because of long-term country risk. Security programs for responsible private investors could be supported. The Multilateral Investment Guarantee Agency and the World Bank Group could create funds that recognize the role of responsible private investment in economic and social development in its client countries and help reduce insurance premiums for sustainable forest operations.

Stimulate demand for products made from responsibly-produced wood: in the corporate world, sustainable management methods must pass a basic value test of reducing risk, improving margins and increasing growth. Several investment institutions now recognize the importance of independent verification to ensure that forest products from developing countries maintain their credibility in environmentally sensitive markets, especially parts of Europe. The objective is to stimulate demand for products made from responsibly produced wood, improve the business management and production

of project partners, and promote financing and investment opportunities within supply chain.

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Attracting institutional investors

Pension funds, endowments and foundations have trillions of dollars to invest. Can they be convinced to direct such investments towards tropical forests?

by Peter Vind Larsen

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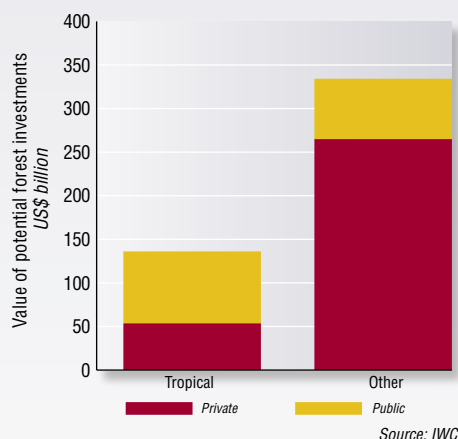
Institutional investors such as pension funds, endowments, foundations and others are characterized by:

- trillions of dollars of capital;
- interest in long-term investments (10–15+ years);
- realistic risk-adjusted return expectations;
- increasing emphasis on triple-bottom-line (economic, environmental and social) returns; and
- focus on total economic return (cash and capital appreciation).

The forest investments of institutional investors have so far been almost exclusively non-tropical. Nevertheless, the tropical forest sector offers significant, if as yet untapped, scope for investment (Figure 1). Planted forests are generally more likely to attract significant institutional investment compared to natural forest management. This is due primarily to the proven track record of planted forests in investment terms, whereas investment conditions in tropical natural forests are less known and not as easily comprehended.

Untapped

Figure 1: IWC analysis indicates that tropical forests represent significant forest investment potential



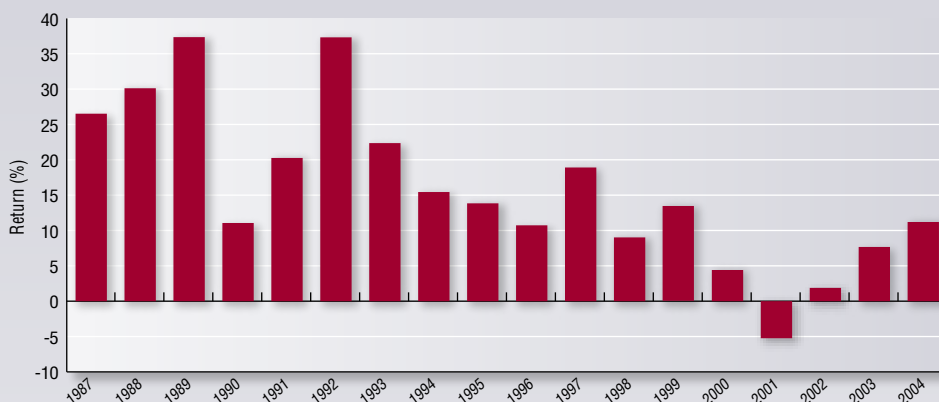
Forest investments for institutional investors

Forestland investment is attractive to institutional investors because:

- there is a high return-to-risk ratio;
- it increases diversity for large portfolios;
- risk is relatively controllable;
- there is a comparatively low risk of abrupt market change; and
- returns have been largely positive over a long period (see, for example, Figure 2).

Positive territory

Figure 2: Return on US forestland investment, 1987–2004



Source: National Council of Real Estate Investment Fiduciaries

Constraints to tropical forest investments

The constraints to investment in tropical forests listed below might be real or perceived, but even if only perceived they form an obstacle to attracting investments.

- Negative image of commercial forestry in the tropics—the general media and public image of tropical forestry is often associated with forest destruction, relocation of indigenous populations, extinction of wildlife, etc
- Low return potential—particularly for sustainable natural forest management
- Lack of management capacity
- Small scale—the industry is often fragmented
- Generally high country risk (tenure, tax, markets, political instability, etc)
- Lack of exit opportunities—investors need to know about the opportunities for getting the money out of an investment at the end of the investment term and under what conditions

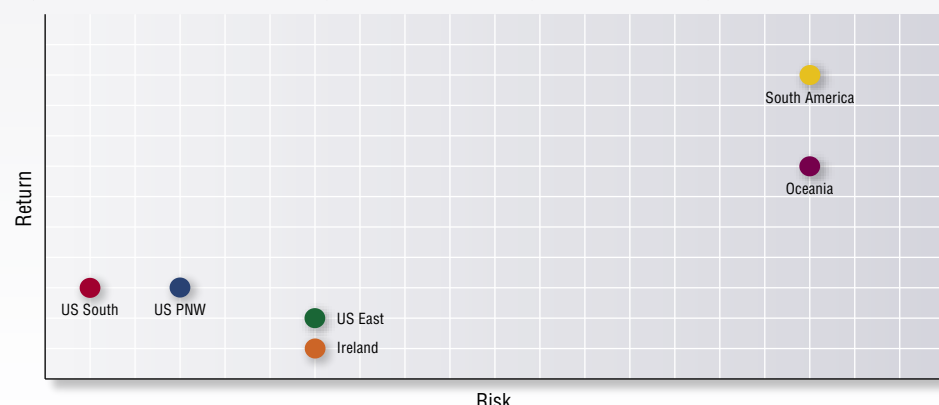
Approaches to risk control

Risk management is essential to the success of tropical forest investment. Investors must be convinced that:

- careful due-diligence has been performed on all aspects of the triple bottom line;
- the investment is capable of sound financial performance;
- there is a commitment to 'sustainable and responsible investment' as a risk control instrument;

Good fit?

Figure 3: Do risks and returns for tropical forest investments provide an attractive portfolio diversifier?



Source: IWC

- the investment assists diversification at the fund and portfolio levels;
- the necessary partnerships between managers, government, development banks and non-governmental organizations are in place; and
- exit opportunities have been identified.

The portfolio fit of tropical forests

Institutional investors look to balance their portfolios with a diversity of investments with attractive returns versus risk. One of the main questions to be answered is: where do tropical forests fit in this framework relative to other investment options (Figure 3)?

Conclusions

The interest from institutional investors in forest investments is growing every year, but, so far, investments have been almost exclusively non-tropical. Being such a large part of the world's forests, tropical forests should, however, hold significant interest for institutional investors if:

- they offer an attractive portfolio fit in relation to risks and returns; and
- associated risks and uncertainties can be managed.

This article is a summary of a presentation given at the International Tropical Forest Investment Forum in Cancun, Mexico, on 26–27 April 2006. The full presentation can be downloaded at <http://www.itto.or.jp/live/PageDisplayHandler?pagelD=223&id=1213>

**The International Woodland Company is a provider of global forest investment-related services. Total strategic allocation to forest investments by IWC's clients is over US\$2 billion.*

Small and medium-sized forestry enterprises

Are they the best bet for reducing poverty and sustaining forests?

by James Mayers

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SMALL and medium-sized forest enterprises (SMFEs) are poorly understood and difficult to define. They are diverse, and the dividing lines between them and micro- or large-scale enterprises differ from place to place. A working definition of an SMFE is: a business operation aimed at making a profit from forest-linked activity, employing 10–100 full-time employees, or with an annual turnover of US\$10,000–US\$30 million, or with an annual roundwood consumption of 3,000–20,000 m³.

Why are SMFEs important?

In the tropics, most forest products are produced and consumed locally. For those products that are sold, the domestic market dominates. It is commonly estimated that about 85% of wood from tropical forests is used for fuel, about 10% is timber used locally and about 5% is timber that is exported. Whilst exports are generally the preserve of large-scale enterprises, the domestic market is dominated by SMFEs.

Good information on SMFEs is scarce. Some rough extrapolations from existing information suggest that:

- in many countries, 80–90% of forestry enterprises are SMFEs;
- in many countries, over 50% of all forest-sector employment is in SMFEs;
- over 20 million people are employed by SMFEs worldwide; and
- over US\$130 billion/year of gross value-added is produced by SMFEs worldwide. By comparison, the total global value of imports of wood-based products is about US\$141 billion/year—most of which is produced by large enterprises; there may be an additional 140 million people working in informal forestry micro-enterprises, mainly in developing countries.

Why have SMFEs been so ignored?

SMFEs are diverse, informal, slippery and risky. They pose difficulties for policy-makers because of:

- the complexity of establishing links with diverse SMFEs in multiple locations;



Local enterprise: a logging truck is ready for unloading in a village in Mozambique.

Photo: D. Macqueen

- the diversity of constitution of SMFEs, which reduces the likelihood of common agendas;
- the small individual scale of each enterprise, which reduces the per-unit impact of interventions;
- the volatility of economies in which they operate and hence their necessary flexibility, mobility and opportunism;
- their lack of resources for dealing with bureaucracy and their lack of political muscle for beating the system; and
- the fact that SMFEs are risky business. They often have informal business patterns, insecure tenure or resource access, low managerial and technological capacity, and little collateral.

SMFEs often have weak relationships with external investors and a lack of capital to offset these risks themselves. It is estimated that some 80% of SMFE financing comes from the owners themselves, their friends and their families. SMFE owners are thus the dominant 'investors' in forestry.

What are the environmental and social impacts of SMFEs?

The influence of SMFEs in communities varies considerably depending on the setting, but a few general comments can be made.

- The conditions under which SMFEs work—informality, insecure tenure, low investment, low profitability—may reduce their scope for taking account of environmental concerns. However, sometimes local accountability can improve environmental quality: eg in patchwork landscapes based on smallholder production.
- Most social benefits occur where both larger enterprises and SMFEs co-exist and where the employment share of

SMFES increases at the same time as improvements are made in technology and standards resulting from the links between the SMFES and larger enterprises.

- Fewest social benefits arise when there is 'distress diversification'—where poor people with few other options seek refuge in low-skill activities and seasonal labour migration.
- SMFES may make a positive transition to larger-scale enterprises, or they may be replaced by large firms with distant product sourcing and repatriation of profits elsewhere.

Are SMFES a good thing?

Generally, SMFES play a positive role, and they are not going away.

- There is evidence that SMFES usually generate net benefits: by playing a key role in providing basic needs, often part-time with other activities; by spreading wealth locally; by empowering local creativity; and by preserving cultural identity (but there are also examples of socially disastrous SMFES).
- SMFES are better than large enterprises at understanding local political contexts, linking with local civil society, and committing to operate in a specific area.
- Rather than ignoring SMFES, there is a need to build on their strengths and deal with their weaknesses.

What prospects for greater investment in SMFES?

- Where taxes are high, regulations numerous and unfairly applied, and revenues appropriated privately, there is a high incentive for SMFES to stay outside or leave the formal economy.
- Corruption and illegality go hand in hand in many forest frontier areas where SMFES predominate.
- SMFES are often notionally subject to multiple government authorities—who may be badly connected, frequently changing, and disdainful of SMFES.
- Decentralization and co-management arrangements hold much promise.
- Consumer concerns for fair trade have the potential to support what is best in SMFES.
- Where SMFES group together in clusters or associations they can play a greater role in securing investment, articulating needs and influencing policy.

Recommendations

- **Foster enterprise associations and support their specific needs:** associations can shape the policy environment, reduce transaction costs and invest in adaptive strategies. Targeted support can bring major rewards.
- **Simplify and stabilize laws and enforce them equitably:** in some cases, clear titling helps. In others it is the democratic involvement of marginalized groups in decisions over common land that is critical.



Sales pitch: women sell custard apples by a roadside in India. *Photo: Andhra Pradesh Forest Department*

Policies that foster a competitive but also vertically mobile SMFE sector are preferable to those that merely protect them.

- **Support judicious subsidies, and remove unreasonable subsidies and trade barriers:** these may be vital additional tactics where there are good grounds for opposing the accumulation of power in the hands of a few.
- **Develop credit unions and better risk assessments:** credit unions can play a vital role in making efficient use of the capital held by individual SMFE owners. Group-lending contracts with joint liability hold much promise, and group certification can also help unlock credit lines. Risk assessments that reflect forest timeframes and constraints are needed if banks are to deal more effectively with SMFES.
- **Build capacity for management, deals with larger players, and to broker finance:** developing capacity for managing appropriate business models with larger firms may be vital as a route to investment finance. Brokering bodies to connect SMFES with policy initiatives, investment sources and business support agencies are emerging in some countries, and viable approaches need to be further developed and spread.

