

ITTO Tropical Forest

UPDATE

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



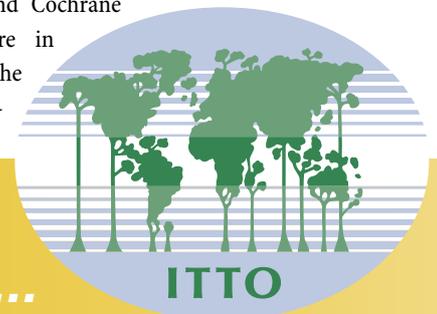
Concessions: catching a tiger by its tail?

FOREST concessions are an enigmatic beast. For many governments, they are an effective way of opening up a resource and generating much-needed revenue through royalties. Logging companies tend to like them because they usually provide long-term (and sometimes cheap) access to a resource. Economists, on the other hand, worry that poorly conceived concession systems encourage excessive rent-seeking behaviour, which is econo-speak for the pursuit of windfall profits at public expense. And environmentalists take perhaps the most jaundiced view of all, pointing to problems ranging from ecological damage to the disharmony created by logging camps among local communities.

The beast is being uncaged once more. In particular, Brazil is contemplating a plan to establish 50 million hectares of national forests (FLONAS) in the Amazon, over which forest concessions will be offered to the private sector. Peru, too, is in the process of renovating its forest concession system following the enactment of a new forest law in 2000.

In this edition of the *TFU* we sample a range of views on these developments. Rubén Guevara (page 3) gives a brief account of the state of deliberations in Brazil; along with the federal government's plans to initiate a concession system in FLONAS, the state of Amazonas is also contemplating a concession system in its state forests.

Verissimo and Cochrane (page 4) are in favour of the proposed con-



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Inside ▶ pros and cons of concessions ▶ certification in Africa ▶ reviving plywood ▶ more ...

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Cover image IBAMA forester Cleuber Delano inspects a vine-cutting experiment in Brazil's Tapajós National Forest. *Photo: J. Leigh*

cession system in FLONAs. They say that Brazil's case will be different from those of countries in which concession systems have not delivered optimal outcomes because of the "transparent and democratic process" to be employed; this process they describe in detail. They also outline how fees could be set and how these might be used to strengthen forest management and monitoring and to boost incomes among local inhabitants. The system, they say, will be robust because of its transparency, the provision for oversight by non-governmental organisations, and strong competition for logging rights between timber companies.

Merry et al. (page 7), on the other hand, believe that timber harvesting in the proposed expanded system of FLONAs is a risk "that, for now, Brazilian society should not take". They argue that setting the optimal price for harvesting rights is too difficult given the lack of economic information on the resource and the "heterogeneous ecological conditions" found in the Amazon. "The most likely result," they say, "will be concessions that are under-priced, from which the government will not capture enough of the potential returns for harvesting and harvesters will capture windfall profits". They argue for a moratorium on logging in national forests until "it is determined that timber harvesting on FLONAs will provide net economic and ecological benefits to Brazilian society".

Logging concessions have been employed in Peru for some decades but the system will change considerably under the new forestry Act, which was enacted after eight years of inclusive stakeholder dialogue. Staff members of the Peruvian government agency INRENA outline the main changes on page 10; these include an increase in the size of concessions, the lengthening of concession duration to 40 years, and the setting up of an agency to oversee the system. A recent ITTO-funded study of the new Act and how it might deal with the problem of illegal logging (page 13) found that it "contains necessary changes to the country's forest regime" but noted that a lack of capacity within government could jeopardise its enforcement. An ITTO mission to the country has similar concerns

(page 14), but overall it suggests that the new forest concession system "offers for the first time the real possibility that the Peruvian forest sector will move from unsustainable and often illegal forestry practices towards sustainable forest management".

Mauro Rios, a consultant from the Peruvian timber sector, voices a different concern (page 32). He says that the grand plan for reforming the concessions system, encouraging sustainable forest management and expanding the timber sector could have perverse effects unless urgent steps are taken to find markets for the so-called lesser used species that will dominate supply in the near future. He says that nearly 70% of the potential timber supply currently has no market at either the national or international levels; the impact of this problem on the financial viability of the local timber sector could be disastrous. And this, in turn, will put the goal of sustainable forest management at great risk.

The concession system has earned its reputation as a muscular and ornery creature. Its usefulness lies in its ability to open up and capitalise a resource, which is, after all, the prerogative (and in many cases, the imperative) of a forest owner. It poses a danger if not well handled—the flailing claws of the logging apparatus can be destructive to forests, people, and law and order—but properly done it can encourage sustainable forest management. The hope for the proposed systems in Brazil and Peru lies in the way they are being developed: in the full view of all those who have an interest in the future of the forest.

Alastair Sarre

Making concessions in Brazil

Legislation is being considered at both national and state levels to introduce systems of forest concessions for timber harvesting

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ALARGE proportion of Brazil's forests are on private lands, where they produce a majority of the country's timber. However, private companies also have access to timber in national forests (FLONAs), which is allocated in open public bidding.

Up to now, most of the timber derived from FLONAs has been in the south and southeast of Brazil. The only timber sale in an Amazonian FLONA

was made in 1999, in a public bid for the timber on a 3222-hectare tract of forest located within the Tapajós National Forest near Santarem in the State of Pará. A management plan had been developed for this forest (with assistance from ITTO PROJECT PD 68/89 REV. 1 (F)) specifying the extraction of 92 000 m³ of timber.

Perhaps the availability of timber on private lands explains why Brazil does not yet grant forest concessions in any type of public forest, although it is common practice in neighbouring countries such as Peru and Bolivia. Nevertheless, if plans in the federal government continue without surprises this will change in the future.

In 2002, Brazil's then Minister of Environment, Dr José Carlos Carvalho, submitted a draft for a federal forest concessions law to the Office of the President, opening up the possibility of granting forest concessions in FLONAs to private companies (*see box*). This initiative was the result of consultations with different sectors in the country and sought to put in place an additional mechanism to promote investment in the forestry sector. In 2002, ITTO approved the implementation of a project in Brazil (ITTO PROJECT PD 142/02 REV.2 (F)) to assist the federal government in its efforts to strengthen its capacity to implement a system of forest concessions.

A new federal government took office in Brazil on 1 January 2003. Three months later the new Minister of Environment,



All aboard IBAMA foresters head out to inspect the Tapajós National Forest in the Brazilian Amazon.

Photo: J. Leigh

Ms Marina Silva, decided to withdraw the initiative and to re-open the consultation process, which is now ongoing.

In the meantime, the State of Amazonas, which is endowed with vast state forests, was also moving forward with its own plan to introduce a state law dealing with forest concessions. If approved, this law will allow the State of Amazonas to allocate designated tracts of state forests to timber harvesting in an open public bid process. The proposal for this law includes, among other things, the following elements:

- **timeframe or duration of the concession:** 50 years;
- **concession process:** open, public bidding—national and international bidders;
- **fees, levies and royalties:** these are still under study, but policymakers are inclined towards a system of charging fees and royalties based on utilised timber volumes and on the total land area of the concession. The state is in the process of contracting a consulting firm to assist them in better defining this matter;
- **major obligations of the concessionaire:** including to formulate and implement a management plan and to comply with the provisions of the concession contract and the respective laws; and
- **monitoring, assessment and compliance:** to be carried out by an independent auditing firm, and by the state forest agency.

National and state forests

Brazil has several types of public forest. The main ones include federal forests, state forests, municipal forests, and protected areas such as Indigenous reserves, national parks, national biological reserves, national extractivist reserves, and other equivalent protected areas.

In federal and state forests, the respective government has legal mechanisms in place to designate FLONAs and state forests (Florestas Estaduais—FLORESTES).

The proposal for the creation of a FLONA is formulated by the Ministry of the Environment and approved by presidential decree. In the case of the State of Amazonas, the proposal for the creation of a FLORESTE is formulated by the Secretary of State for the Environment and approved by decree of the State Governor.

FLONAs are managed by the Brazilian Institute for the Environment and Renewable Natural Resources

(IBAMA), and FLORESTES in the State of Amazonas are managed by the newly created state forest agency. Presently, Brazil has more than 50 FLONAs covering a total area of over 18 million hectares across the country. The State of Amazonas has just created its first FLORESTE, the Floresta Estadual de Maués, which has a land area of about 200 000 hectares. Forest concessions, if allowed by law, could be granted only in designated FLONAs or FLORESTES.

Brazil's bold initiative in the Amazon

A proposed new system of forest concessions in the Brazilian Amazon would reshape the logging industry there

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THE Brazilian government has frequently been criticised for the environmental damage caused by its development policies, but now it is undertaking progressive reforms to balance its economic needs and the long-term conservation of the country's natural resources. By 2010, the Brazilian government plans to have established 50 million hectares of national forests (FLONAs) in the Amazon, 10% of the Brazilian Amazon territory (Veríssimo et al. 2002a). Establishing these FLONAs is just the first step, though, in what will be a paradigm shift in how the timber industry operates and, to a larger extent, in how development proceeds in the Amazon.

The strategic expansion of the national forest system is designed to promulgate the widespread adoption of forest management practices through an innovative forest concession system. The intent is to stabilise the timber industry so that it does not create a progression of boom-and-bust logging towns across the Amazon, which has led in the past to chaotic and unplanned regional development.

The underlying strategy is to first gain control of the resource. By placing many of the economically viable forests under protection, the goal is to constrain extensive deforestation and predatory logging activities. Logging on privately-held lands will be pressured to become more sustainable—and the resulting resource scarcity will force timber companies to enter the FLONA concession system. Defined management standards will be required and enforced. Stumpage fees and taxes will be collected to support the administration, operation, monitoring and enforcement of the system. If a specific FLONA cannot be operated at a profit, its concessions will not be opened for bidding. In principle, timber companies will be obliged to improve practices in order to survive. Certified timber will most likely become the rule instead of the exception. Government and local communities will capture more of the revenue stream and the timber industry will be stabilised at sustainable production levels. This proposed system has been criticised and, indeed, many challenges must be addressed to achieve it; here we explain how some of these are being tackled.