Conclusion

If we accept that forestry can and should do more for sustainable development and poverty reduction, then we must do better than looking for answers solely in large or micro-scale enterprises. We need to look more at the kinds of enterprise that actually exist and make up the majority of the forest sector—the SMFES. We need new financing mechanisms for building on the investments of responsible SMFE owners. The best chance for success lies in strengthening SMFE associations.

This text is based on a presentation made by the author at the International Tropical Forest Investment Forum in Cancun, Mexico, 26–27 April 2006. It draws on Macqueen, D. & Mayers, J. 2006 (forthcoming): Forestry's messy middle: a review of sustainability issues for small and medium forest enterprise. International Institute for Environment and Development, London, UK.

Attention to markets and public policies is crucial to the promotion of sustainable forest management in the country's tropical forests

by
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Victor Sosa Cedillo &
Timothy Synnott**

Members of an ITTO diagnostic mission to Mexico in May 2005

IN OCTOBER 2004, the government of Mexico requested ITTO to organize a technical mission to Mexico to identify those factors that prevent or limit progress towards the ITTO Objective 2000 and sustainable forest management (SFM) in the country's tropical forests and to recommend appropriate measures for overcoming these constraints. The mission took place in May 2005; this article summarizes its findings.

Overview

Mexico is a middle-income country with a per capita income of just over US\$5,000, one of the highest in Latin America. However, there are still major and increasing differences between the rich and the poor, the north and the south, and the urban and rural areas of the country. It is estimated that about 45 million Mexicans live on less than US\$2 per day.

Tropical forests

Mexico has an estimated 26.4 million hectares of tropical forests, which are found in the coastal regions of the Gulf of Mexico and the Pacific coast, the Tehuantepec Isthmus, the Yucatan Peninsula and along the border with Guatemala. They comprise mainly low to medium natural forests, with a relatively small area of high forests (>30 m high). The states with the majority of tropical forest resources are Campeche, Chiapas, Oaxaca, Quintana Roo, Veracruz and Yucatan, which together with Tabasco were the main focus of the diagnostic mission.

Forest land tenure

About 80% of forests and rainforests in the country are under social ownership regimes (*ejidos* and other communities), comprising about 8,500 agricultural centres with a population of about 12 million people. Few countries have a higher rate of communal land ownership, and Mexico is recognized as a global leader in community forestry.

Tropical forest management

Formal management for the production of timber in the tropical forests of southeastern Mexico began in the 1950s, when a large-scale forest management plan was developed for a parastatal company in Quintana Roo. In the 1960s and 1970s, concessions were granted to private companies. All concessions were cancelled in the 1980s, however, and a process began of transferring responsibilities for forest



Productive use: *ejido* farmers stand in their young orchard, which is growing adjacent to natural forest. Photo courtesy Mexican Forestry Commission

management activities to *ejidos* and other communities. The current law stipulates that all harvesting permits should be granted to forest owners, which in the case of tropical forests are almost exclusively *ejidos* and other communities.

Timber production

In 2002, the production of tropical roundwood was 278,000 m³. Of this, 8.6% comprised high-value timber species such as mahogany (*Swietenia macrophylla*) and red cedar (*Cedrela odorata*) and the rest were secondary species. Most of the valuable species are milled for sawnwood, with less than 10% used for other purposes. Secondary species are used for sawnwood (44%), firewood and charcoal (30%), posts and poles (7%), sleepers (8%), and veneer and plywood (2%).

Commercial plantations

There is little reliable information on the extent of commercial forest plantations; it could be as low as 100,000 hectares. There is huge potential for their expansion in the tropics—perhaps up to 5 million hectares. However, several factors hinder such expansion, including: (i) the current land tenure system, which makes it difficult to develop large-scale industrial projects; (ii) the lack of complementary financing to support start-up incentives; (iii) the lack of a clear identification of the species to be planted and the products to be obtained; and (iv) low interest within the private sector due to high perceived risks and a lack of reliable information on expected returns.

Main socioeconomic indicators

The total value of tropical timber production in the seven states of southeastern Mexico was US\$24 million in 2002; the value of non-timber production was US\$7 million. The

direct contribution of the timber sector to the generation of employment in the tropical region could be as high as 60,000 jobs, but no reliable data are available to confirm this. Most employment opportunities continue to be informal and temporary in nature. A substantial number of *ejidos* depend mainly on forest activities for their livelihoods.

Diagnosis

Mexico has significantly strengthened its system of SFM over the past decade and many of the necessary elements are already in operation, if imperfectly. However, the process to improve production on the ground has generally been slow due to a lack of investment by the private sector and the limited capacity of community groups to improve their forest management systems and industrial processing.

Forest communities find themselves in a vicious circle: the income derived from forest activities is not sufficient to justify the investments required to add value to products or improve the efficiency of operations. Of the nearly 8,500 *ejidos* and other communities with forest resources in Mexico, 2,417 implemented commercial harvesting activities with officially approved management plans during 2002. This means that only 28% were able to take the managerial, technical and financial steps to develop and implement their management plans. The production potential of high and medium forests in the tropical region has been estimated at 1.4 million m³ per year, five times or more the current production. For it to be sustainable, however, such an increase in production could only be achieved through the implementation of adequate management plans, well-trained technical services, appropriate zoning, investments in infrastructure, improvements in production efficiency and the elimination of conflicts on the use of forests.

Given the social and environmental importance of tropical forests and the economic role they play in the conservation of environmental services, promoting their sustainable management should be a high national priority. However, both national and state governments offer incentives for rural development that tend to promote other land-uses on forest land.

In the tropical region, there are perhaps 200 *ejidos* and other communities with sufficient high-value forest resources to base their development strategies mainly on industrial timber production. Of these, about 50% meet the necessary prerequisites with regard to their internal organization and economic accessibility in the short and medium terms. The remaining *ejidos* and other communities have small or less productive forests, or their forests are inside protected areas. Such communities could base their management on non-timber products, environmental services and smaller quantities of commercial timber. In these cases, support should be geared towards training in basic administrative and technical skills as well as the development of non-timber products and other forms of natural resource utilization.



Drying up: Mexican mahogany boards are stacked for drying. *Photo: J. Blaser*

Support strategies should be targeted at market niches and specialized producers who can serve these outlets with a high level of professionalism.

The situation of the industry will change in a few years as plantation timber starts to penetrate the market. This will create new dynamics because it will require different types of technology—suited to fast-grown, small-diameter timber—to that currently used for native tropical timber species. The industrial needs of the sector have not yet been adequately considered in plantation programs and there is a risk that this will lead to the geographical fragmentation of the supply of raw materials, resulting in high transport costs for the industry. A long-term integrated plan to develop plantations and industrial capacity at the regional level is required to address this concern.

Industrial development will follow two strategic pathways: (i) small- and medium-scale production based on timber sourced from natural tropical forests for specific market niches (domestic and export), with an emphasis on value-added products; and (ii) medium- and large-scale production with competitive costs based mainly on plantation timber directed at markets in which they will compete with oak and other broadleaved species, both tropical and non-tropical, either domestically sourced or imported. Industries will also be developed to satisfy local needs for pallets and packaging, construction poles, etc.

Marketing

Existing distribution channels in the domestic market do not encourage increased value-added processing of sawnwood by producers, the use of secondary species in the market, or the adoption of improved grading and measurement



Valuable asset: a mahogany tree in forest in Yucatan, Mexico. Photo: J. Blaser

systems. The introduction of plantation tropical timber into the market reinforces the need to address these problems, because the quality of this raw material will be different from that of the timber produced in natural tropical forests.

On the other hand, many secondary species that do not have a national market do have a potential international market and therefore provide important niches for Mexican producers. It is possible to find these niches in the domestic markets as well, but this would require the development of new distribution channels. The volume of demand in these niches (both national and international markets) is limited, but prices can be high. The market potential coincides with the capacity of small and medium-sized enterprises if the required quality can be produced and producers can comply with the other requirements of these demanding markets (such as delivery times, certification, etc). The development of drying techniques in the *ejido* sawmills would be an essential prerequisite for almost any value-added product line.

A significant bottleneck is the lack of direct contact between markets and *ejido* sawmills in the tropical region. Despite the existence of forest certification, the sector has not been able to establish partnerships between buyers and producers that foster the improvement of production systems. The lack of management capacity and realistic business plans is a basic limitation on the development of the sawmilling sector.

The information system for tropical timber markets in Mexico needs to be improved. The current lack of transparency results in an economic loss for producers and acts as a disincentive for the implementation of SFM. In addition, there is a lack of capacity to convert available data into a more usable and accessible format for potential users (producers, industry, timber merchants, exporters, importers, etc). Filling this gap is a priority for the promotion of SFM in the tropical forests of Mexico.

Public policies for SFM

Tropical forests in Mexico have been in crisis for many years as a result of public policies that have promoted their clearing for other uses. However, pressure for land has decreased as a result of recent macroeconomic changes and because there are fewer government incentives for forest conversion (although some still exist). Important factors in this process have been the establishment of new protected areas, an increase in wildlife management units, and specific government support programs. Nevertheless, inappropriate deforestation (even at a lower rate than previously recorded) continues to deplete forest resources. It is therefore important to maintain the clarity and stability of existing policies, and to adjust those that still induce inappropriate land clearance—or risk a return to high rates of deforestation.

Combating illegal logging

Illegal logging is a serious problem in certain areas of the country. The Federal Office for Environmental Protection (*Procuraduría Federal de Protección al Ambiente*) estimates that the consumption of illegally harvested timber (including non-tropical timber) in the country is 5–7 million m³ of roundwood per year, which is about 80% of the volume of timber harvested legally; no reliable data are available on the proportion that is tropical. Generally, forest operations have inadequate control due to a lack of human and financial resources and training. Current monitoring systems are not efficient. Provisions to support existing regulations exist, but these are incomplete and fragmented and require revision.

The Mexican government has taken many actions in the fight against illegal logging. Nevertheless, one element that is still missing is the involvement of public and private buyers through clear purchasing policies that will prevent—or at least significantly limit—the access of illegal products to the national market. It is also necessary to improve information on the volume of illegal logging and its causes so as to design additional and specific responses.

Constraints and opportunities

Major constraints

The mission identified five major constraints to the achievement of the ITTO Objective 2000 in Mexico's tropical forests. These are: (i) the limited capacity of forest owners to implement forest management practices and value-added processing of their products; (ii) insufficient knowledge of the technical basis of natural forest management, the properties of the wood resources, forest productivity (both natural forests and plantations), and markets and industrial development; (iii) limited knowledge about the diversification of production aimed at improving the economic viability of natural forest management and the income levels of producers, in particular in regard to lesser-known/used species; (iv) a lack of transparency and efficiency in the timber market for the promotion of SFM, including a lack of information systems on SFM and appropriate measurement and grading systems; and (v) a lack of appropriate SFM financing mechanisms and the existence of perverse incentives that promote non-forest uses of forest land.

Opportunities

The Mexican moist tropical region offers a series of opportunities for sustainable development that are still under-utilized. For example: (i) up to 1.4 million m³ of timber could be produced each year from Mexico's natural tropical forests on a sustainable basis; (ii) 4–5 million hectares of plantations could be established for commercial timber production and carbon sequestration; (iii) the tropical region produces 60% of the nation's hydroelectric energy—the conservation of water resources is an important function of tropical forests; (iv) ecotourism is still under-developed; (v) the sustainable production of non-timber products derived from natural tropical forests, and a sustainable trade in wild flora and fauna, could be made more efficient and lucrative; (vi) the contribution of the 5.6 million hectares of protected areas to biodiversity conservation could be improved with better management; and (vii) natural tropical forests could sequester an estimated 8 million tonnes of carbon per year under SFM.

Comparative advantages

The main comparative advantages for the production of tropical timber in Mexico are: close proximity to the US market; good physical conditions for tree-growing; the availability of marginal lands for the establishment of commercial forest plantations; well-developed basic infrastructure; a rapidly growing domestic market; successful experiences in community forestry, tropical forest management, agroforestry, plantations, non-timber production and other sustainable development activities; a positive long-term policy framework; the availability of manpower at competitive costs; and high potential for the generation of environmental services.

Elements for ITTO support

The mission recommends the following activities (in no particular order of priority) as elements of an ITTO support program for Mexico:

- i) development of criteria and indicators (C&I), guidelines and manuals on SFM in the high, medium and low tropical forests and mangrove forests of Mexico, including regional monitoring of timber growth and yield, based on the ITTO C&I and relevant guidelines;
- ii) development and implementation of a training and research program on priority issues such as reduced impact logging systems, forest road planning, business management of community-based forest enterprises, drying techniques, secondary processing, quality control, operational planning, marketing, business planning, etc, geared to instructors, technical service providers and a pilot group of producers;
- iii) implementation of an integrated project for the development of commercial forest plantations in the tropical region, including: (a) a survey of current plantation area, stocks and productivity based on remote sensing and field measurement data; (b) a market survey for plantation timber, and (c) a master plan to guide new investments, specifying species, products, markets, etc. These guidelines should particularly consider market and industrial development aspects at the regional level;
- iv) the strengthening of germplasm management, production and regulation in the southeastern region;
- v) development of an integrated pest management system for cedar and mahogany plantations;
- vi) research and training on the management of degraded or rehabilitation lands, including commercial forest plantations, based on the ITTO

guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests (see page 18 for a description of a new ITTO project to address pest management in Meliaceae plantations);

- vii) development of improved systems for timber-measuring, the grading of roundwood and timber products, the formulation of respective standards, and the dissemination and promotion of results among target beneficiaries, who should be involved in the process from the outset;
- viii) the implementation of a demonstration project for the development of community-based forest enterprises in the Mayan region, which should include a diagnosis of the limitations of such enterprises as well as an initial auditing of certification, technical studies, training, and the development of appropriate systems and technical management practices. The results of this project should help strengthen the competitiveness of participating community-based forest enterprises and facilitate their certification;
- ix) implementation of studies on: the characteristics of lesser known/used species, their markets, and their production potential based on site-specific forest inventories, as well as the processing and dissemination of information in a suitable format for the promotion of these species;
- x) development of a market information system to improve transparency, data collection and organization and the establishment of sufficient communication channels to guarantee the accessibility of updated information to individual producers, their associations and technical service providers;
- xi) strengthening of control systems through: a study on the volume and causes of illegal logging and an assessment of relevant experiences in other countries, development of advanced monitoring systems for timber and timber product flows, and development of initiatives aimed at improving the role of markets in the control of illegal logging; and
- xii) development of systems and capabilities for the certification of the quality and properties of Mexican timber products.

The mission made a total of 32 recommendations aimed at overcoming constraints and encouraging SFM in Mexico's tropical forests. The full list is contained in the full report of the diagnostic mission, which can be obtained from: ITTO Information Officer, itto@itto.or.jp, or downloaded at <http://www.itto.or.jp/live/PageDisplayHandler?pageId=205>

Forest certified in Congo

ITTO has assisted a large timber concession in its successful bid for FSC certification

by Björn Roberts

Communications Manager
Tropical Forest Trust

THE KABO concession in northern Congo recently became the first forest in the Republic of Congo, and the largest anywhere in the Congo Basin, to be certified under the Forest Stewardship Council (FSC) umbrella. Now others are set to follow.

Kabo covers 296 000 hectares of dense tropical rainforest. It is home to semi-nomadic and other indigenous communities and a vast range of animal and plant life. Kabo is also a significant resource for economic development; Congolaise Industrielle des Bois (CIB), part of the DLH/tt-Timber Group, holds long-term timber harvesting rights to it.

FSC certification is sometimes construed as too difficult in Central Africa, and Kabo certainly has its share of difficult issues. Environmental groups and other concession-holders watched Kabo's progress towards certification with great interest. Was it economically feasible to meet the FSC requirements? Could the drive for certification raise social and environmental standards to a level that would earn the support of the likes of Greenpeace and the Wildlife

Conservation Society (WCS)? No FSC national standards currently exist in Central African countries, so the CIB certification process could be a benchmark for the region.

The challenges were, and are, significant. To achieve SFM, semi-nomadic indigenous communities must have a meaningful say over the decisions that affect their lives. Controlling commercial poaching for wild meat is perhaps the operation's biggest challenge, and economically viable logging must not jeopardize the integrity of this portion of one of the richest ecosystems on the planet.



Dinner time: stakeholders in a temporary Pygmy settlement in the Kabo concession.

Photo: Edward Parker/Images Everything

In March 2004, CIB announced its decision to pursue FSC certification for all of its five concessions, with technical support from the Tropical Forest Trust (TFT—see box). This followed an initial gap assessment against the FSC principles and criteria by the TFT.

CIB's approach was to work with people and organizations that could help raise its environmental performance to a level at which certification could be achieved. It has developed a partnership involving WCS and the Ministry of Forest Economy and Environment under a project called

PROGEPP. It aims to ensure that biodiversity conservation—based on a sound understanding of the forest's ecology—is integral to management planning and logging operations. Over US\$1 million of the US\$2.3 million available for this project has been provided by ITTO (through WCS), while the German overseas development assistance agency GTZ and the French Global Environment Fund (FFEM) have also provided assistance for forest inventories, management planning and studies of forest dynamics. ITTO recently contributed an additional US\$742,000 for a second phase of the project.

The certification process has encouraged CIB to be open about how it tackles social and environmental issues in its concessions. In December 2004, it gave Greenpeace unprecedented access to its operations; previously, such transparency would have been almost unimaginable in this part of the world. In a subsequent 70-page report, Greenpeace recognized the progress that had been made in the concession and also set out detailed recommendations for further improvements. Many of those recommendations provided valuable input to the certification effort.

An innovative approach was required to provide semi-nomadic communities with the information and means to participate in the process effectively. A recent World Bank grant will facilitate a radio service among these groups and, meanwhile, they are being assisted to map culturally significant areas, hunting grounds and other important zones. The information gained from this process is incorporated into harvest planning before felling starts. Hand-held computers, fitted with global positioning systems and featuring specialized symbols, are in development so that the communities will be able to take over even more ownership of the process.

The auditing company SGS carried out a full FSC assessment at Kabo in October 2005. This identified two major corrective action requirements (CARs): formal approval of the forest management plan by the Congolese authorities; and a more permanent and formal communications and negotiation process with indigenous communities.

By May 2006, SGS was able to confirm that these two major CARs had been met and it subsequently certified Kabo under its FSC-accredited Qualifor standard.

Heiko Leideker, FSC executive director, announced the certificate at the 11th Conference of African Environment Ministers in Brazzaville on 25 May 2006 in the presence of Congo's Prime Minister, reflecting the national and regional significance of the certification. CIB used the occasion to reaffirm its commitment to pursuing FSC certification in its four adjoining concessions which, with Kabo, cover 1.3 million hectares. With CIB now able to supply FSC-certified product and looking to expand its certification program, other concession-holders are likely to follow suit.

This certification is not the end of the story at Kabo. The concession remains under international scrutiny, and CIB continues to work on social and environmental management issues there. Greenpeace recognizes that Kabo has made 'a big step forward', but in a statement following certification it also questioned whether FSC certification should even be possible in previously unlogged forest in Congo.



Bath time: a forest elephant washes in a river in the Kabo concession. Protecting elephant habitat and migratory routes is now an integral part of forest management planning in the concession. Photo: Edward Parker/Images Everything

Scott Poynton, the TFT's executive director, responded: "We very much respect and value the Greenpeace position but do feel that the certificate has been justly awarded. CIB has made great progress and while we recognize that there is still work to be done to achieve the stated goal of making CIB the best FSC project in the world, we appeal to our stakeholders to not set the bar higher for CIB than for other FSC-certified operations".

The process towards certification at Kabo

The TFT's involvement in CIB's certification program is led by its Executive Director, Scott Poynton. In some TFT-supported forest projects, relatively low management capacity means that intensive technical advice and training is necessary. CIB already had a professional, well-resourced management team in place, so the TFT's role there has been to coach this team in the requirements for achieving FSC certification.

In February 2004, the TFT carried out an initial gap assessment of CIB's operations against the FSC principles and criteria for good forest management. This concluded that CIB was in a realistic position to pursue FSC certification, but that challenging issues lay in its path, including protecting high-conservation-value forest, introducing collaborative decision-making, and recognizing the customary rights of indigenous people.

The TFT and CIB's forest management team then developed a scheduled FSC certification action plan to close out the gaps systematically, focusing first on the Kabo concession. In developing and implementing the action plan, the TFT has supported a culture of collaborative decision-making with key stakeholders. The TFT facilitated a Greenpeace field visit, as well as subsequent collaboration with the Forest Peoples Programme and Jerome Lewis of the London School of Economics to help address complex issues with indigenous forest communities.

A critical outcome of this more open approach is the CIB policy statements, initially drafted by the TFT following consultation with social stakeholders. Through these, CIB formally recognizes the forest use rights of indigenous people. No other concession or major NGO project in the Congo Basin has done this. The TFT also played a significant role in the indigenous people's mapping and radio program—designing the program together with CIB and social stakeholders, securing funding from the World Bank, and now managing its implementation.

ITTO's recently funded projects

The projects summarized below were financed at the fortieth session of the International Tropical Timber Council, which was held in May/June 2006. A total of US\$3.9 million was committed at the session

The study and demonstration of the management of secondary forests in tropical regions for the purpose of enhancing economic and ecological benefits (China; PD 294/04 Rev.4 (F)—Phase I)

Budget ITTO:	US\$286 091
Government of China:	US\$126 289
Total	US\$412 380

Implementing agency Guangdong Academy of Forestry
Funding sources Japan, Australia

This project is an outcome of PRE-PROJECT PPD 30/01 REV.1 (F): 'The study and demonstration of the management of secondary forests in tropical regions for the purpose of enhancing economic and ecological benefits, which documented the decade-long neglect of Chinese tropical secondary forests (TSFs) due to their perceived low economic and ecological value. This project aims to accelerate sustainable forest management by better management of the secondary tropical forests in China. Its specific objectives are to: i) establish demonstration forests in two selected provinces for the study and demonstration of the management of TSFs including planted trees and non-timber forest products; and ii) train forestry staff and villagers in TSF rehabilitation techniques and to publish and disseminate the project results.

Implementation of the sustainable forest management programme of the Iwokrama International Centre (Guyana; PD 297/04 Rev.3 (F))

Budget ITTO:	US\$406 836
Iwokrama:	US\$250 010
Total	US\$656 846

Implementing agency Iwokrama International Centre
Funding sources Japan, USA, Norway, Friends of Iwokrama—USA

This project is a follow-up to PROJECT PD 10/97 REV.1(F)'A sustainable management model in the Iwokrama rain forest, which was completed in April 2004. Two important outputs of this project were a management-level forest inventory and a marketing and utilization study. Based on this information, the project was able to complete a technical-economic feasibility study and a draft sustainable forest management plan.

This project aims to: i) manage the area in order to maximize net revenue from the sustainable production of forest goods and services while developing local employment and training opportunities and providing capacity building and technology transfer programs to the Amerindian communities; and ii) demonstrate, through effective monitoring, how the approach is delivering lasting ecological, economic and social benefits to the local, national and international communities.

Criteria for the management of mangrove and flood forests in the central coastal plains of Veracruz, Mexico: a community management tool (PD 349/05 Rev.2 (F))

Budget ITTO:	US\$387 296
Government of Mexico:	US\$637 225
Total	US\$1 024 521

Implementing agency Institute of Ecology
Funding sources Japan, USA, Finland

The overall objective of this project is to contribute to the conservation and sustainable use of mangrove forests and coastal flood forests in the Gulf of Mexico. More specifically, it will develop, with the participation of local communities, criteria for the management of mangrove forests and flood forests in the central coastal plains of Veracruz. Among other things, pilot production projects will be implemented for the sustainable use of mangrove forests and coastal flood forests.

Production systems and integrated management of shoot-borers for the successful establishment of Meliaceae plantations in the Yucatan Peninsula and Veracruz, Mexico (PD 350/05 Rev.3 (F))

Budget ITTO:	US\$366 271
INIFAP:	US\$209 600
Total	US\$575 871

Implementing agency National Institute for Forestry, Agricultural and Animal Research

Funding sources Japan, Finland

The accelerated deforestation process in the Mexican tropics has prompted forest authorities to promote reforestation and commercial plantation establishment activities with a view to increasing forest cover, reducing pressure on natural forests and ensuring the supply of the forest industry. The main species used in these programs are red cedar (*Cedrela odorata*) and mahogany (*Swietenia macrophylla*), which are vulnerable to attack by Meliaceae borers, jeopardizing the success of the programs and discouraging local communities from becoming involved in these programs.

This project will develop and promote an integrated shoot-borer management system for young Meliaceae plantations to enable forest producers in the Yucatan Peninsula and Veracruz to successfully establish plantations for the sustainable production of tropical timber. It will also design an operational model for the development and adoption of technologies for the management of community Meliaceae plantations with the direct participation of producers and technicians in the establishment of twelve demonstration plantations in the Yucatan Peninsula and Veracruz.