FLONAs in the Brazilian Amazon

FLONAs were first created in Brazil in 1965 and the first Amazonian FLONA, the Tapajós National Forest, was



Sustainable development driver? A log truck carries logs produced by reduced impact logging in a training area (funded partly by an ITTO grant) near Belém, Brazil. Photo: Tropical Forest Foundation

established in 1974. By 1999, FLONAs covering 8.3 million hectares existed in the Amazon, although their primary purpose was to protect mineral reserves (Veríssimo et al. 2000).

With the launch of the National Forest Program in 2000, FLONAs gained new political prominence. Under Brazilian law, FLONAs are conservation units covered by native forest species that are designated for the rational use of forest resources, including timber, under a regime of sustainable management. Recreation, tourism and scientific research are also allowed, but environmental services must be protected. Similar public forest reserves exist in Canada, the United States, Malaysia, Indonesia, Peru and Bolivia (Barreto & Arima 2002).

The status quo

At present, some 350 Amazonian tree species are harvested commercially in Brazil (Martini et al. 1994), providing upwards of 28 million m³ of roundwood annually (Veríssimo

& Smeraldi 1999). In addition to salvaged timber from deforestation processes, well over 1 million hectares of standing forests are selectively logged each year for their most valuable trees (Matricardi 2003). Of the logs arriving at Amazonian sawmills, 50% have been harvested illegally (Lentini et al. 2003). The great majority (95%) of timber extraction is done without management, damaging forest structure, placing excessive pressure on high-value species and increasing the vulnerability of such forests to fire (Veríssimo et al. 2002b).

Predatory timber extraction has characterised the Amazonian timber boom and exhausted forest resources in the old logging centres of eastern Pará, north-central Mato Grosso, and southern Rondônia. Lumber mills are now relocating to new timber frontiers in north-central Pará (Pacajás and Anapu river regions), western Pará (along Highway BR163), and southwestern Amazonas. Timber is generally taken illegally from unclaimed public lands. These logging activities, in synergy with agriculture and cattle production, accelerate forest degradation and deforestation (Schneider et al. 2002).

Why FLONAs?

The destructiveness of conventional logging practice has led some Brazilian environmental non-governmental organisations (NGOs) and timber companies, with assistance from ITTO in some cases, to develop, test and demonstrate better harvesting techniques, commonly known as reduced impact logging (RIL), on the relatively small area of FLONAs already declared in the Amazon and on some private lands. Under RIL regimes, timber-cutting cycles and the negative environmental impacts of logging activities can both be substantially reduced (Barreto et al. 1998, Holmes et al. 2001). However, this requires considerable planning and expertise, and profitability relies on the availability of specific green markets for certified forest products; in the absence of the latter, timber produced under a RIL regime cannot compete in the market with low-cost, illegally cut timber. Despite the difficulties, there are now over 1 million hectares of managed forests in the Amazon (Veríssimo et al. 2002a). However, even if all private lands (24% of the Amazon) were somehow harnessed for timber production, it would not be possible for them to meet current timber demand on a sustainable basis—since such lands are heavily deforested and have often already been logged destructively (Veríssimo & Cochrane 2003). Nor will the existing FLONAs be able to meet demand. It is clear that government will need to facilitate the process if sustainably managed timber production is to become widespread in the Amazon.

The National Forest Program

The Brazilian government has three broadly defined strategies under its National Forest Program:

- establish national and state forests on unclaimed public lands and regularise land tenure for privately-owned lands;
- promote sound forest management practices; and
- improve enforcement and monitoring of logging practices.

The proposed establishment of new FLONAs faces resistance from some local stakeholders, particularly those whose livelihoods depend on agriculture and ranching and who would rather remove the forest for cattle-raising and for the production of crops such as soybeans. To overcome this resistance, FLONAs must provide measurable benefits to rural people, including the provision of social services and equitable distribution of stumpage fees among communities and municipalities.

The government's strategy for locating new FLONAs is based on social, economic and biological criteria (Veríssimo et al. 2002b). Potential FLONAs have high commercial timber value, low human occupation or use, and are not priority areas for the creation of parks or biological reserves. FLONAs are being established on public lands that are either unclaimed or under disputed title, thus avoiding the costs of dispossession. In the last two years, five new FLONAs covering 2.3 million hectares have been established in Pará, Amazonas and Acre, and twelve additional FLONAs totalling 3.6 million hectares are in process. State forests are also being established in Acre, Amapá and Amazonas using similar methodologies.

Although the creation of FLONAs is progressing rapidly, the challenges of fully implementing the accompanying forest management regime have just begun. Several more legislative and administrative elements must be put into place before the system can be initiated. Key to effective implementation are: a concession model that includes external auditing of forest management standards, accounting practices and social benefits; efficient monitoring and enforcement to reduce illegal logging; and dedicated institutional capacity to provide technical and managerial oversight.

Concession models: Although still in the early stages of development, it is clear that the forest concession policy will need to address national, state and private-sector rights and responsibilities, concession sizes and durations, taxes, and requirements for management plan development, approval, execution and monitoring. The actual concession system will be defined, in part, through an open public debate within the Brazilian National Congress over the next one to two years, with the participation of NGOs, rural workers' movements, traditional peoples (eg rubber tappers, caboclos, etc), forest scientists, and logging industry representatives. This transparent and democratic process is very different to what has occurred in many other tropical countries.

Preliminary studies (Barreto & Arima 2002, Schneider et al. 2002) reveal that stakeholders hold an array of concerns about concession models and their implementation. During interviews and in questionnaires, the issues most discussed by stakeholders were the loggers' technical capacity and reputation and the overall transparency of the concession process. Stakeholders emphasised that concessions should guarantee opportunities to local populations and that the system should be designed to avoid restricting access to the FLONAs to only a few companies. For their part, loggers also feared institutional instability within the public administration, poor government administrative capacity, and the comparative advantage that large timber companies may have in complying with bidding requirements (Barreto & Arima 2002).

Provisional plans for approaching the concession system will build on Brazil's ongoing democratisation of administration for conservation units. The new Conservation Unit Law (Ministério do Meio Ambiente 2002) stipulates that each FLONA must have a 'board'. Such boards will be composed of government personnel from the Brazilian Institute for Environment and Natural Resources (IBAMA) and other departments but must also have representation from local communities, NGOs and the private sector. They will oversee administrative processes, provide conflict resolution and, if necessary, cancel the contracts of non-compliant concessionaires.

The establishment of FLONAs is just the first step. Once demarcated and staffed, FLONAs must be zoned to protect ecologically sensitive regions (eg wetlands, steep slopes) and prescribed amounts of undisturbed forest.

When local markets can support the necessary stumpage fees for operating the FLONA profitably, bidding for concessions will be opened. The highest bidder is not guaranteed to win the concession, since decisions will be based on three criteria: the bid price; the proposed management plan; and the credibility of the bidder.

The company bidding for the concession will need to weigh potential income against four costs: stumpage fees; administration costs; management plan costs; and exploration costs. Each of these is discussed below.

Stumpage fees will be a function of timber volume removed and value class of the species extracted (eg high, medium and low). Mahogany (*Swietenia macrophylla*) might warrant its own class but other species will be grouped by their market prices. Scaling factors will make adjustments for the location of the FLONA and any regional surcharges or discounts. Fees will be gauged to changes in market prices and operating costs. Returns can be used to strengthen management, monitoring and the administrative capacity of these forests; a portion can also be returned to communities living in buffer zones to foster local acceptance and interest in the successful management of these working forests. There are precedents in Brazilian law (eg mineral royalties as established by the 1998 Constitution) that could serve as models for managing stumpage fee funds. A study carried out by the Instituto do Homem e Meio Ambiente da Amazônia (IMAIZON; Arima & Barreto 2002) of the five main FLONAs in the Amazon has shown that four are amenable to stumpage fees with current market pricing.

Administration taxes will be levied by IBAMA to cover the operating costs of a FLONA, including development of the zoning plan, protection, and monitoring and enforcement activities. Monitoring may be contracted to or validated by NGOs. The tax will be collected as a flat percentage of the estimated value of the timber removed and tied to the operating costs of individual FLONAs.

Management plan costs may be internal to the company making the bid or contracted out to consultants or NGOs with the requisite expertise. The management plan has to show convincingly how planned timber extraction will be conducted and verified and will also need to include the technical details of forest inventory, felling techniques, extraction volumes, silvicultural treatments, maximum canopy damage, etc. Given the competitive bidding process, it is expected that many management plan activities will be contracted to credible independent professionals.

Exploration costs are the actual operational costs (ie mapping, cutting and harvesting) of the company within the concession.

The concession process in Brazil is expected to be robust due to its transparency, its emphasis on democratic decision-making, oversight by forestry-oriented NGOs and strong competition for concessions between the many timber companies operating in the Amazon. An important check on the concession-granting and administrating systems will be provided by the legal system, since the open and very public nature of FLONAs places them within the realm of public prosecutors. These legal scholars are not beholden to either government or industry and can act independently at any time to investigate irregularities in any FLONA.

Encouraging forest management: One of the major obstacles to the adoption of forest management is the scarcity of regulated forest areas. Most loggers prefer to operate under defined rules and land tenure, and with protected timber supplies (Schneider et al. 2002). Loggers have demonstrated strong support (~80%) for the national forest policy (Barreto

& Arima 2002), mainly because of the guarantee it offers of continued access to managed and verifiably legal raw materials.

The monitoring of concessions must also be addressed. The recent successes of the Brazilian government's collaboration with NGOs to detect illegal trade in mahogany point to one possible model. Adoption of internationally recognised certification standards (eg Forest Stewardship Council) would provide additional assurances. Further, recent developments in the satellite-based monitoring of forests have demonstrated the capacity for remotely detecting and monitoring much of the Amazon's logging activity (Matricardi 2003). This may provide the best assurance of proper concession implementation and forest management, since the government, or any concerned group, will be able to remotely verify locations and, to a lesser degree, the intensity of logging activities.