Multispectral three-dimensional aerial digital imagery for monitoring forest management and conservation in the Republic of Congo (PD 360/05 Rev.2 (F))

Budget ITTO:	US\$610 000
Government of Rep. of Congo:	US\$411 346
Winrock International:	US\$154 500
Total	US\$1 175 846

Implementing agencies Winrock International in Collaboration with Centre National d'inventaires et d'aménagement des Ressources Forestières et Fauniques and the Wildlife Conservation Society

Funding sources Japan, USA, France, Norway (revised budget approved at this session, funding pledged at 39th session)

The Republic of Congo lacks a transparent system for monitoring forest management and harvesting at the national and forest management unit levels. This project will complement PROJECT PD 176/02 REV.1 (F) in supporting uniform enforcement of forestry legislation throughout the country by creating a system of high-resolution, aerial digital imagery for forest management, planning and auditing. Moreover, it will provide greatly improved data on a region in the southwest of the country, where continuous cloud cover prevents effective remote sensing via satellite. It will also build on an ITTO-funded PROJECT PD 272/04 REV.2 (F), in which the Direction générale de l'économie forestière (DGEF) is developing national criteria and indicators for the sustainable management of Congo forests based on the ITTO criteria and indicators for sustainable forest management. The high-resolution imagery that will result from this project can be combined with criteria and indicators derived through the DGEF effort to create a system for the cost-effective monitoring and evaluation of sustainable forest management in the country.

To develop and promote a monitoring information system to support the sustainable development of tree resources outside forests at the sub-district level in Thailand (PD 376/05 Rev.2 (F,M))

Budget ITTO:	US\$462 645
Government of Thailand:	US\$255 842
Total	US\$718 487

Implementing agency National Park, Wildlife and Plant Conservation Department of Thailand

Funding sources Japan, Australia, Korea

The benefits of tree resources outside forests (TROFs) are not sustainable in Thailand due to several factors including the unknown quantity and dynamics of

TROF, increasing and uncontrolled harvesting, encroachment, and illegal logging and the uncontrolled harvesting of non-timber forest products in the natural forests. This project will contribute to sustainable development by developing and promoting procedures to establish current and easily accessible baseline inventory and monitoring information on TROF cover, diversity and abundance and by supporting national policy decisions on TROF management and land-use and economic development planning at the sub-district level.

Application of the internal monitoring of SFM performance at forest management unit level (Indonesia; PD 389/05 Rev.2 (F))

Budget ITTO:	US\$381 888
Government of Indonesia:	US\$226 850
Total	US\$608 738

Implementing agencies Directorate General of Forest Production Development in collaboration with the Association of Indonesian Forest Concession Holders (APHI)

Funding sources Japan, USA, Norway, Australia, Korea

This project will accelerate the implementation of sustainable forest management practices by member companies of APHI. Its specific objectives are to: (i) improve the capability of human resources in the application of the sustainable forest management performance internal monitoring system developed under a previous ITTO project (PD 42/00 REV.1 (F)), and (ii) promote government policy on the application by forest management units of an internal monitoring performance system.

Controlling the dieback and decay phenomenon in plantation species (Côte d'Ivoire; PPD 123/06 Rev.1 (F))

Budget ITTO:	US\$79 920
Government of Côte d'Ivoire:	US\$18 125
Total	US\$98 045

Implementing agency Forest Development Corporation (Societe de developpement des forêts—SODEFOR)

Funding source Japan

Teak and tree species of the *Terminalia* genus (fraké and framiré) make up the bulk of the timber present in forest plantations established by SODEFOR since 1966. These species account for around 60% of plantation area and generate over 70% of SODEFOR's revenue. However, they have been affected for a few years by a dieback phenomenon, the causes and control of which have not yet been fully determined. This pre-project will undertake a baseline study of teak and *Terminalia* dieback in Côte d'Ivoire and formulate a project proposal for its integrated control.

National forest statistical information system in Guatemala (PD 340/05 Rev.2 (M))

Budget ITTO:	US\$ 305 523
Government of Guatemala:	US\$161 390
Total	US\$466 913

Implementing agency Instituto Nacional de Bosques

Funding sources Japan, USA

This project will introduce state-of-the-art information technologies to provide the regional units of the institutions in charge of forest control with monitoring tools and adequate communications infrastructure. These units report directly to their headquarters in the country's capital and, in many respects, currently rely on the information generated by these central offices. Under this new scheme, the responsibility for forest management monitoring and control will be decentralized to these units, thus ensuring an expeditious information-gathering process and appropriate processing of the information collected, as the situation varies from one region to the other. As a complement to data collection activities, statistical analysis tools will be developed to study the performance of forest activities through the harvesting, industrialization and marketing stages, making use of the quality information generated by the system.

Adoption and implementation of the forestry information system (FIS) for the Philippines (PD 353/05 Rev.2 (M,F,I))

Budget ITTO:	US\$477 889
Government of the Philippines:	US\$238 510
Total	US\$716 399

Implementing agency Forest Management Bureau (FMB)

Funding sources Japan, USA, Australia

The FMB provides technical support and assists in the monitoring of all forestry-related projects, programs and activities undertaken by the Department of Environment and Natural Resources (DENR). A critical factor in the efforts of the FMB is the provision of accurate information. There is a need to manage the tremendous quantity of data that is generated by DENR activities and to transform the data into meaningful information that will support the effective supervision and monitoring of all projects and the planning of future interventions.

This project is a major output of a pilot project on the development and implementation of a forestry statistics information system (PD 41/99 REV.1 (M)). The information system modules have already been developed and implemented in the central office and the two pilot regional offices. However, the outputs of the two pilot regions do not reflect the forest situation in the whole country. Therefore, this project will assist the remainder of the DENR Forest Management Service in its regional, provincial and community offices to adopt and implement the forestry information system in order to produce countrywide statistical and geographic information on the forest situation.

Regional workshop on processing, marketing and trade of quality wood products of teak plantations (India; PD 416/06 (I))

Budget ITTO:	US\$106 539
KFRI:	US\$44 730
Total	US\$151 269

Implementing agency Kerala Forest Research Institute (KFRI)

Funding source Japan

Of all the tropical hardwood species, teak (*Tectona grandis*) is probably the most well-known, with its extremely good dimensional stability and aesthetic qualities. Teak occurs naturally in India, Myanmar, Laos and Thailand but it has also been established in plantations throughout tropical Asia, as well as in tropical Africa and Latin America and the Caribbean. Under this project, a regional workshop will be convened in 2007 to critically appraise the problems of processing, marketing and trade of quality products of teak from plantations with the participation of major Asian teak producer countries such as India, Indonesia, Malaysia, Myanmar and Thailand, as well as importing countries. The regional workshop is expected to: (i) provide a clear understanding of the country situation among project partners; (ii) identify the lead countries in areas of research and training as well as networking to cater to the needs of international stakeholders; and (iii) establish working relationships among the project partners in Asian region.

Sustainable management of non-timber forest products (NTFPs) in Cameroon, Congo, Gabon and Central African Republic (PPD 19/01 Rev.2 (I))

Budget ITTO:	US\$75 626
IUCN:	US\$18 008
Total	US\$93 634

Implementing agencies International Conservation Union (IUCN Regional Office in Central Africa)

Funding source Common Fund for Commodities

Under this pre-project, a study will be conducted to investigate the socioeconomic benefits that could accrue from the sustainable development of non-timber forest resources in Cameroon, Congo, Gabon and the Central African Republic. The results of the study, which will be shared at a regional meeting, should increase the sustainable use of resources and value-adding.

Producers

Africa

Cameroon
Central African Republic
Congo
Côte d'Ivoire
Democratic Republic of the Congo
Gabon
Ghana
Liberia
Nigeria
Togo

Asia & Pacific

Cambodia
Fiji
India
Indonesia
Malaysia
Myanmar
Papua New Guinea
Philippines
Thailand
Vanuatu

Latin America

Bolivia
Brazil
Colombia
Ecuador
Guatemala
Guyana
Honduras
Mexico
Panama
Peru
Suriname
Trinidad and Tobago
Venezuela

Consumers

Australia
Canada
China
Egypt
European Union
Austria
Belgium/Luxembourg
Denmark
Finland
France
Germany
Greece
Ireland
Italy
Netherlands
Portugal
Spain
Sweden
United Kingdom
Japan
Nepal
New Zealand
Norway
Republic of Korea
Switzerland
United States of America

Palms deserve a big hand

An ITTO project proposes mechanisms for the sustainable utilization of palm trees in a conservation area in Bolivia and Peru

by
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&
Clea Paz²

¹Peru Coordinator
ITTO project PD 17/00 Rev.3

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ITTO project PD 17/00 Rev.3

PALM TREES play a very important ecological role in South American forests: their fruits and seeds are eaten by many wild animals and their stems form part of the habitat of birds such as macaws and other parrots, some of which are endangered. Palms are also important to many people, who use them, sometimes unsustainably, for the production of food, clothing and health products and in cultural rituals and construction.

ITTO PROJECT PD 17/00 REV. 3 (E): *Conservation and development in the natural areas of Tambopata (Peru)-Madidi (Bolivia)* is financed by ITTO and implemented by Conservation International in cooperation with the National Institute for Natural Resources (*Instituto Nacional de Recursos Naturales—INRENA*) of Peru and the National Service for Protected Areas (*Servicio de Areas Protegidas—SERNAP*) of Bolivia. Its objective is to improve conservation outcomes in Peru's National Tambopata Reserve Area (*Reserva Nacional Tambopata—RNT*) and Bolivia's Madidi National Park and Integrated Management Area (*Parque Nacional y Area de Manejo Integrado Madidi—PNANMIM*).

The project has developed recommendations for mechanisms that will help bring about the sustainable management of two palms: *Geonoma deversa* (palmiche) and *Oenocarpus bataua* (majo). The aim is to help improve the living standards of local communities through the processing and use of the two palms while also contributing to conservation objectives in the conservation area.

Promising products

A huge range of products is obtained from palm trees—including oils, flours, extracts, juices and building

materials—but only some are marketable. In order to identify these products, general data were obtained under the project about current markets and extraction and/or harvesting practices and the sourcing of raw materials and processed products.

Information was gathered mainly through interviews. In Bolivia, this led to the recovery of traditional knowledge from the Tacana and Leco communities about palm-tree harvesting. In Peru, the project worked with local communities through directed interviews after selecting the relevant data required and then establishing interview



Mauritia palm at Cocococha, Tambopata, Peru: another of the suite of palm species present in the Tambopata/Madidi area. Photo: © Haroldo Castro/Conservation International

structures. In both cases the project sought to obtain qualitative and quantitative information about the supply of and demand for raw materials and products. The project then selected *pañó de crisneja*, a material made from palmiche leaf used for roof-building, and the oil and sap obtained from majo as the products to be developed by RNT and PNANMIM, respectively.

Harvesting proposals

A management plan was developed to maintain vigorous palmiche populations, which included: an inventory of the resources available; a land-use planning proposal for the production area and management options based on the zoning of the RNT; a management, regeneration and/or propagation methodology; a felling cycle; optimal average harvesting rates and intensity; the requirements to be met for harvestable species; and a harvesting, haulage and packing, transport and storage system. The plan also identified possible research and training issues, a model system for monitoring and evaluating the management of the species and for assessing the implications of its utilization, and the social organizational structures required for its sustainable management.

In addition, the project analysed the *paños de crisnejas* production chain and its trade patterns and proposed improvements.

A management and sustainable utilization plan is being developed for majo oil and sap based on the identification of biological, social and economic criteria for the sustainability of the resource and on the improvement and implementation of management and processing techniques. Inventories have been carried out to identify high-density areas, and potential markets for these products have been researched. Moreover, the project has cooperated with the Pharmaceutical Biochemical Research Institute of the Higher University of San Andres (*Instituto de Investigación Fármaco Bioquímico de la Universidad Mayor de San Andrés*) to conduct a bromatological analysis of fruits that has generated detailed information on the characteristics of selected products and their value as foods.

Sustainability of the proposal

The plans will be implemented through the various legal mechanisms and requirements applied by both INRENA and SERNAP in cooperation with local communities. The information on which the plans are based has been obtained from the users themselves, and no one is better placed to decide on the most appropriate activities to be undertaken.

In addition, production projects will be developed to capitalize on the experience gained, thus improving the competitiveness of existing production chains by strengthening local organizations and ensuring greater social and environmental benefits. In relation to the



Peace park: the Tambopata-Madidi transboundary conservation area is fostering cooperation between Bolivia and Peru with the assistance of an ITTO project. Photo: Rod Mast/Conservation International

production of *paños de crisnejas*, a strategic goal is to implement actions aimed at improving gender equity in communities and ensure the social cohesion of the families involved in the production process.

The project will thus contribute to the sustainability of resource utilization and ensure that palm trees continue to provide benefits into the future.

Translated from the Spanish by Claudia Adán.

Do trees have feelings?

by Arnold Mundua

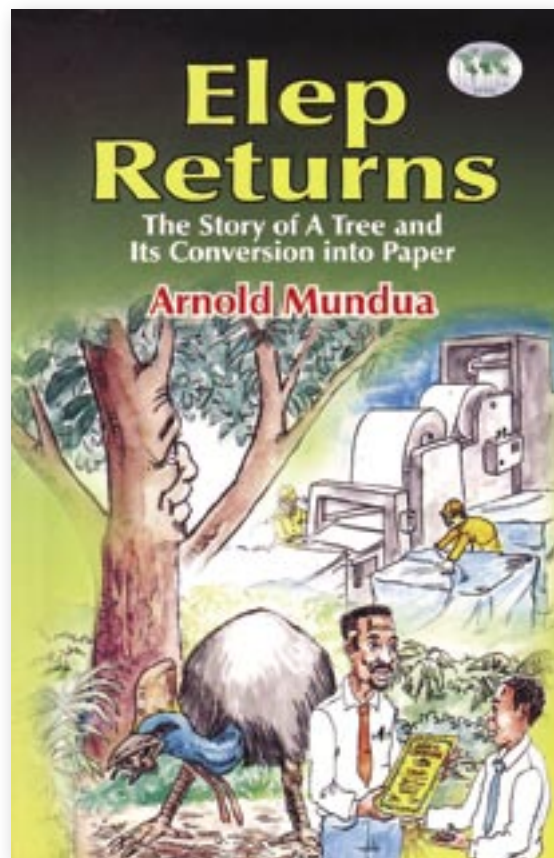
PNG Forest Authority
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Papua New Guinea

IN PAPUA NEW GUINEA (PNG), trees and forests remain integral parts of the cultural heritage. Globally, the great importance of trees and forests has led to the publication of many books and papers that record the science of trees and the roles they play in ecosystems and society. Indeed, the profession of forestry has existed in PNG for more than 30 years. Despite all this, the dissemination of basic forestry information to the general population, and particularly to children, remains overlooked.

I was awarded an ITTO fellowship to publish a science-fiction novel I wrote titled *Elep returns*. It gives an overview of forests, foresters and forestry, with particular emphasis on the log export industry in PNG, for children in PNG schools. In this article I describe the novel, its purpose and how it was written.

The story

Elep returns is the story of a tree, named Elep, which grew in Kandrian, a region on the south coast of the PNG island of New Britain. The novel relates Elep's adventurous story, from its germination and growth into a big tree, its conversion to a log, export to Japan and transformation there into paper, and its return, in paper form, to PNG, where it is used for the printing of school certificates. By coincidence, Elep has



Fellowships awarded

Twenty-nine fellowships worth a total of US\$151 900 were awarded at the 40th session of the International Tropical Timber Council in May/June 2006. Awardees were:

Komlan Mibia Adiku (Togo), to undertake a study on the quality of *Gmelina arborea* timber in Togo in view of best pricing; **Indranie Jean Bacchus** (Guyana), to undertake a masters program in business administration; **Belvi Margui Cáceres Rodríguez** (Peru), to get a masters in management and conservation of tropical forest and biodiversity; **Maheshwar Dhakal** (Nepal), to undertake PhD research on a forest products' pricing system in a community forestry program; **Kelechi Eleanya** (Nigeria), to do post-graduate research on forest-based livelihoods in Nigeria's Akassa mangrove forests; **Richard Gyimah** (Ghana) and **Christine Mambote Makananu** (Democratic Republic of Congo), to participate in an environmental leadership course; **Edward Kamara** (Liberia), to attend a training course on forest utilization technologies for sustainable development; **Lina Karlinasari** (Indonesia), to do PhD research on wood bending strength analysis based on non-destructive testing; **Migbégbloê Kumedjro Messankpon** (Togo), to undertake a post-graduate thesis that will develop a management plan for the Bayémé protected area; **Win Kyi-I** (Myanmar), to prepare a technical document on wood-drying technology; **Amy Alicia Lazo Ulloa** (Honduras), **María Meneses Lixmani Pitacuar** (Ecuador), **Tania Liliana Luna Arévalo**, **Yan Arley Ramos Palacios** and **Henny Gicela Maldonado Sevilla** (all from Colombia), and **Cecilia Victoria Vargas Mendiola** (Peru), to attend a training course on the diversified management of tropical natural forests; **Elisabeth Any Mba** (Cameroon) to obtain a diploma in reforestation and forest management; **Marcel Joachim Medzegue** (Gabon), to do PhD research on comparing okoume (*Aucoumea klaineana*) timber from plantations and natural forests; **Roberto Lecomte Mello** (Brazil), to attend the World Conference on Timber Engineering; **Joseph Mizingou** (Republic of Congo), to prepare technical sheets on the phenology calendar of ten commercial species in four national forest stations; **Lawrence Gradebo Ogunbare** (Nigeria), to work with the Ghana Forestry Commission to study its tropical timber data management system; **Abiodun Olusesi Oso** (Nigeria), to do masters research on the assessment of forest offences on exploitation in Ogun State Between 1996–2005; **Eli Nur Nirmala Sari** (Indonesia), to do a PhD on forest certification and its impact on rural forest community poverty alleviation; **Sajani Shrestha** (Nepal), to do PhD research on wild food products' use and nutrition in a buffer zone in Nepal; **George David Tchikou Tchuissou** (Cameroon), to use remote sensing and GIS in the study of deforestation and its affect on environmental equilibrium; **Lucie Felicite Temgoua** (Cameroon), to undertake a masters program in rural and tropical forestry; **Mahendra Singh Thapa** (Nepal), to complete a masters program in natural resource management and rural development; **Aung Ko Thet** (Myanmar), to undertake a masters program in natural resource management.

the proud privilege of displaying the academic excellence of a boy who once relished the fruits Elep produced when it grew near the boy's Kandrian village.

The tree Elep is personified in the story. In the local Arup (Arawe) dialect in Kandrian, 'Elep' refers to *Canarium indicum*, a tropical hardwood tree species belonging to the Burseraceae family. It occurs in most parts of PNG and is a dominant species in Kandrian. It is famous all over PNG for its tasty, crunchy nuts, known locally as *galip*. Elep narrates its journey from seed to tree and from wood to paper, highlighting the various phases of growth and processing and, in doing so, presenting an overview of forestry.

How and why Elep returns was written

About 70% of school children in PNG come from timber-resource-rich provinces. However, when the subject of forestry is raised in the classroom, children will tend to picture a tree, or a forest or forest plantation, or a log truck (jinker) loaded with logs and roaring at breakneck speed towards a log pond, or a seedling in a poly bag. Such images will not be linked in the child's mind, and he or she will not find it easy to see forestry as a process. In fact, children don't seem particularly interested in 'dry' discussions of the art and science of forestry. Hence the relevance of forestry to the lives of these children is often obscured. Even the teachers have insufficient knowledge of forestry to teach it in an interesting and informative way. And for these reasons and

others, the subjects of trees and forests are often overlooked in schools.

Literature on forestry is abundantly available in the bookshelves of libraries across the country, but readership is mostly restricted to forest experts alone—scientists and foresters. Most of it is in the form of textbooks and technical papers, which may be handy to a teacher at times but are rarely of any use to children. Hence, a good understanding of forestry at the junior level seems a long way away. In rare instances, foresters are called in to give lectures to students, but this is usually on an ad hoc basis.

In my 20 years as a forester—resource forester, forest surveyor, logging foreman, SGS log export inspector, and forest extension officer—I have answered many questions about forestry from the general public. Often, the nature of the questions illustrates an almost total lack of awareness of the forestry process. At times I used to think, “This is a very simple question, how come he or she can’t understand it?” It was at such times I started to see a need to write something for the kids, an overview of an entire forestry operation and, in particular, the log export industry, in a simple story that kids could read and understand. But it had to do more than present some information; it needed to be entertaining, a page-turner that would keep the child engrossed. How could I do this? Since children like most of all to read fiction, I concluded that the story of *Elep* should be a novel.

Elep returns is targeted at years 9, 10, 11 and 12 students in secondary schools throughout PNG, many of whom will one day take on some sort of responsibility for forest management

on clan land. It is intended as a class reading novel, where all aspects of forestry activities in PNG, particularly the log export industry, are brought into perspective. I have tried to cover all aspects of field forestry in the story: plant science, forest mensuration, botany, forest survey, logging and log export, wood science and many more.

Printed in paperback, the book has 20 chapters, 151 pages and a fact file towards the end of the book. Each chapter is illustrated with drawings and the book includes a map that shows *Elep*’s journey through foreign lands. Copies can be purchased from me at the above address.

Acknowledgement

The author thanks the ITTO Fellowship Program for making funds available for the publishing of the book.



ITTO fellowships offered

ITTO offers fellowships through the Freezailah Fellowship Fund to promote human resource development and to strengthen professional expertise in member countries in tropical forestry and related disciplines. The goal is to promote the sustainable management of tropical forests, the efficient use and processing of tropical timber, and better economic information about the international trade in tropical timber.

Eligible activities include:

- participation in short-term training courses, training internships, study tours, lecture/demonstration tours and international/regional conferences;
- technical document preparation, publication and dissemination, such as manuals and monographs; and
- post-graduate studies.

Priority areas: eligible activities aim to develop human resources and professional expertise in one or more of the following areas:

- improving transparency of the international tropical timber market;

- promoting tropical timber from sustainably managed sources;
- supporting activities to secure tropical timber resources;
- promoting sustainable management of tropical forest resources;
- promoting increased and further processing of tropical timber from sustainable sources; and
- improving industry’s efficiency in the processing and utilisation of tropical timber from sustainable sources.

In any of the above, the following are relevant:

- enhancing public relations, awareness and education;
- sharing information, knowledge and technology; and
- research and development.

Selection criteria: Fellowship applications will be assessed against the following selection criteria (in no priority order):

- consistency of the proposed activity with the Program’s objective and priority areas;

- qualifications of the applicant to undertake the proposed fellowship activity;
- the potential of the skills and knowledge acquired or advanced under the fellowship activity to lead to wider applications and benefits nationally and internationally; and
- reasonableness of costs in relation to the proposed fellowship activity.

The maximum amount for a fellowship grant is US\$10 000. Only nationals of ITTO member countries are eligible to apply. The next deadline for applications is **6 September 2006** for activities that will begin no sooner than 1 January 2007. Applications will be appraised in November 2006.

Further details and application forms (in English, French or Spanish) are available from Dr Chisato Aoki, Fellowship Program, ITTO; Fax 81-45-223 1111; fellowship@itto.or.jp (see page 2 for ITTO’s postal address) or go to www.itto.or.jp

More support wanted

15th Session of the African Forestry and Wildlife Commission

27 March–1 April 2006

Maputo, Mozambique

This session of the African Forestry and Wildlife Commission (AFWC) was attended by about 120 delegates from government institutions, international organizations, non-governmental organizations and the private sector. It addressed the following main forest policy issues that affect the region:

- progress towards sustainable forest management (SFM);
- accessing funds for SFM;
- contributing to the millennium development goals (MDGs) through regional cooperation;
- forest law compliance;
- climate change issues;
- management of wildlife and protected areas; and
- forestry, wildlife and poverty alleviation.

The AFWC session was preceded by the 16th session of the Working Party on the Management of Wildlife and Protected Areas and the Workshop on Forestry, Wildlife and Poverty Alleviation. The recommendations of these informed the deliberations of the AFWC.

The AFWC session concluded with the identification of regional issues for the attention of the FAO Committee on Forestry. It emphasized the need for: renewing the vitality of the AFWC; strengthening the knowledge base on the implementation of SFM at policy as well as field levels; and evaluating progress on the development of a planted forests code of best practice and a fire management code of best practice, including a strategy to enhance international cooperation in implementing the fire management code.

The AFWC called for continued support from FAO to member countries in: implementing progress towards SFM through effective national forest programs, which serve as a basis for coordinating the sector's inputs into achieving the MDGs with an emphasis on the contribution of forests to poverty reduction and food security; implementing national forest inventories and assessments covering the social, economic, environmental and inter-sectoral dimensions of forestry; and promoting the control of illegal logging and associated trade.

Reported by Jean-Claude Nguingiri, ITTO Regional Officer for Africa

Clean forestry development

ASEAN-ITTO Regional Workshop on Perspectives of Clean Development Mechanism Forestry Projects in Asia and the Pacific

22–24 March 2006

Phnom Penh, Cambodia

This workshop was attended by representatives of ITTO and Association of Southeast Asian Nations (ASEAN) member countries in the region as well as by the Secretariat of Pacific Community, international non-governmental organizations, research institutes and the private sector. It was sponsored

by ITTO and the ASEAN–German Regional Forest Programme (REFOP) and supported by the Cambodia Forestry Administration. Resource persons from the German technical assistance agency GTZ, Perspectives Climate Change Consulting, the Centre for International Forestry Research and Pacific Consultants Co Ltd provided expertise to facilitate discussions.