While there are still many uncertainties surrounding Brazil's new forest policies, it is clear that they will have a chance to reshape the logging industry. But before the system can become operational, substantial institutional capacity needs to be developed; towards this end, IBAMA is scheduled to open numerous positions for skilled professionals in 2004. Several legislative hurdles need to be overcome as well but piloting projects are planned for 2005 that will ramp up to full operation across the entire FLONA system by 2010. Undoubtedly, there will be false starts and unforeseen problems along the way; nevertheless, we believe that Brazil is laying the foundation for sustainable management on a scale befitting the Amazon.

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Some doubts about concessions in Brazil

Should Brazil shelve its proposed system of forest concessions?

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Photo: F. Merry

THE government of Luiz Inácio Lula da Silva of Brazil inherited, in its National Forest Program, a formidable proposal to increase the area designated to national forests (FLONAs) in the Amazon from eight to 50 million hectares by the year 2010. This objective is an ambitious and worthy conservation goal, and one that appears to be holding approval, give or take a few million hectares, within the new government. Attached to this plan, however, is a lingering desire to allow private timber harvesting on FLONAs through a system of forest concessions.

The decision of the previous government to adopt concessions was based on the premise that such a program would increase profits from forestry, reduce illegal logging, and increase the adoption of sustainable forest management practices (Arima & Barreto 1999, Veríssimo & Barreto 1999, MMA 2001, Veríssimo et al. 2002). The current government has taken a more cautious approach, but nonetheless continues to be tied to the idea of timber concessions in FLONAs. In this article, we question the need for concessions and then identify some major concerns should they become a reality. We argue that while expanding FLONAs is a good idea, allowing timber harvests within these forests is a risk that, for now, Brazilian society should not take.

Why timber concessions?

First and foremost, one should ask whether concessions are necessary. The timber industry is currently supplied by legal deforestation, conventional logging with approved management plans on private lands, and illegal logging on both private and public land. Will timber concessions substitute these existing sources? Not entirely, and, moreover, although the deforestation and management

are 'legal', the regulation of harvesting is poor and much illegal logging occurs. Forest concessions will not change the need to improve monitoring and control of the current industry—a very complicated and difficult task. Indeed, it is likely that concessions will further burden an overstretched government bureaucracy or simply divert its attention from the most pressing problems.

Why then are concessions even being considered? Proponents argue that concessions will increase the area under sustainable forest management (in the form of reduced impact logging—RIL) in the Brazilian Amazon. This is quite likely true, since there is little RIL implemented anyway. If the sole intention is to increase the area under RIL it is quite possible that concessions will be considered successful. It is also an easy indicator to measure. Determining the true cost, however, is quite another matter. In a report to the Brazilian government, Gray (1999) stated that concessions had been the predominant use of public tropical forests and in some cases had succeeded in utilising the forest resource well, but that the economic benefits had often been less than anticipated. Research also shows that in nearly all developing countries, concessions have not achieved the goal of providing an effective framework for sustainable forest management (amongst a long list, Repetto & Gillis 1988 is probably the most well known analysis). Amacher (1999) also suggests that distant concessions that are difficult to monitor may do little to deter cheating or illegal logging.

In the face of the extensive literature identifying problems, there remains a push for concessions on FLONAs and general support within the industry for this program (Barreto & Arima 2002). Support from the industry is easily explained:



Photo: F. Merry

it will receive access to a new, and possibly quite cheap, source of raw material, and the harvest will be sanctioned by the government, thus avoiding costly bureaucracy. In addition, 56% of the respondents in the Barreto and Arima (2002) survey reported that they wanted the government to be responsible for forest management—in other words, they just wanted to harvest. But to provide a continued source of (possibly) under-valued raw material to an industry that has been slow to adopt new technology and still has milling yields as low as 35% (Gerwing et al. 1996) is to ignore the prerequisites for change in the industry. Adoption of new wood-saving technologies has been slow in both harvest and milling industries because of a lack of information in the sector and muted signals of economic scarcity (ie dampened price increase of raw material; Scholz 2000). The addition of a new frontier will only delay technological advancement.

If concessions are to be implemented, the key issue for policy is how the government should structure concessions and royalties so that adequate levels of government revenue are captured ...

The key question, however, is whether concessions can provide net economic, social and ecological benefits to Brazilian society. If concessions provide an incentive for sustainable forest management but the costs outweigh the returns, then we believe concessions should be forsaken in favour of simply protecting FLONAs as guardians of biodiversity and other ecological benefits. If concessions are to be implemented, the key issue for policy is how the government should structure concessions and royalties so that adequate levels of government revenue are captured, taking into account, among other things, the costs of effective monitoring, ecological damage, social impacts and intergenerational equity.

Getting the prices right

Royalties are revenues earned by the government—or society—in return for the transfer of harvest rights on public forests to private harvesters. If concessions are to be allowed on FLONAs, the government will need to define

appropriate types of and levels for royalties, but, given the lack of economic information and the heterogeneous ecological conditions found in the Amazon (Lele et al. 2000), it will be difficult for the government to set correct levels. The most likely result will be concessions that are under-priced, from which the government will not capture enough of the potential returns for harvesting and harvesters will capture windfall profits. This problem is not specific to Brazil or the developing world; it is a problem faced, and rarely overcome, by governments irrespective of economic development.

It might appear that the simple solution to under-pricing is setting higher royalties. Imposing high royalties, however, is more difficult than one might think on public land, where government property rights and contracts

with private agents are not well enforced. Recent work by Amacher et al. (2001) suggests that higher royalties may lead to high-grading, the under-reporting of volume harvested or illegal logging, as producers search for ways of avoiding the fees and increasing their forest-harvesting returns. In addition, if the concession fees are relatively higher than those charged for harvest elsewhere, then there will be an incentive to harvest where applicable taxes and fees are lowest. An example is found not far from Brazil, in Bolivia, where relatively high fees were set for concessions. There, concessionaires paid US\$1 per hectare per year regardless of whether it was used in production or not (there is exemption for a 30% set-aside); private land, on the other hand, incurred a US\$1 tax only on the area harvested per year which, assuming a 25-year rotation, is equivalent to a US\$0.04 tax per hectare per year. The result was a steadily declining harvest on concessions, replaced by timber production on private lands: roundwood production in Bolivian concessions dropped precipitously from 867 568 m³ in 1998 to 151 561 m³ in 2001, whereas during the same period production on private land increased from 23 811 m³ to 313 796 m³ (Superintendencia Forestal cited in Bowles Olhagaray 2002).

One could also argue that a competitive bidding process among concessionaires might eventually reveal a correct stumpage price—and this is indeed the most common recommendation made for concession policies. In the Brazilian case, however, there would be a considerable lack of information among bidders, and therefore added risk, leading to lower bids. Further, the majority of the forest industry does not currently practise the type of forest management specified for use in the concessions (ie RIL), further complicating the ability of concessionaires to bid. This will diminish the number of Brazilian bidders and indeed may result in bidding only from large international companies. Large international companies may be efficient harvesters, but fear of the internationalisation of the Amazon is very much alive and may present political problems.

The current government argues that stumpage fees (royalties) will be used to encourage sustainable forestry in concessions. This vague statement exemplifies the inadequate analysis underlying decisions on concessions: the how, when and where are missing. It has also been suggested that higher taxes be applied to private lands and monitoring increased to respectively encourage the adoption of sustainable forestry and ensure compliance with regulations—that would be a good first step before concessions are considered (although the optimal tax level that would encourage forest management has yet to be identified). A good second step, if we assume

the government is able to set a stumpage fee that mirrors the private sector, thus capturing the full value of the resource rent, would be to ensure there is no difference in the economic incentives to adopt sustainable forest management between public and private land.

Government strategies

For FLONAs, the first steps, rather than allocating timber concessions, should be to convincingly demarcate and establish control of the boundaries, then to negotiate a compensation package with the current 'owners', which could be resident communities or municipal and state governments. This will be viewed as a pure cost to the federal government with no visible return, but it is vital for ensuring community acceptance of the new forestry regime. The second step should be to develop management plans for each of the FLONAs. This is a massive task, which again might come at a (high) cost to government; it may be possible, however, to offset this cost through international forestry support, as is the case of the experimental cutting contract in the Tapajós National Forest, which is funded by ITTO. Each of these management plans may or may not have timber harvesting as an activity. They should be supported by extensive ecological and economic research by a diversity of institutions to provide the foundation for the decisions made therein. They should then be subject to public review and debate. It may be that a management plan takes five to ten years to produce, depending on the complexity of the forest condition. But there should be no haste: this is a public resource that if incorrectly managed could have long-lasting negative impacts. Simply demarcating FLONAs and producing viable management plans would be a huge advance.

Concluding remarks

What then are the options for the concession system? It is theoretically efficient to use a renewable public resource if the net benefits to society are positive; so one could argue that within the context of FLONAs there may be situations in which timber concessions can be successful. The range of impacts and incentives in the application of concessions is, however, extensive and includes both economic and ecological components, as well as issues of intergenerational equity. These must all be considered in the design and implementation of timber concessions on public lands.

Our suggestion, therefore, is that the concession program—including any pilot programs—be shelved, in favour of increased attention to the problems at hand of timber-harvesting on private lands; until it is determined that timber harvesting in FLONAs will provide net economic and ecological benefits to Brazilian society. Unfortunately, we are not there yet.

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For FLONAs, the first steps, rather than allocating timber concessions, should be to convincingly demarcate and establish control of the boundaries, then to negotiate a compensation package with the current 'owners'

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Peru holds out great hope for its new forestry Act*

THE Forestry and Wildlife Law, which was promulgated by a military government in the 1970s as Decree Law No 21147, governed forest management in Peru for more than 25 years. In 2000, National Congress passed a new law, Act No 27308, after eight years of negotiation with the various forest-sector stakeholders, ushering in a new era in participatory forest management.

The significance of this new forest-policy instrument lies in the broad-based, inclusive process that gave rise to it. The new Act was the subject of debate in four public hearings and an international discussion, while its regulations were developed by 15 working groups comprising representatives of forest producers, government agencies, environmental non-governmental organisations, the academic and research sectors, agricultural organisations, industrialists, Amazon native communities and other relevant groups.

Significance of the forest sector in Peru

Peru has 71.8 million hectares of natural forests, making it the eighth most forested country in the world; after Brazil it contains the largest tract of Amazonian forests.