The workshop was designed to promote understanding of the rules and procedures of Clean Development Mechanism (CDM) afforestation and reforestation (A&R) projects and to encourage country-level initiatives in promoting such projects in line with the ITTO *Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests*. It also aimed to facilitate an exchange of views on the possible inclusion of emissions reductions from deforestation in developing countries in a post-2012 agreement of the Kyoto Protocol.

The workshop made recommendations on several issues relevant to the CDM and the forest sector. On 'enabling conditions for A&R CDM focusing on public frameworks', for example, it recommended, among other things, that any future CDM capacity-building efforts incorporate forestry stakeholders as a matter of course and that regional-level workshops be held to bring together designated national authority (DNA) members to discuss issues of applying sustainable development criteria and lessons learned. Regional organizations could support existing DNAs and assist countries without DNAs in setting them up, possibly with inter-country cooperation or the development of a generic model.

On promoting investment opportunities focused on business incentives, the workshop recommended, among other things, that donor agencies be lobbied to support local aggregators of small-scale projects that can interact with the international carbon market. It also recommended that a forestry trust fund including A&R CDM projects be established in every country, possibly in partnership with local banks. The possibility of using certification schemes to raise the value of emissions reductions from projects with outstanding social and environmental benefits should also be explored.

On checks and balances focusing on civil-society needs, the workshop recommended, among other things, that, in establishing requirements for A&R projects, governments pay due attention to aspects that are non-negotiable and ensure that these are met while also providing conditions that enhance a community's ability to negotiate those aspects that *are* negotiable. These include building the capacity of communities to negotiate and facilitating the participation of NGOs that truly represent the interests of the community. Moreover, rules for the sharing of benefits between beneficiaries and investors should be established with the aim of increasing the income of local stakeholders, and emphasis should be given to the promotion of small-scale A&R CDM projects to ensure that they contribute to the sustainable development of low-income groups. The level of regulatory interventions from government should be different for large-scale and small-scale A&R CDM projects. Government would promote and assist small-scale projects by imposing minimal regulations, whereas the level of regulation would be higher for large-scale projects to ensure that sustainable development criteria are complied with fully.

On the issue of reducing emissions from deforestation in tropical countries, the workshop recommended that awareness of deforestation be increased and the participation of the forest sector in negotiations within the United Nations Framework Convention on Climate Change (UNFCCC)

be improved. The long-term effectiveness of forest conservation could be increased if appropriate incentives were provided for reducing emissions from deforestation. This would be achieved by ambitious Annex 1-country reduction targets linked with effective reduction of deforestation in tropical countries based on an agreed baseline (preferably at the national level). Carbon credits from avoided deforestation should not be capped. The mechanism addressing deforestation should be kept simple and integrated into the existing climate-change regime within the UNFCCC, a stable market should be secured with a balanced supply and demand considering a discount for carbon credits from avoided deforestation, and the deforestation monitoring capacity of tropical countries should be improved by targeted capacity-building, including regional cooperation.

Reported by Hwan Ok Ma, ITTO Secretariat

Good news, bad news for Council

40th Session of the International Tropical Timber Council

29 May–2 June 2006

Merida, Mexico

Progress is being made towards ITTO's objective of SFM, according to a report released at the 40th session of the International Tropical Timber Council, which met in Merida, Mexico, in May/June this year. However, the report warned that the quality of management on 95% of the permanent forest estate is still problematic—and progress will be fleeting unless the international community ensures that nations benefit economically from maintaining their tropical forests.

The Council is ITTO's governing body. It meets regularly to discuss a wide-ranging agenda aimed at promoting sustainable tropical forest management and the trade of sustainably produced tropical timber.

According to the new ITTO report *Status of tropical forest management 2005*, at least 25.2 million hectares of permanent production forest, and 11.2 million hectares of permanent protection forest, are now under management consistent with sustainability. This compares with almost zero in the first survey conducted by the Organization in 1988. The Council heard that while progress is being made, less than 5% of the total permanent forest estate in the tropics is known to be under sustainable management.

Delegates were able to quiz a panel of tropical forestry experts on the findings of the report and their implications for tropical countries and the international community. The full report, which includes in-depth profiles of ITTO's 33 producer member countries, is available at www.itto.or.jp.

The Council financed a number of new projects during the session to further promote and contribute to the sustainable management of tropical forests. The problem of shoot-borers in timber plantations in Mexico's Yucatan Peninsula and state of Veracruz will be addressed by one project, while the management of mangrove and flood forests on the central coastal plains of Veracruz will be tackled by another. Guyana's Iwokrama forest benefited from the financing of a project to promote SFM there, and the Philippines will receive assistance to implement a forestry information system. A project in Indonesia will assist in the monitoring of concession forest management performance; an African regional parliamentary conference on the sustainable management of Central African forest ecosystems also received funding.

The total amount of funds allocated at the session was US\$3.9 million. Major donors were the governments of Japan and the USA, while the Common Fund for Commodities, the Friends of Iwokrama and the governments of Norway, Finland, France, Australia and the Republic of Korea also pledged funds. A summary of all the projects financed is given on page 18.

ITTO's Annual Market Discussion was convened during the session on the topic of tropical timber procurement policies in consumer countries. Rupert Oliver, a UK-based tropical timber trade analyst, reported that Europe's public procurement policies are moving rapidly towards requiring evidence of legality and sustainability. He expressed concern about the lack of harmonization between the policies of different authorities and countries, which could lead to major market inefficiencies. The Discussion also received presentations on public and commercial procurement policies in Denmark, France and the USA.

Several side-events were convened during the session. The Council's Civil Society Advisory Group organized a panel of local-community leaders in Mexico, Guatemala, Nicaragua and Panama to speak about the challenges facing community forest enterprises in the region. Marcedonio Cortave, from the Association of Forest Communities of the Peten (Guatemala), reported that access to international timber markets through certification had created additional benefits for his community. Several other participants spoke of the problems facing communities in obtaining finance for their operations and called on the international community to address this issue.

At the same event the non-governmental organization Forest Trends presented the results of a study financed by ITTO, which found that relatively few countries have established tenure and forest policy environments conducive to the widespread development of community forestry enterprises.

Another side-event reported on the World Trade Organization's Doha Round of negotiations on trade and its possible implications for the forest products trade. Sandra Ribey of the Government of Canada presented information on a proposal by a number of governments on a possible sectoral initiative in the Non-Agricultural Market Access negotiations on wood products, and Al Goetzl, a US-based consultant, presented the results of a study estimating the impacts of tariff reductions on wood products.

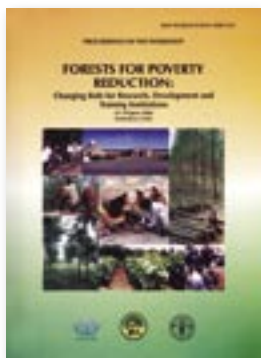
A third side-event canvassed the response of the private sector in Europe to changing consumer demand for wood products. An interesting aspect of the presentation was a description of how the private sector has increasingly taken the lead in organizing responses to changing consumer demand through mechanisms such as certification.

For more information on the Council session go to www.itto.or.jp

Edited
by
Alastair
Sarre

► **Sim, H.C., Appanah, S. & Hooda, N. 2005. Forests for poverty reduction: changing role for research, development and training institutions. *Proceedings of a workshop held 17–18 June 2003 at Dehradun, India.* FAO, Bangkok, Rome. ISBN 974 7946 76 9.**

Available from: Patrick Durst, Senior Forestry Officer, FAO Regional Office for Asia and the Pacific, 39 Phra Atit Road, Bangkok 10200, Thailand; Tel 66-2-697 4000; Fax 66-2-697 4445; Patrick.Durst@fao.org

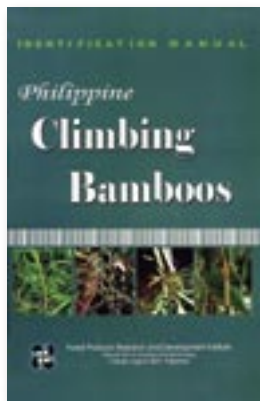


This publication contains 31 papers from a workshop that addressed the implications for forest researchers of a focus on poverty reduction. “Gone are the days when a diameter tape and notebook were the forester’s equipment,” writes Simmathiri Appanah, one of the editors. “People are going to be his biggest challenge—dialogue, engagement, and meetings would fill his portfolio.”

► **Escobin, R. & Banaticla, M.C. 2005. Identification handbook of Philippine commercial and potentially commercial forest vines. *Forest Products Research and Development Institute, Department of Science and Technology, Laguna, Philippines.* ISBN 971 626 023 7.**

Escobin, R., Pitargue, Jr, F., Ramos, M., Maruzzo, M. & America, W. 2005. Identification manual on Philippine climbing bamboos. *Forest Products Research and Development Institute, Department of Science and Technology, Laguna, Philippines.* ISBN 971 626 024 5.

Available from: Forest Products Research and Development Institute, College, Laguna 4031, Philippines; fprdi@laguna.net; www.uplb.edu.ph/fprdi



These two complementary volumes were published with the assistance of an ITTO fellowship. The first catalogues 70 of the most commercially important or potentially important forest vines occurring in Philippine forests and provides a key to their identification. As Dr Florence Soriano writes in her brief foreword, “FPRDI sends this book out with the hope that it will help tap the full potential of Philippine

forest vines and enrich the lives of Filipino families—most of whom are very poor—who harvest, sell and process them”.

The second of the volumes lists 16 species of climbing bamboos and provides a key to their identification. Dr Soriano writes that only recently has attention been paid to their potential applications in furniture and handicrafts.

► **Heart of Borneo: three countries, one conservation vision. *Proceedings of the Heart of Borneo workshop convened in Bandar Seri Begawan, Brunei Darussalam, 5–6 April 2005.***

Available from: WWF Indonesia, Kantor Tamam A9, Unit A-1, Jl Mega Kuningan Lot 8-9/A9, Kawasan Mega Kuningan, Jakarta 12950, Indonesia; Tel 62-21-576 1070; Fax 62-21-576 1080.

The wwf-driven Heart of Borneo initiative aims to protect the central highlands of Borneo, which straddle the borders of Brunei Darussalam, Indonesia and Malaysia. An exploratory workshop hosted by the Ministry of Industry and Primary Resources of Brunei Darussalam was held in April 2005. It canvassed the benefits of large-scale conservation thinking and reviewed issues facing the Bornean uplands with a view to developing a conservation vision and action plan for the region. This publication summarizes the papers presented and contains some of the workshop’s outputs—including its vision statement and action plan.

► **Wulffraat, S., Tatengkeng, P. & Salo, A. 2006. The ecology of a tropical rainforest in Kayan Mentarang National Park in the heart of Borneo. *ekologi hutan hujan tropis taman Nasional Kayan Mentarang di Jantung Kalimantan.* WWF Indonesia, Jakarta, Indonesia. ISBN 979 99919 2 7.**

Available from: WWF Indonesia, PO Box 5020 JKTM 12700, Indonesia

This colour publication, which contains text in both English and Bahasa Indonesia, presents descriptive information and data on the ecology and wildlife of the Kayan Mentarang National Park collected at the Lalut Birai field station in the centre of the park. The 1.3 million-hectare Kayan Mentarang National Park is located in the province of East Kalimantan on the island of Borneo and is being managed by the Ministry of Forestry, the provincial government and WWF Indonesia with the assistance of an ITTO project.

► **Sayer, J. & Maginnis, S. (eds) 2005. Forests in landscapes: ecosystem approaches to sustainability. *Earthscan, London, UK. Hardback ISBN: 1844071952. £23.96.***

Available from: Earthscan, 8–12 Camden High Street, London NW1 0JH, UK; earthinfo@earthscan.co.uk; www.earthscan.co.uk

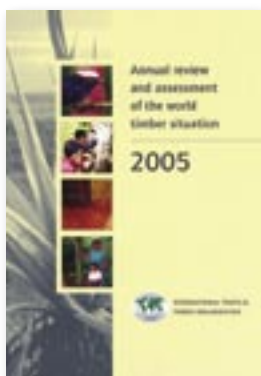


The differences and similarities between sustainable forest management (SFM) and the 'ecosystem approach' as applied to forests continue to be debated. The latter forms the primary framework of action to be taken under the Convention on Biological Diversity (CBD); the former is a tenet of ITTO and other

institutions. The editors of this book report that they were "not able to identify and so have not drawn upon any examples of forest management initiatives that had been undertaken as a direct response to the CBD Principles". The case studies presented in the book are, however, consistent with those principles; they examine approaches in the Congo Basin, Central America, Australia, the USA's Pacific Northwest, and Canada. The editors conclude that, in the future, "it will be important that foresters do not feel obliged to apply any particular articulation of SFM or of ecosystem principles in a stereotyped manner to all forests. Tomorrow's managers must base their management arrangements on the local interpretation and application of the Ecosystem Principles and the SFM paradigms. They will have to borrow and adapt from these concepts and other related philosophies".