The country's rural population relies heavily on forest resources and some communities, such as indigenous peoples in the Amazon, are totally dependent on forests for their livelihoods. Even though national statistics currently show that the forest sector makes a limited contribution to gross domestic product (just under 1%), these don't take into account all the goods provided by the country's forests, nor the substantial environmental services they provide.

It has been estimated through sectoral policy baseline projections that with the sustainable harvesting of 20 million hectares of permanent production forests (just over half of the production forests of the country), the contribution of the forest sector to the national economy could increase significantly in terms of: a) employment generation, with an estimated 171 000 new direct jobs; b) timber production, with an estimated production of 10 800 000 m³ in roundwood or 4 320 000 m³ in finished

products; and c) exports, with a target of US\$1.5 billion per annum within the next ten years.

Further, the promotion of a reforestation program to establish 100 000 hectares per year in the Highlands (Sierra) and Forest (Selva) regions could generate 80 000 new jobs for unskilled manpower. Thus, the enlightened development of the forest sector in Peru offers a range of possibilities for an integrated solution to the economic and social problems of the rural population.

Outline of the new legislation

Act No 27308 and its regulations approved by Supreme Decree No 014-2001-AG contain proposals for change and modernisation in the following areas:

- participatory and decentralised approaches;
- recognition of forest-use diversity and users;
- search for sustainability: sustainable forest utilisation, conservation and rehabilitation;
- promotion as well as control; and
- focus on effective management.

In addition, sustainable forest use is fostered by requiring:

- forest management according to land-use capacity;
- access to resources through long-term concessions including rights and responsibilities for concession-holders, with possibilities for automatic renewal if and when sustainable management compliance is verified;
- compulsory forest management;
- decentralised follow-up and monitoring mechanisms;
- promotion of voluntary forest certification; and
- incorporation of new options for participation in conservation (conservation concessions) and other forest uses (ecotourism, non-timber products, environmental services), thus generating an interest in forest care.

Table 1 summarises the main changes to the forestry regime introduced by the new legislation.

Afterglow

Table 1: Changes to the Peruvian forestry regime under Act No 27308

BEFORE	AFTER
Primary focus on timber production	Focus on a diversity of products and recognition of multiple forest uses and users
Disorganised timber harvesting through several dispersed, small-scale and short-term contracts with a lack of management plans	Sustainable forest harvesting based on long-term concessions under management plans within permanent production forests designated through a land-use management process
Centralised administration with limited stakeholder involvement	Administration responsibilities shared by various institutions and at different levels
Excessive intervention of the central authority	Increased participation and responsibility of the private sector in forest management and administration
A lack of certified production forests	Legal framework promoting forest certification
Limited economic and social impact	Improved conditions for achieving increased economic and social impacts
Conflicts over community lands and problems with overlapping	Respect for native and rural community rights and lands

Sharing and caring

Table 2: Institutional responsibilities for implementing Act No 27308

INSTITUTION /AGENCY	MAIN DUTIES
Ministry of Agriculture	<ul style="list-style-type: none"> • Regulate and promote the sustainable use of forest resources • Approve Forest Heritage status and zoning • Establish production forests • Approve forest development plan
INRENA	<ul style="list-style-type: none"> • Forest and wildlife authority at the national level responsible for the management and administration of resources
National Consultative Council for Forest Policy (CONAFOR)	<ul style="list-style-type: none"> • Provide guidance in relation to policies and feedback on development plans and other sectoral issues
OSINFOR	<ul style="list-style-type: none"> • In charge of supervising forest concessions for timber production purposes • Supervise and monitor concession contracts, compliance with plans, etc
Fondebosque (Forest Development Promotion Fund)	<ul style="list-style-type: none"> • Financing through competitive mechanisms for management, reforestation and other forest activities
Ad Hoc Commission	<ul style="list-style-type: none"> • Tendering or auction of timber concessions in permanent production forests
Management committees	<ul style="list-style-type: none"> • Participate in forest monitoring and control activities • Promote the resolution of any conflicts that may arise • Safeguard the conservation and sustainable use of forests

Major issues

The main issues addressed by Act No 27308 and its regulations are described below.

Forest heritage and management

The new legislation defines production forests, forests on protection lands, forests for future utilisation (plantations, secondary forests and forest rehabilitation areas), community forests and local forests. All of these land units, as well as state-owned lands with forestry as their primary use according to the land-use capacity classification, are part of the national forest heritage and may not be used for agricultural purposes or any other activities that may affect vegetation cover or the sustainable use and conservation of forest resources. Further, forest management units are zoned and management committees are created as a participatory mechanism for the involvement of landholders and local governments in forest management. The *figure* shows harvesting units in Zone 2 of the Permanent Production Forest of Ucayali, which covers a total area of 4 089 926 hectares.

Access to resources

Access to forest resources is facilitated through concessions, permits and authorisations.

Concessions are located in public areas designated for: the harvesting of timber (and other products as appropriate) in permanent production forests; the harvesting of products other than timber in production or protection forests (excluding vegetation cutting); and ecotourism and conservation purposes, mostly in protection forests. Under the new law there are two basic types of logging concession: i) 10 000–40 000-hectare concessions based on public auctions; and ii) 5000–10 000-hectare concessions based on a public bidding system; both are offered for renewable periods of 40 years. The law also allows for a transition system for the sale of wood by small-scale loggers who have not qualified for the new concessions.

Permits are issued for the harvesting of timber and non-timber products on private or community lands and in forest plantations and secondary forests. Only non-timber products may be harvested in forest reserves. Permits are also issued for research purposes.

Authorisations are issued for harvesting purposes in the dry forests of the coastal region, in non-timber product vegetation associations, and in local forests (forests up to 500 hectares in size for management by local

governments or other recognised local organisations for renewable periods of 20 years), or for the extraction of samples for research and/or cultural dissemination purposes.

Harvesting conditions

The general conditions for the harvesting of resources are:

- consistency with land-use management plans;
- management plans developed and approved by the relevant authority;
- payment of harvesting rights;
- submission of timely, reliable reports and audits; and
- use of resources for authorised purposes.

Wildlife

The sustainable harvesting of wildlife for commercial purposes should take place in animal-breeding farms and wildlife management areas, and non-commercial harvesting may be carried out by zoos, rescue centres (for the reproduction of endangered species) and temporary custody centres. Several different types of hunting practice are also defined and allowed where certain conditions are met: subsistence hunting, sanitary hunting, commercial hunting, scientific hunting and sport hunting (licences are required for the last three). The new legislation also includes provisions for the identification and protection of endangered species and habitats.

Incentives

The law contains provisions aimed at encouraging sustainable forest management among concession-holders. It stipulates a 25% reduction in the payment of harvesting rights for: a) forest certification; and b) the implementation of integrated projects for resource harvesting and the processing (in plants located in the region of the concession) and manufacture of value-added products.

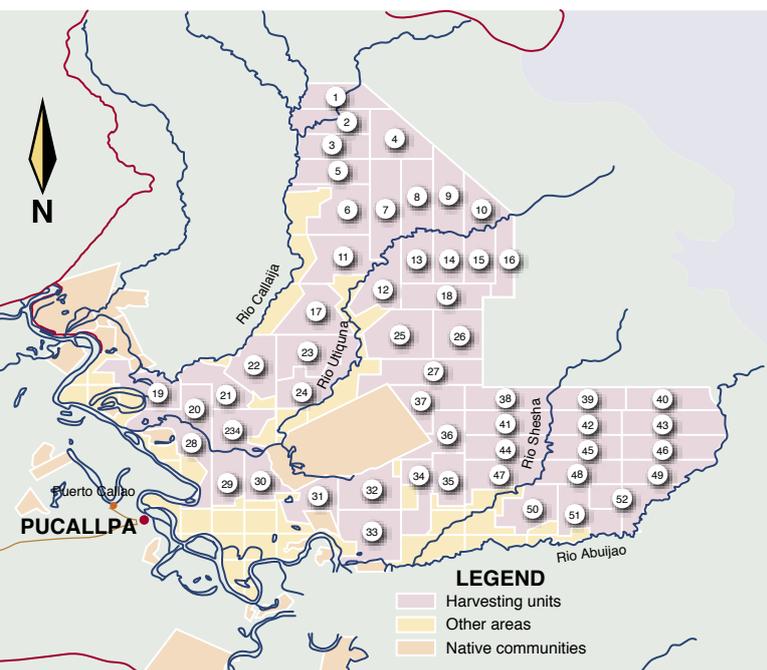
Monitoring and control

The law provides for the monitoring and control of concessions, authorisations and permits based on:

- compliance with the general management plan and yearly operational plan;
- the concession-holder's report submitted as a statutory declaration;

Ama-zone

Harvesting units in Zone 2 of the Permanent Production Forest of Ucayali



- monitoring by third parties;
- voluntary forest certification;
- the distribution of roles between the National Institute for Natural Resources (INRENA) and the (yet to be created) forest concessions supervisory body (OSINFOR);
- the participation of stakeholders through management committees; and
- transparency in information processes.

Forest plans

The law specifically stipulates the responsibility of developing compulsory forest-sector management tools, including: a national forest development plan, currently being formulated with the participation of all forest-sector stakeholders; a national plan for deforestation prevention and control; a national reforestation plan; and a forest fire and pest prevention and control plan, including the establishment of a national forest fire prevention system.

Institutional framework

The new forest legislation identifies the institutions responsible for ensuring compliance and implementation, defining and allocating specific functions for each of them (Table 2).

International forest policies

The new Act is framed within the policy guidelines of major international treaties, agreements and conventions to which Peru is a signatory party, including the International Tropical Timber Agreement (ITTA), the main United Nations environmental conventions, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the Amazon Cooperation Treaty. In

particular, the new law is consistent with the main guidelines related to forest management developed by ITTO within the framework of the ITTA.

International support

Peru's new Forestry and Wildlife Law is the result of professional and institutional efforts from government and non-government sectors over a long period in a fully participatory process. These efforts have received invaluable financial and technical support from international organisations and agencies such as ITTO, the Food and Agriculture Organization, the Centre for International Forestry Research, bilateral organisations, and the World Wide Fund for Nature.

Of special significance was the fundamental support received by the Peruvian government from ITTO, which, through ITTO PROJECT PD 42/96 (F): 'Support for the development of a Forestry and Wildlife Law', provided financial support to cover major costs related to the drafting of the legislation and its regulations and subsequent dissemination. The project was completed late last year, but other ongoing support (eg ITTO PROJECT PD 23/00 REV.4 (F) and ITTO PROJECT PD 178/02 REV.1 (F)) will continue to build capacity for sustainable forest management in the Peruvian Amazon.

Further work

The effective implementation and use of this new legal instrument by government, industry and civil society will require further training and dissemination. It is important that it is promoted beyond the technical circles of the public forest administration to prevent it from becoming just another enigma for users. Further, the fulfilment of commitments by nascent institutions such as OSINFOR and Fondebosque, as well as pending actions regarding the development of the major forest-sector management tools noted above, will require new technical and financial resources, some of which will need to be provided by the international community.

Following the designation of permanent production forests, the forest administration is proceeding with the forest concession process as a priority, based on the experience gained in the departments of Madre de Dios and Ucayali, through the Ad Hoc Commission set up for this purpose. Similarly, a change of attitude among industrialists and private investors is being promoted to enable them to access reforestation benefits as an economic production activity within the framework of the new legislation. To this end, it will be necessary to incorporate economic, financial and tax incentives into the new law so as to encourage investments in plantations. Considering the immense biodiversity potential of the country, it will also be necessary to promote and encourage the multiple use of forests. In this context, the benefits of forest conservation and management in carbon sequestration and in the maintenance of essential environmental services should be taken into account.

These major efforts, and the strong participation of the government in fora and events related to the international forestry agenda, are the early outcomes of this new legislation. The ultimate objective is to achieve sustainable development in the near future.

**This article was written by staff of the INRENA-implemented ITTO PROJECT PD 42/96 (F) and translated from the Spanish by Claudia Adan. The project was funded by the governments of Japan and the USA.*

The Peruvian Environmental Law Society gives Peru's new forest law a qualified thumbs-up and calls for increased efforts in capacity-building

A RECENTLY released ITTO-funded report says that Peru's new forestry law (Act No 27308; see article page 10) is an important step towards reducing illegal logging, but strong additional measures are needed for it to be implemented effectively.

The report, which was prepared on behalf of ITTO by Carlos Chirinos and Manuel Ruiz of the Peruvian Environmental Law Society, a non-governmental organisation, analyses the illegal logging and marketing of timber species in Peru and the strengths and limitations of the new forestry law, which was passed by Congress in 2000.

The report suggests that after the promulgation in 1992 of Supreme Decree No 051, which discontinued the granting of forest harvesting contracts, the existing forest management process gave way "to a new, erratic stage of national policies for the harvesting of natural forests".

One consequence was a significant increase in the bureaucratic process for securing logging rights, says the report. When combined with a high level of poverty and unemployment in the Amazon and a lack of other income-generating opportunities, logging has increasingly been carried out without legal authorisation.

The difficulties involved in obtaining logging rights on a large scale also led to a proliferation of small-scale loggers, operating with contracts covering less than a thousand hectares of forest. The "informal approach" of many such loggers, the difficulty in policing them, and their aggressiveness (in some cases) have all contributed to "the chaos which is now affecting forest activities".

The report condemns what it calls "corruption and the unethical behaviour of officers of agricultural sector institutions", which "contributed to the legalisation of the illegal logging and marketing of timber by approving contracts in unauthorised areas". It also criticises a "lack of ethics" among certain professionals "who have provided consultancy services for small-scale loggers to overcome the formalities of administrative requirements".

Nevertheless, says the report, the underlying cause of the problem is poverty. For example, in Ucayali, an Amazonian department, a large majority of the rapidly growing population is desperately poor; even in Pucallpa, the departmental capital, only 30% of houses have access to electricity or sanitary services. For many families, illegal logging is one of the few ways of generating the income they need to survive.

Under the new forestry law, the Peruvian forestry sector is moving from a system skewed towards short-term, small-scale forest logging contracts to one involving forest concessions of 5000 hectares or greater granted for renewable periods of 40 years.

According to the report, the new law "contains necessary changes to the country's forest regime", including the adoption of concessions as the main forest harvesting system, requirements for management plans, and the public tendering of concessions.

However, similar changes are also required in institutional structures to enable adequate management, monitoring and control. Inattention to such changes, says the report, "threatens the implementation and efficient operation of the forest regime".

"The first concessions granted in the Madre de Dios region are already facing a serious problem that is threatening their operational success", says the report. "There are still several illegal groups of loggers—very well organised in some cases—who, even through the use of force or prohibited or clearly illegal means, continue working in distant and difficult-access areas to harvest the last stands of high-value species such as mahogany."

The report also suggests that new ways are needed to give small-scale loggers access to production forests, since many lack the necessary resources to bid for the larger concessions. It recommends, among other things:

- more training for forest loggers on issues related to forest legislation, forest management, and participation, monitoring and control mechanisms for forest law enforcement;
- realistic options for granting access to production forests to small-scale loggers;
- regional decentralisation of the decision-making process for the approval of forest harvesting permits, as well as the strengthening of these positions with trained personnel;
- the establishment of a body responsible for the supervision of forest concessions, which must be independent of the institution responsible for the granting of concessions and approval of management plans;
- strengthening the implementation of punitive measures for violations of the forest law; and
- strengthening concession management practices to promote community participation in the use of technologies that facilitate waste utilisation, charcoal processing and industrialisation and other actions geared to generating employment in concession management.

The report 'Case study on the development and implementation of guidelines for the control of illegal logging with a view to sustainable forest management in Peru' is the first in a series planned by ITTO under a decision by the International Tropical Timber Council to assist its producer countries, upon request, to devise ways to enhance forest law enforcement. Funding was provided by the governments of Japan and the USA, and through the Bali Partnership Fund. An executive summary in Spanish and English is available at: www.itto.or.jp/ittcdd_ses/thirty_fourth_sessions.html

The full report 'Desarrollo e Implementación de Lineamientos de Control del la Extracción Ilegal para un Manejo Forestal Sostenible en el Peru' can be obtained from: Collins Ahadome, ITTO Information Officer, itto@itto.or.jp

A recent ITTO mission to Peru* finds that work has started to put Peru's new concession system into place, but progress is slow

UNDER Peru's forestry law, which was approved in 2000 (see article page 10), Peru's new concession system should have been implemented by 31 July 2001. The law also dictates that by 2005 only timber products derived from managed forests will be marketed internally in Peru or exported. The new system offers for the first time the real possibility that the Peruvian forest sector will move from unsustainable and often illegal forestry practices towards sustainable forest management. The implementation of the new law has been slowed by resistance to the proposed change, combined with conflicts between major stakeholder groups. This resistance has come especially from some of the existing small- and medium-sized forest contractors, who stand to lose their access to forests through short-term logging permits when the new system is implemented. Some of these operators have opted to participate in the public competition for long-term concessions, but others remain outside the system.

Currently, the process to establish forest concessions has been initiated in five departments (see table), and a further 817 000 hectares have been reserved for concessions in five additional departments (Pasco, Junín, Ayacucho, Cusco and Puno).

The process has been managed by the central government, namely the National Institute for Natural Resources (INRENA), but—especially after the election of regional presidents—there has been mounting pressure to increase the role of the regional governments, which has in some instances increased the political pressures against the new system. The ongoing regionalisation process has, however, also engaged the regional governments in dialogue on how to achieve sustainable forest management and already there have been positive results in many departments.

The political pressure to modify the forest concession system has resulted in a temporary extension through a Supreme Decree (Sistema Transitorio de Abastecimiento de Madera) of the current logging contracts to allow a smoother landing of the new system. The national-level Forest Sector Consultative Forum (MDCF—an institutionalised roundtable process for stakeholder dialogue) has set up a Transition Commission, which has suggested that in

addition to this the concession-holders should collaborate with those small-scale loggers outside the system by using them as sub-contractors. The government should also promote the creation by small-scale loggers of formal 'forest service enterprises', support their capacity-building and modernisation efforts, and help establish alliances between these and the concession-holders. The Ucayali regional MDCF has developed a proposal for concessions for small-scale loggers, which was included in the second round of public competition. Similar efforts to modify the concession concept are under way in other regions.

The holders of the recently allocated 40-year concessions report that it is difficult for them to get their operations started in the concession areas due to the continued presence of illegal operators. Making the new concessions fully operational will require complementary regulations that will allow the inscription of the concession contracts in the official land register, as well as the implementation of a mechanism to finance the required infrastructure in the concession areas. It will also require considerable investment in building up the technical and management capacity of the concessionaires.

Setting up the Forest Supervision Agency (OSINFOR), established in the forestry law, is another precondition for the successful implementation of the new system. However, little progress has been made in this regard. In contrast, the internal rules for local forest management committees (see page 11) have been defined and approved by INRENA with the support of the Transition Commission and the process of setting up the committees has been initiated in several departments.

There are also several ongoing projects and programs working with the native and local communities to build up their capacity to manage and protect their forest resources. However, more efforts are needed in this area, which has been somewhat sidelined by the current strong focus on commercial timber concessions in forest policy implementation.

**This text is adapted from a draft report prepared by the Diagnostic Mission on Achieving the ITTO Objective 2000 and Sustainable Forest Management in Peru, which visited Peru in June 2003. The report will be presented to the International Tropical Timber Council in November. Mission members were Tapani Oksanen (INDUFOR), Chris Elliott (WWF International) and Amantino Ramos de Freitas (private consultant).*

Conceding ground

Status of the concession establishment process, August 2003

DEPARTMENT	Total hectares allocated for public competition	Total hectares of concessions given (contracts signed)	
Madre de Dios	1 417 875	1 107 360	78%
Ucayali	3 387 790	2 007 706	59%
San Martín	750 336	472 184	63%
Huanuco	533 133	260 195	49%
Loreto	4 400 000	bidding to be launched in September	0%
TOTAL	10 489 134	3 847 445	37%

Source: Ad hoc Commission 2003

Forest certification is developing slowly in Africa, and faces major hurdles

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THE concept of certification has received plenty of attention in Central and West Africa. Since 1994, the African Timber Organization (ATO) has been deliberating on the establishment of a green label for timber produced in its member countries. In cooperation with other organisations it has conducted field tests on criteria and indicators for sustainable forest management in Côte d'Ivoire (1995), Cameroon (1996), Gabon (2000) and Central African Republic (2000). National certification working groups were established in Ghana in 1996, Cameroon (1996) and Gabon (2000).