▶ **ITTO 2006. Annual review and assessment of the world timber situation 2005. ITTO, Yokohama, Japan. ISBN 4 902045 27 3.**

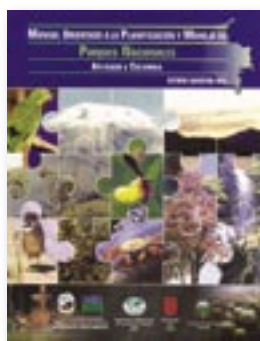
Available from: ITTO Information Officer, ahadome@itto.or.jp (see page 2 for full contact details)



This is the latest in a long-running ITTO series that compiles the most up-to-date and reliable international statistics available on global production and trade of timber, with an emphasis on tropical timber. It also provides information on trends in forest area, forest management and the economies of ITTO member countries. The document is based on information submitted by member countries through the Joint Forest Sector Questionnaire, supplemented by other sources as necessary.

▶ **Saavedra Ruiz, Eutimio (2005). Manual orientado a la planificación y manejo de parques nacionales aplicado a Colombia. Universidad del Tolima, Facultad de Ingeniería Forestal, Ibagué, Tolima, Colombia. ISBN 958 33 8114 4.**

Available from: E. Saavedra Ruiz, esaavedr@ut.edu.co

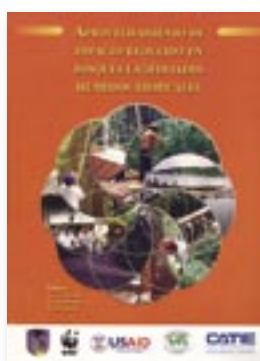


This manual on the management and planning of national parks in Colombia, which was published with the help of an ITTO fellowship, addresses the intricate relationship between the technical, political, social, environmental and economic aspects of management and planning. It

describes the international policy context, the significance of protected areas in Colombia, the laws governing their management, and the national system of protected areas, and provides information on the development of management plans, how to calculate the carrying capacity of protected areas, and so on.

▶ **Orozco, L., Brumér, C. & Quirós, D. 2006. Aprovechamiento de impacto reducido en bosques latifoliados húmedos tropicales. CATIE, Turrialba, Costa Rica. ISBN 9977 57 418 9.**

Available from: Centro Agronómico Tropical de Investigación y Enseñanza, 7170, Turrialba, Costa Rica; comunicacion@catie.ac.cr; www.catie.ac.cr



This book, which was published with the assistance of an ITTO fellowship, covers a wide range of subjects relevant to reduced impact logging. Written by twelve specialist authors, it covers topics such as extraction planning, planning and constructing haulage trails, directional felling, on-site

sawing, costs, labour conditions and evaluation and monitoring. It also includes a prototype annual harvesting plan (*plan operativo anual de aprovechamiento—POA*) as an annex.



News from ITTO's Tropical Timber Market Report

Edited
by
Alastair Sarre

Malaysian timber prices high

After almost a decade of loss and price-undercutting, the Malaysian timber export market is booming. Faced with a chronic shortage of raw material supply and with no solution in sight, prices of Malaysian timber products have risen across the board.

Plywood prices have reached eight-year highs this year, registering a 10–20% increase over 2005. However, timber traders are worried that higher prices will drive buyers to alternative suppliers in Vietnam and Indonesia.

Meanwhile, the local timber industry is urging various state governments to grant more timber concessions to mitigate the shortage of raw materials. Malaysia aims to increase its forest plantation area by 375 000 hectares in the states of Sabah, Sarawak, Johor, Terengganu and Pahang over the next 15 years.

TTMR 11:9, 1–15 May 2006 and 11:14, 16–31 July 2006

Indonesia to ban logging in natural forests

The Indonesian government says it will ban the use of natural forest trees by the pulp and paper industry by 2009 and by the wood industry by 2014. Timber processing factories would have to start establishing new timber plantations (HTIs) to supply themselves with logs, according to Forestry Department Secretary General Boen Purnama. Mr Purnama added that if the industry were to start planting trees now, industrial forests would be able to supply it with enough raw materials by 2014. The policy is aimed at preventing further destruction of the country's tropical forests.

TTMR 11:11, 1–15 June 2006

China bans land timber imports from Myanmar

China's recently imposed ban on overland timber imports from Myanmar has led to dramatic cuts in flows of illegal timber, according to Global Witness. At the request of the Myanmar government, on 27 March 2006 the government of China's Yunnan Province instructed Chinese border checkpoints to stop imports of "all sorts of timber and mineral products from Myanmar", which were presumed by both governments to be illegal when sent by land as opposed to better-regulated sea transactions. Chinese timber workers in Myanmar were also told to return home. Since the issuance of the order, land-based trade flows between the two countries have declined significantly and most border crossings were enforcing the ban. According to some reports, however, timber was still entering China via border back roads.

TTMR 11:11, 1–15 June 2006

Forest ownership reassigned in Bolivia

Bolivian president Evo Morales recently issued four new decrees and 34 resolutions through the National Institute for Agrarian Reform (INRA). As a result, INRA has reassigned land areas and granted 3.1 million hectares in land titles to farmer and indigenous communities in seven departments of the country, including areas reverted from forest concessions. In the department of Santa Cruz, eight forest concessions were partially or totally reverted. Timber companies had 30 days to appeal the ruling. However, Vice-president Alvaro Garcia Linera recently assured concessionaires that there would not be subjugation of forest rights and guaranteed the permanence of legal forest concessions. He said that land redistribution would be in fiscal forest areas not under concession.

TTMR 11:11, 1–15 June 2006 and 11:14, 16–31 July 2006

No Liberian exports despite lifting of ban

On 20 June 2006, the United Nations Security Council decided not to renew its import ban on round log and timber products from Liberia. Liberia's Forestry Development Authority (FDA) welcomed the lifting of the timber import ban but signalled that nobody in the country was permitted to produce logs or sawnwood for export since no one was holding a concession in Liberia. The FDA intends to submit a draft bill on the exportation of logs and sawn timber from Liberia to the national legislature in the near future. Unconfirmed reports indicated that some potential buyers have been in contact with potential producers and that exports might resume before the end of the year.

TTMR 11:13, 1–15 July 2006 and 11:14, 16–31 July 2006

Mahogany discussed

The CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Plants Committee and the Bigleaf Mahogany Working Group met on 29 June–8 July 2006 in Lima, Peru. The Committee adopted a recommendation from the report of the working group, agreeing not to subject bigleaf mahogany (*Swietenia macrophylla*) to the Review of Significant Trade, a mechanism for reviewing biological trade and other information pertaining to endangered species. The Committee also agreed to investigate the high volume of bigleaf mahogany imports to the Dominican Republic. Meanwhile, discussion of a proposal to include *Cedrela odorata*—another high-value timber species from Latin America—in Appendix II was postponed.

TTMR 11:13, 1–15 July 2006

The ITTO Tropical Timber Market Report is published every two weeks and distributed by email. In addition to news affecting the tropical timber trade, the report contains prices for a wide range of tropical timber products. For a free subscription contact Dr Jairo Castaño at itto-mis@itto.or.jp

Forest ecology with conservation biology

8 January–16 February 2007

Cost: £2550

Bangor, UK

This course is suitable for professionals in agriculture, forestry and related natural resources disciplines in the government, university, non-governmental and charity sectors who wish to develop and extend their knowledge and skills in conservation biology. The course also provides an excellent introduction to project work for those interested in pursuing careers in developing countries.

By the end of the course students should be able to, among other things:

- plan and carry out plant biodiversity and ecological assessments;
- apply the principles of conservation biology to the management of wildlife populations and habitats;
- assess the viability of populations of rare species;
- use evidence-based approaches to the management of wildlife populations and habitats; and
- demonstrate an understanding of the conservation needs of key species.

Forest ecology with soil & water conservation

29 January–9 March 2007

Bangor, UK

Cost: £2550

This course is suitable for professionals in agriculture, forestry and related natural resources disciplines as well as technicians and managers of agricultural programs in semi-arid areas. The course also provides an excellent introduction to project work for those interested in pursuing careers in developing countries.

By the end of this course students should be able to, among other things:

- describe the main kinds of soil erosion and land degradation;
- use simple methods to model soil erosion;
- assess land degradation using simple classification methods;
- describe a range of appropriate agronomic and physical measures to ameliorate land degradation in a drought-prone area;
- design a simple water-harvesting scheme;
- discuss the main social, political and economic factors influencing land degradation; and
- lay out contours and small gradients using simple surveying implements.

Forest ecology with environmental silviculture

8 January–16 February 2007

Bangor, UK

Cost: £2550

By the end of this course students should be able to, among other things:

- demonstrate understanding of the ecological information needed for the management and conservation of natural forests;
- plan and carry out plant biodiversity and ecological assessments;
- analyse, present and interpret the results;
- make recommendations about the application of results for future forest assessment and management;
- demonstrate understanding of the main properties of forest ecosystems as the objects of silvicultural activities; and
- match ecological, economic and societal requirements of modern forest management and deal with trade-offs.

Agroforestry trees of the drier tropics with soil & water conservation

19 February–30 March 2007

Bangor, UK

Cost: £2550

By the end of this course students should be able to, among other things:

- assess land degradation using simple classification methods;

- describe a range of appropriate agronomic and physical measures to ameliorate land degradation in a drought prone area;
- lay out contours and small gradients using simple surveying implements;
- demonstrate an understanding of the operation of advanced surveying tools;
- describe the character and complications of dryland environments;
- quantify products from multipurpose dryland trees; and
- demonstrate an understanding of management options for securing wood and non-wood products from dryland multipurpose trees.

Agroforestry systems & practice with social issues in natural resource management

8 January–16 February 2007

Bangor, UK

Cost: £2550

By the end of this course students should be able to:

- critically evaluate agroforestry practices in temperate and tropical environments and their role within the farming and forest systems of which they form a part;
- critically evaluate the key ecological, economic and social principles underpinning agroforestry practices and be able to use these in the specification of associative tree ideotypes and in the design of agroforestry interventions;
- discuss the key social and political influences on the management of natural resources by different groups of people in particular environmental contexts;
- discuss the use of different frameworks for the analysis of rural livelihood strategies and the natural resource management systems stemming from these; and
- discuss the impacts of participatory approaches to resource management in different rural sectors.

Agroforestry systems & practice with forest ecology

8 January–16 February 2007

Bangor, UK

Cost: £2550

By the end of this course students should be able to, among other things:

- critically evaluate the key ecological, economic and social principles underpinning agroforestry practices;
- demonstrate understanding of the ecological information needed for the management and conservation of natural forests;
- analyse and interpret existing information;
- plan and carry out plant biodiversity and ecological assessments;
- analyse, present and interpret the results;
- demonstrate understanding of the principles and use of modelling, monitoring and experimentation; and
- make recommendations about the application of results for future forest assessment and management.

For more information on all these courses contact: Short Course Organiser, CAZS, CAZS Natural Resources, University of Wales, Bangor, Gwynedd, LL57 2UW, UK; Tel 44 (0) 1248-38 23 46; Fax 44 (0) 1248-36 47 17; cazs@bangor.ac.uk; www.cazs.bangor.ac.uk; www.safs.bangor.ac.uk

▶ 29–31 August 2006.

Workshop on Forest Law Enforcement in Latin America. Sao Paulo, Brazil. ITTO/FAO. **Contact:** Steve Johnson, ITTO Secretariat; johnson@itto.or.jp; or Eva Mueller, FAO; eva.mueller@fao.org

▶ 5–8 September 2006.

Forest Governance and Decentralization in Asia and the Pacific. Yogyakarta, Indonesia. **Contact:** Thomas Enters, FAO Regional Office for Asia and the Pacific, 38 Phra Atit Road, Bangkok 10200, Thailand; Tel 66-2-697 4328; Fax 66-2-697 4445; thomas.enters@fao.org

▶ 11–13 September 2006.

Who Will Own the Forest? Portland, Oregon, USA. **Contact:** Michelle Docy, World Forest Institute, 4033 SW Canyon Road, Portland, OR 97221, USA; Tel 1-503-226 4562; Fax 1-503-226 2515; http://wfi.worldforestry.org/wwt0f3/

▶ 26–28 September 2006.

ITTO/FAO Forestry Statistics Training Workshop. Santiago, Chile. **Contact:** Steve Johnson, ITTO Secretariat; johnson@itto.or.jp; or Felice Padovani, FAO; felice.padovani@fao.org

▶ 26–29 September 2006.