ATO has also been collaborating closely with ITTO, culminating in the publishing earlier this year of the *ATO/ITTO Principles, criteria and indicators (PCI) for the sustainable management of African natural forests* (see *TFU* 13/1). These are a tool for monitoring forest management in member countries at the national and forest management unit (FMU) levels and, as such, constitute a positive step towards certification. A recently funded ITTO project (PD 124/01 REV.2 (M)), which is being implemented jointly by ATO and ITTO, is helping to train forestry staff in African ITTO member countries to put the PCI into practice.

A number of other favourable conditions can be identified for the development of certification in the regional context:

- there are 250 million hectares of tropical moist forest in Central and West Africa, and the State is the sole owner of the forest;
- regional and national institutional frameworks exist and have the capacity to cooperate with international partners;
- human resources are available (but training is needed);
- national certification working groups comprising representatives of the main stakeholder groups have been set up in some countries (Côte d'Ivoire—1995, Cameroon—1996, Gabon—2000 and Central African Republic—2000) to sensitise concerned parties to certification and to adapt the PCI to suit local conditions; and
- some certification schemes have expressed interest in being present and active in the region.

The national certification working groups established to date in Africa have proved useful. Cameroon's, for example, has sensitised many stakeholders by conducting training workshops at national and regional levels; convinced many forest concessionaires to take part in forest certification; established good relationships with national, regional and international organisations in charge of conservation and sustainable forest management; collaborated closely with the forestry administration in order to use the PCI to evaluate management in FMUs; elaborated national certification PCI; carried out some pre-audits of certification; and participated in studies related to the creation of producers' groups in the region.

Serious gaps

Nevertheless, for now certification remains mostly a concept rather than a reality in Africa, one that is difficult for local

stakeholders to pursue and adopt. Moreover, there are serious gaps between the actual level of forest management and the requirements of certification schemes, and a lack of funds to implement certification in the field. And there are other major constraints, including:

- a lack of concrete arguments to convince government authorities of the importance of certification;
- the low interest of the private sector, comprising major European multinationals, to enter into certification processes;
- the weakness of African civil society to integrate this new concept;
- the high cost of implementing forest management in African tropical forests; and
- a lack of national expertise to carry out activities related to certification.

The following actions are recommended (based on the recommendations of the regional workshop on phased approaches—see page 22):

- ITTO should develop a credible, phased approach to certification;
- all those African countries where field tests have been conducted should establish national certification working groups; and
- the ATO should establish a regional working group including the various national certification working groups, representatives of countries without certification initiatives, and observers, in order to add impetus to the creation of a Panafrican certification scheme.

Prospects for certification in Cameroon

Cameroon's national forests are divided into 110 FMUs ranging in size from 30 000 to 150 000 hectares; each has been allocated by international tender to major European multinationals. A company winning a bid has three years to pass from a provisional agreement to a definitive agreement. During these three years, a management plan must be elaborated and implemented; therefore, any evaluation or audit for certification will be carried out starting from the fourth year. Consequently we hope that some FMUs allocated in 1998/99 will be certified by the end of 2003, because a couple of the FMUs looked promising in early field evaluations.

Apart from the commercial concessions, Cameroon has also established a network of community forests, which are to be managed by and for the benefit of local communities. However, even though many community forests have been allocated, their management is fraught with difficulty, and any credible attempts at certification seem a long way off.

**Mr Mimbimi is President of the National Working Group on Sustainable Forest Management and Certification in Cameroon, a member of the Southern Social Chamber of the Forest Stewardship Council, and a regular contributor to the TFU.*

regulatory requirements and, moreover, gives them a say in the development of new building standards that allow more of their products to be used. Tropical plywood producers need to find ways of working together to create active and viable industry associations to spearhead promotion and trade in the same way their competitors have done.

Price volatility

In addition to strategic uncertainties, tropical plywood mills face significant day-to-day worries. Tropical plywood prices are very volatile. Most other markets that have high price volatility have futures' markets where operators can reduce their price risks. But since APKINDO, the Indonesian Plywood Manufacturers' Association, abandoned its price leadership role, the price discovery system in the international tropical hardwood plywood market has become a guessing game, leaving market operators with difficulties in negotiating prices.

The figure shows prices since January 1997 for Indonesian 2.7 mm plywood, the largest single category of plywood traded internationally; it illustrates how volatile the market has been. In 1997 prices were at around US\$450/m³ FOB; in early 2003 they were below US\$250. Prices were higher still in the five years prior to 1997, at one time hitting US\$780/m³.

The extent of tropical hardwood price volatility can be seen in price changes over a six-month period, a fairly short time from the perspective of a plywood producer and certainly too short for him to make much change to his cost structures. Also, as producers generally do not sell more than 1–2 months ahead, there is currently no way in which they can protect themselves against such volatility.

The table gives further evidence of volatility. It shows that in a staggering two out of three cases, the price obtainable for Indonesian 2.7 mm plywood in a given month in the period 1997–2002 was more than 10% different from that of six months' earlier and, in one out of three cases, the difference was more than 20%. Price differences can be positive or negative, of course, but the direction of price changes is not readily predictable and, given the general decline in the market, was predominantly negative over the surveyed period. The consequences for plywood companies have often been calamitous: a 20% price decline over a six-month period has a major impact on company cash flow and, unless the company has large financial reserves or easy access to bank finance, could well limit its ability to finance its operations and plan its investments—and could send it bankrupt.

Volatility indices are measured as the average percentage deviation of average monthly prices from their exponential trend level for a given period. These indicate that the volatility of tropical plywood prices is higher than that of many other commodities, including vegetable oils and most metals (see the full report for data supporting this statement). For many of these other commodities, the industry actively uses a futures' market to control its risks. Given the extent of the volatility of plywood prices, an argument can be made for a plywood futures' market mechanism that would allow market participants to 'lay off' (transfer or hedge) their price risks.

Conclusions

The lack of transparency in the tropical plywood sector and the difficulties that operators in these markets have in managing high market volatility and price risks are, of course, not the only problems facing the sector. But these are important problems and it would be a mistake to focus only on,

Vaporising

Frequency distribution of tropical plywood price changes (for Indonesian 2.7 mm plywood, FOB Indonesian ports) from one month to the next, and compared to six months earlier, January 1997 to October 2002

Percentage price change	0%	0–5%	5–10%	10–15%	15–20%	>20%
Compared to previous month						
Frequency of price increases	21%	16%	3%	6%	1%	
Frequency of price decreases		40%	7%	3%	3%	
Compared to six months earlier						
Frequency of price increases		6%	7%	10%	6%	14%
Frequency of price decreases		9%	7%	12%	7%	21%

Source: ITTO Market Information Service

say, the problem of the sustainability of log supply and leave the problems of transparency and price volatility for later. Tropical plywood has already seen its market share decline precipitously and this decline is likely to continue unless the industry formulates a coordinated response. While cooperation has so far proved difficult for the tropical plywood industry, the fact remains that strong leadership is needed for the lobbying and promotion that would enable the sector to compete more effectively with other wood-based panels. Producers of softwood and temperate plywood panels are well organised and engage in an active promotion of their sector: to date, the tropical plywood industry has not been able to match their levels of organisation or activity. It is only through cooperation that the tropical plywood industry will be able to sell itself in the face of not just environmental concerns but also active efforts from softwood plywood producers to capture their markets.

There is no magic bullet that will solve the problems of the tropical plywood industry. Rather, a carefully considered set of measures and practices must be implemented to strengthen the industry and help it face its challenges. Some actions can be implemented by individual companies, others via cooperation between companies through associations at the country level; others may need an expansion of ITTO's activities. A full set of recommendations can be found in the report.

The 'ITTO Study to identify measures to bring increased transparency to the tropical hardwood plywood trade and analysis of the causes of market fluctuations and price instability' by Lamon Rutten and Tan Seng Hock (2003) can be obtained from: ITTO Division of Economic Information and Market Intelligence; eimi@itto.or.jp

This article was adapted by the ITTO Secretariat from the Rutten and Tan study.

New projects in the pipeline

Mangroves, timber trade transparency and training in reduced impact logging and sustainable forest management benefited from the most recent round of project funding, which took place at the 34th session of the International Tropical Timber Council in Panama City, Panama, last May

Timber and timber products trade flow study in the Philippines (PD 133/02 Rev.3 (M)*)

Budget	ITTO:	\$126 937**
	Government of the Philippines:	\$69 790
	Total	\$196 727

Implementing agency Forest Management Bureau, Philippines Department of Environment and Natural Resources

Funding sources Japan, Australia

Suppliers and users of timber and timber products are often unaware of each other's needs. In some cases, timber producers complain of low demand for their products while at the same time users complain of a lack of raw material supply. This project aims to find solutions to the information gap by identifying bottlenecks and other problems in the flow of timber and timber products from their sources to end-users. The project will also develop a database of timber and timber products' suppliers and end-users that can be accessed on the internet. This will eventually lead to improved market intelligence in the timber sector and spur demand for products that are the outcome of sustainable forest management strategies.

Promotion of Guatemalan certified timber and timber products trade (PPD 64/02 Rev.1 (M))

Budget	ITTO:	\$50 000
	Government of Guatemala:	\$7575
	Total	\$57 575

Implementing agency Instituto Nacional de Bosques (INAB)

Funding sources Japan, Norway

This pre-project will facilitate the gathering of information to allow the formulation of a follow-up project proposal to promote the commercial development of certified timber, particularly that of secondary or lesser-used species. The pre-project will be implemented with the active participation of community groups and cooperatives and forest concession-holders. These groups are implementing forest management plans and need to develop industrially and commercially if they are to make a lasting contribution to sustainable development.

Development of the National Forest Information System of Guatemala (PPD 74/03 Rev.1 (M))

Budget	ITTO:	\$30 581
	Government of Guatemala:	\$9600
	Total	\$40 181

Implementing agency Instituto Nacional de Bosques, Consejo Nacional de Areas Protegidas, Gremial Forestal de Guatemala

Funding sources Japan, USA, Republic of Korea

The existing forest information systems in Guatemala are dispersed and poorly equipped to produce an integrated, complete and up-to-date database as required by the different sectoral and inter-sectoral stakeholders at the national and international levels.

The objective of this pre-project is to formulate a project proposal for the articulation and implementation of a forest information system in Guatemala. The specific objectives are:

- to update the diagnosis of the first-level forest information systems already existing in Guatemala;

- to design the institutional integration module to generate forest information and forest statistics; and
- to develop a project proposal for a national forest information system.

Demonstration project for the rehabilitation and multipurpose sustainable management of mangrove forest ecosystems on the coast of Ecuador (PD 152/02 Rev.3 (F))

Budget	ITTO:	\$548 394
	CORMADERA:	\$177 124
	Total	\$725 518

Implementing agency Corporation for Forest and Timber Development in Ecuador (CORMADERA)

Funding sources Japan, Norway

Ecuador's mangrove ecosystems are endangered by ongoing degradation caused by human interventions such as shrimp farming, infrastructure development, agriculture and timber extraction. This project will establish demonstration projects for the sustainable, multipurpose management of mangrove ecosystems on the Ecuadorian coast, with a view to disseminating technical guidelines for mangrove ecosystem recovery, reducing the inappropriate utilisation of mangroves, and promoting their management as a sustainable source of products and services for associated communities and producers.

Conservation and reforestation of threatened mangrove forest areas along the Pacific coast of Panama (PD 156/02 Rev.3 (F) Phase I)

Budget	ITTO:	\$491 257
	Government of Panama:	\$210 290
	Total	\$701 547

Implementing agency National Environmental Authority (ANAM)

Funding sources Japan, USA, Norway

This project will build on the results of ITTO PROJECT PD 128/91 REV.2 (F): 'Management, conservation and development of the mangrove forests in Panama'. It aims to ensure the conservation and sustainable management of 4000 hectares of mangrove forests along the Panamanian Pacific Coast and to implement rehabilitation activities on 1250 hectares of degraded lands. A major component of the project will be the training of mangrove-dependent communities in sustainable management and harvesting techniques for mangroves.

Development of human resources in sustainable forest management and reduced impact logging in the Brazilian Amazon (PD 206/03 Rev.1 (F))

Budget	ITTO:	\$599 650
	TFF:	\$979 960
	Total	\$1 579 610

Implementing agency Tropical Forest Foundation (TFF)
Funding sources Japan, Switzerland, USA

The lack of qualified and trained forestry practitioners is a key problem impeding the adoption of good forest management in the Amazon. This project, which follows ITTO PROJECT PD 45/97 REV.1 (F): 'On-site training of tropical foresters and forestry trainers' implemented in Belem, Brazil, will increase the adoption of forest management and reduced impact logging (FM-RIL) practices by timber producers in Amazonian production forests through practical training, and promote

and disseminate good forest management practices amongst stakeholders in the Brazilian Amazon through extension work. The project comprises a three-part strategy designed to develop human resources in the forest sector of Amazon Basin countries. The first consists of 38 practical training courses targeting 410 forestry professionals at all levels and tailored to their diverse needs and interests. The second component will promote interest in FM-RIL and raise awareness about its importance and benefits among the numerous forest stakeholders; at least 400 people are expected to participate in these events. The third component of the project strategy is to continue the successful FM-RIL training program developed under the previous project.

Technical assistance for the development of a project proposal on institutional strengthening for forest fire prevention, mitigation and management in the natural and planted forests of Panama (PPD 72/03 Rev.1 (F))

Budget	ITTO:	\$36 623
	Government of Panama:	\$18 900
	Total	\$55 523

Implementing agency Autoridad Nacional del Ambiente (ANAM)

Funding sources Japan, USA, Norway

This pre-project will formulate a project proposal for strengthening institutional capacity to prevent, mitigate and manage forest fires in the natural and planted forests of Panama. To this end, the participation of civil society, other institutions and municipal authorities will be ensured throughout the process.

Genetic improvement of tropical forest species (Guatemala; PPD 75/03 Rev.1 (F))

Budget	ITTO:	\$42 400
	Government of Guatemala:	\$10 300
	Total	\$52 700

Implementing agency Instituto Nacional de Bosques (INAB)
Funding source Japan

Afforestation, reforestation and forest rehabilitation programs in Guatemala currently do not utilise high-quality seedlings from certified seeds due to a lack of readily available and appropriate germplasm and it is therefore expected that many of these programs will not produce high-quality timber. This pre-project will, among other things, formulate a project proposal to be submitted to ITTO for the development and establishment of a forest genetic improvement program. This is expected to include the identification, selection, processing, marketing, establishment and management of genetic material, and a substantial component to build the capacity needed for the implementation of the program.

Support project for the updating of training in forest management and forest concession management in Central African forestry schools (PD 189/03 Rev.1 (I))

Budget	ITTO:	\$149 460
	IUCN & ENEF:	\$35 100
	Total	\$184 560

Implementing agency IUCN – The World Conservation Union (Regional Office for Central Africa)

Funding sources Japan, USA, Switzerland

One of the bottlenecks in the implementation of sustainable forest management in the Congo Basin is the insufficient qualifications of forestry personnel. This project will address this by:

- developing a reference training program in forest management and in the management of forest concessions in all forest training institutions;
- updating curricula in forest management; and
- acquiring and implementing appropriate pedagogic methods for training in forest management.

Promoting the utilisation of rubberwood from sustainable sources in Indonesia (PPD 80/03 Rev.2 (I))

Budget	ITTO:	\$69 340
	ISWA:	\$15 151
	Total	\$84 491

Implementing agency Ministry of Forestry in cooperation with the Indonesian Sawmill and Woodworking Association (ISWA)

Funding sources Japan, Republic of Korea, Australia

This pre-project will assess the feasibility of using rubberwood as a raw material for the wood-based industry in Indonesia and is a follow-up action to the recommendations of the ITTO Technical Mission to Indonesia in 2001. One of the issues for the present crisis in the Indonesian wood-based industry is the gap between wood supply and demand. This situation is likely to prevail in the future unless measures to secure the supply of logs from plantation timbers such as rubberwood are taken. At present, there are around 3.5 million hectares of rubber plantations in the country. However, while rubberwood furniture has contributed significantly to the economies of Malaysia, Thailand, India and China, in Indonesia the rubberwood resource has been used mainly as a source of energy. The main pre-project activities will include field surveys of rubber plantations in selected sites and the collection of relevant information on rubberwood processing techniques and markets. In addition, two national workshops on rubberwood processing techniques and markets will be organised with the participation of all stakeholders to assist in the formulation of national policies for the efficient utilisation of rubberwood and a full ITTO project proposal for the development of a sustainable rubberwood industry in Indonesia.

In addition to the projects described above, activities related to the Asia Forest Partnership, the Congo Basin Initiative, CITES, certification and other issues addressed by Council decisions received funding from a range of donors and the Bali Partnership Fund.

**The prefix PD in the bracketed code denotes project and PPD denotes pre-project. The suffix F denotes Committee on Reforestation and Forest Management, M the Committee on Economic Information and Market Intelligence, and I the Committee on Forest Industry. More detailed summaries of the projects are available at www.itto.or.jp/inside/download/NewprojectsC34.doc*

***Budget amounts are in us dollars*

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
- 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

Evaluating the sustainability of almaciga resin production practices in Samar, Philippines

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THE Philippines is endowed with rich natural resources, the development of which can boost the country's economy. The harvesting of non-wood forest products alone can provide livelihoods for a significant portion of the population. The extraction of forest products such as rattan, wild honey and resin is a major economic activity in areas where these products abound.

The tree species almaciga (*Agathis dammara*), the primary source of a resin known in the trade as 'Manila copal', is relatively abundant on the island of Samar. Almaciga resin is used as an ingredient in a variety of products, including paints, varnishes, lacquer, soap, printing inks, linoleum, shoe polish, floor wax and plastic waterproofing materials. It is also used for incense in religious ceremonies, as fuel for torches and as a caulking substance. The demand for the commodity in local and international markets continues to increase.

However, relentless resin extraction may cause a gradual decline and/or local extinction of the species. IUCN – The World Conservation Union has, in fact, listed almaciga as a potentially threatened and vulnerable tree species in the country. For this reason, the call to conserve almaciga and protect remaining stands in their natural and man-made habitats is now urgent.

A relatively large number of empirical studies have been conducted on the viability of almaciga as a source of resin. However, very little study has been done to evaluate harvesting practices, in general and on Samar in particular, but information on this is essential if further degradation is to be prevented. Part of the almaciga conservation strategy, therefore, should be to evaluate existing resin-tapping practices. My study was conducted as part of an effort to do so. Specifically, I set out to answer the following questions:

- what are the resin production practices in Samar?
- what factor(s) encourage or promote these practices?
- are the practices sustainable? and
- how do the practices affect and/or influence the sustainability and conservation of almaciga trees?

How the study was carried out

The study was conducted in two municipalities on Samar, namely Hinabangan and Taft. The study site occupies a total area of 559 100 hectares of mostly rugged terrain.



Overcutting: an almaciga tree after tapping; the cut inflicted here is too long and wide to be sustainable and leaves the tree open to infection and invasion by termites. Photo: E. Abasolo

Both primary and secondary data were used in analyses. Primary data were gathered through interviews with 25 resin-tappers in the study area. Four separate schedules of interviews with each of the 25 respondents were made over the study period. During the first round of data-gathering, eight resin-tappers working within the licensed area of Mr Maximo Tecson were interviewed. In the second and third rounds, 13 resin-tappers from the three people's organisations in the area were interviewed. For the fourth round, four members of the resin-tappers' cooperative were interviewed with the assistance of the cooperative's president. Secondary data sources included articles published in scientific journals, newsletters, books, and reports on almaciga resin-tapping practices and production from various government offices and agencies.