Patterns and Processes in Forest Landscapes: Consequences of Human Management. University of Bari, Italy. **Contact:** Prof Giovanni Sanesi, Dip Scienze delle Produzioni Vegetali, Faculty of Agricultural Science, Program in Forestry and Environmental Science, University of Bari, Via Amendola 165/A, Bari, Italy 70126; Tel 39-80-544 3023; Fax 39-80-544 2976;

www.greenlab.uniba.it/events/iufro2006

▶ 26–30 September 2006. X

Congreso Latinoamericano de Estudiantes de Ciencias Forestales (10th Latin American Students Congress of Forest Science). University of Pinar del Rio, Cuba. **Contact:** Ing. Suriel Cruz Torres, Marti Final 1270, Pinar del Rio, Cuba; suriel@af.upr.edu.cu; Tel 53-82-77 9661; Fax 53-82-77 9353.

▶ 28–30 September 2006.

Expo Forestal México Siglo XXI. Boca del Río, Veracruz, Mexico. **Contact:** Jorge Mata, Messe Frankfurt Mexico; Tel 52-55-5545 4488 ext. 110; Fax 52-55-5545 0947; Jorge.mata@mexico.messefrankfurt.com; info@mexico.messefrankfurt.com

▶ 2–5 October 2006.

International Workshop on Climate Change: Opportunities and Challenges for Forest Mitigation Projects in Sub-Saharan Tropical Africa. Busua, Ghana. **Contact:** Mr Emmanuel Ze Meka, ITTO Assistant Director for Reforestation and Forest Management; zemeka@itto.or.jp; www.itto.or.jp/live/PageDisplayHandler?pageId=223&id=1136

▶ 2–6 October 2006.

International Conference on Managing Forests for Poverty Reduction: Capturing Opportunities in Forest Harvesting and Wood Processing for the Benefit of the Poor. Ho Chi Minh City, Vietnam. Sponsored by ITTO and others. **Contact:** Thomas Enters, FAO Regional Office, Bangkok, Thailand; Thomas.Enters@fao.org

▶ 4–7 October 2006.

Ecosystem Goods and Services from Planted Forests. Bilbao, Spain. **Contact:** joachim.schmerbeck@waldbau.uni-freiburg.de; www.waldbau.uni-freiburg.de/bilbao.html

▶ 5–6 October 2006. 1st

Inter-American Meeting of Ministers and High-level Authorities of Sustainable Development. Santa Cruz de la Sierra, Bolivia. **Contact:** Joaquin Tamayo, Organization of American States; Tel 1-202-458 3506; Fax 1-202-458 3560; JTamayo@oas.org; www.oas.org/dsd/MinisterialMeeting/ReunionInterAm_eng_v1.htm

▶ 10–13 October 2006.

Sustainable Forest Management with Fast Growing Plantations. (IUFRO 4.04.02). Charleston, South Carolina, USA. **Contact:** Chris Goulding, Ensis New Zealand; chris.goulding@ensisjv.com; www.ncsu.edu/feop/iufro_plantations

▶ 16–17 October 2006.

Make Markets Work for Climate. Amsterdam, the Netherlands. **Contact:** Netherlands State Secretary for Housing, Spatial Planning and the Environment; http://international.vrom.nl/pagina.html?id=9957

▶ 30–31 October 2006.

6th Dialogue on Forest Certification. Washington, DC, USA. **Contact:** The Forest Dialogue, New Haven, USA; Tel 1-203-432 5966; info@theforestdialogue.org; www.theforestdialogue.org

▶ 1–3 November 2006.

International Seminar on Forests, Forest Products and Services: Research, Development and Challenges Ahead. Srinagar (Garhwal), Uttarakhand, India. **Contact:** Seminar Secretariat, International Seminar on Forests, Forest Products and Services: Research, Development and Challenges Ahead, Department of Forestry HNB Garhwal University, Srinagar (Garhwal) – 246174, Uttarakhand, India; Tel/fax 91-1370-267529; forestseminar@rediffmail.com; www.uttara.in

▶ 6–11 November 2006.

41st Session of the International Tropical Timber Council and Associated Sessions of the Committees. Yokohama, Japan. **Contact:** Information Officer (Mr Collins Ahadome), ITTO Secretariat; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 6–17 November 2006. 12th

Conference of the Parties to the United Nations Framework Convention on Climate Change and 2nd Meeting of the Parties to the Kyoto Protocol. Nairobi, Kenya. **Contact:** UNFCCC Secretariat; Tel 49-228-815 1000; Fax 49-228-815 1999; secretariat@unfccc.int; www.unfccc.int

▶ 7–10 November 2006.

2nd Congreso para la Prevención y Combate de Incendios Forestales y Pastizales en el MERCOSUR. Malargüe, Argentina. **Contact:** Diligencia Viajes SA, Av Pte Roque Sáenz Peña 616, piso 8, Of 812, CP 1036, Ciudad Autónoma de Buenos Aires, Argentina;

Tel 54-11-4342 9331/2057; Fax 54-11-4342 9546; viajesd@infovia.com.ar

▶ 23–27 January 2007.

International Dialogue on Science and Practice in Sustainable Development: Linking Knowledge with Action. Chiang Mai, Thailand. **Contact:** Jill Jäger, Sustainable Europe Research Institute (SERI), Austria; Tel 43-1-263 2104; Fax 43-1-263 2104; jill.jaeger@seri.at; www.scidev.net/events/index.cfm?fuseaction=readevents&itemid=672&language=1

▶ 16–22 April 2007. II

International Symposium on Ecological Restoration. Ciudad de Santa Clara, Cuba. **Contact:** Grécia Montalvo Fernández or Alberto torres Bilbao; sisre@ccb.vcl.cu

▶ 16–27 April 2007. 7th

Session of the United Nations Forum on Forests. New York, USA. **Contact:** UNFF Secretariat; Tel 1-212-963 3160; Fax 1-917-367 3186; unff@un.org; www.un.org/esa/forests

▶ 3–15 June 2007. 14th

Meeting of the Conference of the Parties to CITES. The Hague, the Netherlands. **Contact:** CITES Secretariat; Tel 41-22-917 8139; Fax 41-22-797 3417; cites@unep.ch; www.cites.org/eng/news/calendar.shtml

▶ 1 November 2007. 8th

Session of the Conference of the Parties to the UN Convention To Combat Desertification (COP-8). Spain. **Contact:** UNCCD Secretariat; Tel 49-228-815 2800; Fax 49-228-815 2898; secretariat@unccd.int; www.unccd.int

forestry is likely to continue to decline, particularly with the trend towards the privatization of state forest enterprises, and investment in protected areas is likely to remain limited due to financial constraints. However, a recent emerging trend is the greater involvement of private-sector and non-government agencies in protected area management. Public-private partnerships in protected areas are starting to raise the level of funding for management activities by marketing forest services such as ecotourism and bio-prospecting. More of this can be expected in the future.

Regulation: forestry is highly regulated in many countries, but many regulations are outdated, unclear and conflicting. Because of its high costs, forest law enforcement is weak in many countries, although it may be improving in some. Given the costs, a low level of enforcement may be economically optimal in many cases. In the future, improved regulation of the sector requires: more focus and deregulation (where appropriate); a more structured approach to law enforcement; a clearer definition of rights and responsibilities of all stakeholders involved in the sector; and a strengthening of the social contract between lawmakers and society to support compliance with the law.

Fiscal policies and market mechanisms: forest charges remain low in many countries and current fiscal policies are probably the main constraint to investment in SFM. Inadequate fiscal policies send incorrect market signals to producers of forest products, leading to waste and inefficiency in the sector. In addition, as a result of these policies many countries spend more on their forest administrations than they collect in forest charges and there are few positive incentives for SFM. A high priority for countries should be to revise their fiscal policies in the forestry sector to correct market signals and create an environment in which investments in SFM produce positive financial returns. Although payments for environmental services are developing, the amounts are currently insignificant compared to the global value-added from wood production and they are unlikely to have a major impact on investment in SFM in the near future.

Measures to promote SFM: currently, there is a lack of information about returns on investment in SFM. Information about SFM techniques is increasingly available but is not widely disseminated at the field level. In addition, few countries have specific policies to promote investment in SFM in natural forests (as opposed to forest plantations). Information is improving in some countries, but more needs to be done and policies and legislation should be examined and revised (where necessary) to promote investment in SFM.

The role of international organizations

International organizations can play a role in encouraging investment in SFM, particularly with respect to the collection and sharing of information and experiences in countries. An international mechanism to provide long-term finance to support the production of global non-market benefits from tropical forests has been debated, but seems elusive. However, international discussions might help to encourage investment in SFM if they are focused on more practical issues such as market access, trade facilitation and the coordination of fiscal policies.



Paddling against the current? Natural forest management has trouble competing against alternative land-uses. Photo: G. Wetterberg

The future for investment in natural tropical forests

One final thought concerns the broader outlook for the production of forest products from natural tropical forests. SFM means many different things to different people and although there has been some progress towards it in the tropics, experiences have been mixed, success has not been widespread and harvesting in natural tropical forests remains controversial to many people, particularly in developed countries.

A high priority for countries should be to revise their fiscal policies in the forestry sector to correct market signals and create an environment where there are positive financial returns to investment in SFM.

Given this, and the declining financial viability of SFM in many natural tropical forests, it seems likely that the trend towards greater production of forest products from planted forests is likely to continue. A relatively small area of planted forests could meet most of the demand for industrial roundwood and there are strong indications that a transition in harvesting from natural to planted forests is already well under way. In light of this, the type of investment needed in natural tropical forests is likely to change radically over the next 10–20 years. In a majority of locations, large-scale forest concessions are likely to become increasingly uncompetitive compared to wood production from planted forests. Thus, if commercial investment in natural forests is to increase, it should probably focus more on supporting production by small and medium-sized enterprises to meet local demands and supply niche markets.

Out on a limb



The nature of investment in natural tropical forests is changing

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ONE OF THE MAJOR challenges for financing sustainable forest management (SFM) in natural tropical forests is economic viability. The growth of commercial species in most natural forest types is relatively slow and tropical forest products have suffered in recent years from declining prices and market shares and a relatively small amount of value-added from wood production. In addition, the stocking of commercial trees is low, in some natural forest types more so than others, production and management costs may be high (eg in remote areas), and alternative land-uses may offer higher financial returns.

SFM requires forest managers to respect non-market benefits, which generally increase management and transaction costs—that is, the compliance costs of producers and the enforcement costs of forest administrations. In addition, the forest concession systems used in many tropical countries may be expensive to administer properly due to the different objectives of the owner of the resource (often governments), the manager or producer of benefits (usually the private sector), and the main beneficiaries of forest management (primarily the private sector, but also other stakeholders).

Harvesting in primary tropical forests is still generally very profitable, with value-added¹ probably ranging from US\$500 per hectare in dryland forests to US\$3000 per hectare in moist tropical forests containing high-value timber species. However, very little high-value primary tropical forest remains available for harvesting. In secondary tropical forest, forest management is much less profitable because of the reasons articulated above; value-added may be as low as US\$20 per hectare per year in dryland forests and US\$100 per hectare per year in moist tropical forests. With these returns, it is difficult for natural forest management to compete with alternative land-uses such as agriculture, agricultural tree crops and forest plantations.

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The implications of the above for investment in sustainable natural forest management are that there is some scope for investment in improved harvesting but little incentive to invest in long-term management, which involves long-term recurrent costs and minimal returns. The conditions under which SFM may be economically viable are likely to be found in forest concessions in locations with high stocking and

¹Value-added means the value of roundwood sales less non-labour production costs (eg fuel, tools, machinery and equipment)

few alternative uses. In addition, small-scale SFM by local people may be viable in areas with low stocking (eg dryland forests) and little population pressure.

Investment is driven by market signals. Unfortunately, there is generally very little information on the returns on investment in SFM in natural tropical forests, markets do not appear to offer significant benefits for the sustainable production of forest products (eg premiums for certified forest products), and government policies in support of SFM are often weak.

Trends in government policies and institutions

The framework for investment in SFM has also been affected by recent trends in government policies and institutions. These include:

- the generally low (and declining) level of funding for forestry administrations in many countries, including from the international donor community;
- decentralization and the delegation of functions to lower levels of government;
- privatization and less direct public intervention in many sectors (including forestry); and
- changes in the role of governments from providers to purchasers of public services.

These factors have generally weakened the capacity of governments to support investment in SFM in many tropical countries.

The role of governments in promoting investment in SFM

Broadly speaking, governments have four sets of tools or instruments for promoting investment in SFM. These are: direct intervention and/or investment; regulation; fiscal policies and market mechanisms; and measures to raise awareness about SFM.

Direct intervention: governments currently have very little direct involvement in commercial forest harvesting. Direct intervention is mostly focused on activities in protected areas, but these are often under-funded. In the future, direct involvement in commercial