Data gathered from interviews were encoded in the Microsoft Excel program and processed using Statistical Package for the Social Sciences (SPSS) software. Trends representing socioeconomic factors and practices and number of tree deaths and practices were also analysed. To strengthen/validate these results, statistical tools such as correlation, chi-square test and multiple regression were used.

Evaluation of sustainability

The sustainability of resin-tapping practices in the study area was evaluated based on the practices recommended by an ITTO project (PD 36/99 REV.3 (1)) implemented by the Forest Products Research and Development Institute, as well as the requirements for the proper tapping of *almaciga* as stipulated in DENR Form F-16 (Ordinary Minor Forest Products Licensing). The values for sustainable tapping practice are ≤ 30 cm in length, ≤ 2.25 cm in depth, ≤ 2.0 cm in width, for rechipping > 7 days, for harvest cycle > 21 days, and for minimum tree size diameter at breast height > 0.40 m. In this study it was assumed that practices 25% lower than the minimum requirements as well as practices 25% higher than the maximum requirements would be unsustainable. This assumption was made at the suggestion of Ella (personal communication).

Findings

Results showed that young tappers have a tendency to tap *almaciga* unsustainably. That is, they tend to make longer, wider and deeper cuts, and to harvest the resin more frequently. Similarly, respondents with higher education (that is, those who have reached elementary or high-school level) and those who are new to the industry and have not attended any training on proper *almaciga* tapping tend to make cuts that are longer, wider and deeper than what is sustainable. However, the analysis did not reveal a correlation between income and resin-tapping practices.

An evaluation of tapping practices for sustainability revealed some concerns. Three critical factors determine sustainability, namely: tapping width, length, and harvesting cycle. As practised in the area, the maximum tapping width and length are far beyond the recommended levels. The harvesting cycle was also less than the recommended number of days between harvesting.

The economic implications of this situation are significant. My data suggest that unsustainable tapping caused a number of tree deaths in the concessions surveyed. The primary cause of tree deaths observed was termite attack: deep, wide and long wounds on the bark create an avenue for these insects to infest the tree and slowly cause it to die. Declining

tree populations ultimately means reduced income for tappers; continued unsustainable resin-tapping practices, therefore, will cause the decimation of resin-tapping as a livelihood for hundreds of tappers in the study area and the demise of an economically important tree species.

Recommendations

Based on the results of the study, the following recommendations can be made for the management of the resource and for further investigation:

- **formulation of appropriate policies and measures:** policies should promote proper harvesting techniques for sustainable resource utilisation;
- **rationalisation of access to resources:** rationalisation of access would include strict licensing mechanisms so that young and inexperienced resin-tappers can be trained properly. Monitoring of tapping practices should also be given more emphasis;
- **conduct of participative training programs:** better training programs should be implemented by encouraging more participation and hands-on experience. Trainees should be monitored and their performance evaluated. Previously trained resin-tappers should be made to undergo retraining when necessary; and
- **provide solution to termite infestation:** *almaciga* stands should be inspected regularly so that remedial measures can be undertaken to limit termite infestation. The dissemination of information on how to mitigate this problem would be valuable.

Acknowledgments

I would like to thank: ITTO for granting me a fellowship, which was essential for the conduct of this study; Mr Arsenio B. Ella, for imparting everything he knows on resin-tapping, which is plenty; Dr Charito P. Medina and Dr Myrna G. Carandang, for their invaluable support, suggestions and comments; and Ms Petronila Payawan and my best friend Professor Ricardo Bagarinao for all the assistance they extended to me so that I could finish this study on time.

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 the transparency of the tropical timber market;
- improving the marketing and distribution of tropical timber species from sustainably managed sources;

- improving market access for tropical timber exports from sustainably managed sources;
- securing the tropical timber resource base;
- improving the tropical timber resource base, including through the application of criteria and indicators for sustainable forest management;
- enhancing technical, financial and human capacities to manage the tropical timber resource base;
- promoting increased and further processing of tropical timber from sustainably managed sources;
- improving the marketing and standardisation of tropical timber exports; and
- improving the efficiency of tropical timber processing.

In any of the above, the following are relevant:

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

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 **7 May 2004** for activities that will begin no sooner than 1 September 2004. Applications will be appraised in July 2004.

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).

Unfazed about certification

ITTO regional workshops on phased approaches to certification

15–16 January 2003

Jakarta, Indonesia

24–25 March 2003

Libreville, Gabon

9–10 May 2003

Panama City, Panama

Pursuant to Decision 11(XXXII) of the International Tropical Timber Council (ITTC), ITTO organised three regional workshops, one in each of the three producing regions of Asia-Pacific, Africa and Latin America and the Caribbean, with the purpose of:

- identifying the need and potential for phased approaches to certification and their implications;
- considering the perspectives of buyers on phased approaches to certification;
- examining and assessing strategic approaches and options for phased approaches to certification; and
- suggesting ways and means on how phased approaches to certification can be applied in tropical timber producing countries.

The first workshop, held in Jakarta, was attended by sixty-two people representing ITTO, certification schemes, trade organisations and non-governmental organisations (NGOs), who agreed on a range of recommendations.

ITTO was encouraged to:

- promote the phased approach among buyers and government agencies with timber procurement policies, seek their views on the results of the workshop for further development of the concept, and later seek the acceptance of buyers for the emerging applications of the phased approach;
- obtain a clear commitment from producers on the phased approach through the ITTO regional workshops;
- prepare a technical guidance document on how to implement a phased approach;
- raise awareness among governments, markets, donor agencies, NGOs,

multilateral development banks and international organisations on the merits of a phased approach and possibilities to offer incentives to forest management units (FMUs) involved in its implementation;

- seek endorsement by the ITTC for the phased approach to be developed under the on-going process; and
- take other relevant action to facilitate the development of phased approaches in cooperation with producing member countries, including convening a workshop for certification schemes involved in the development work of phased approaches and other parties working on the topic. Further meetings between certification schemes should be organised in conjunction with the ITTC sessions.

Governments were encouraged to:

- promote and support the implementation of phased approaches for certification as one of many tools to facilitate achieving sustainable forest management;
- offer financial and other incentives to FMUs implementing phased approaches; and
- consider phased approaches in their public procurement policies.

Certification schemes and other involved parties were encouraged to:

- recognise the potential value of phased approaches in achieving sustainable forest management and its certification; and
- seek and/or provide financial assistance and/or sponsorship for testing phased approaches on the ground.

Regional workshop in Africa

The 38 participants in the African workshop agreed on a number of basic elements in a phased approach. These included:

- **legal origin:** this was the agreed first step in a phased approach to certification, defined as compliance with national forest laws and forest-related regulatory provisions and every regulatory provision of relevant sectors (environmental, labour, social regulations, etc), as well as compliance with all relevant international conventions;

- the **chain of custody** should be established after the first stage of the phased certification process;
- the phased approach to certification should be implemented over a **maximum five-year period**, taking into account technical constraints, including the development of management plans. Further, the action plan should be underpinned by a regular monitoring schedule; and
- the **role of government** was to: define policy and strategies and develop legislation and regulations; contribute to national capacity building; implement incentive schemes; and, in consultation with other stakeholders, develop national-level criteria and indicators for sustainable forest management within the respective national working groups.

Regarding the implementation of a Pan-African forest certification scheme, workshop participants agreed that a regional framework should be established initially to provide institutional support to the various national initiatives. This option would enable the laying down of a homogenous and consistent platform on which the national certification systems would be developed.

Workshop participants noted the prompt commencement of the regional ITTO/ATO PROJECT PD 124/01 REV.2 (M): 'Promotion of sustainable forest management in Africa', which will build ATO-level and national-level institutional capacities within ITTO member countries. Some sixty executives in each country will be trained to apply sustainable forest management criteria and indicators under the project and sixty others will be trained to conduct auditing practices at national level.

Workshop participants urged ITTO to harmonise the various existing initiatives in phased approaches, and **ATO member governments** were encouraged to:

- establish a Pan-African forest certification process. For this purpose, ATO should establish a regional working group with the participation of existing national certification working groups (NWGs) and observers representing countries having no NWG; and

- establish NWGs as a first step towards developing a certification process.

See page 15 for an assessment of the current status of certification in Central Africa.

Regional workshop for Latin America

This workshop was attended by 43 participants, including invited speakers from the two previous workshops. Participants shared a common concern about the lack of progress in certifying the natural forests of tropical timber-producing countries: about 3.7 million hectares of forest have been certified in Latin America, about one-third of which are plantations.

Workshop participants also agreed there was a need to develop phased approaches, which should be structured to assist forest owners and managers in implementing the chosen certification requirements. Phased approaches should also facilitate business-to-business communication about progress being made in sustainable forest management. Any phased approach should be clearly targeted at full certification.

There appear to be two main strategies for a phased approach: i) a staircase model, where the main components of the requirements are implemented and verified successively; and ii) a modular implementation and verification model, where the implementation of various modules (established, for example, based on country/operation context) can take place in parallel in a way which is defined in the action plan of the FMU. Workshop participants considered both models potentially applicable to the phased implementation of certification standards. Their combination would involve the implementation of predefined baseline requirements first, to be followed by flexible implementation of the elements of the certification standard within an approved action plan.

Both models have their strengths and weaknesses. The staircase model appears to presume a certain degree of rigidity, since the steps have to be sequential—this structure has the benefit of offering a clear communication strategy. While the modular approach can provide flexibility, it can be problematic for buyers who generally want a clear, concise message regarding how

forests are managed and where their wood comes from. While there is a need to remain flexible, too much flexibility can easily create confusion in the marketplace. There needs to be some agreement between buyers and suppliers/producers regarding the acceptability of different phased approaches.

The workshop identified the following possible components of a phased approach: i) legal compliance with the relevant national legislation and international conventions; ii) environmental aspects; iii) economic aspects; and iv) social aspects. It was noted that legal compliance may also have to be verified stepwise, covering user rights to the forest, forest and environmental laws, labour laws, and relevant other legislation (eg the rights of indigenous people and communities, the rights of workers to organise, etc). Social aspects would also involve the participation of interested parties as well as the generation and distribution of socioeconomic benefits.

There was no general agreement on the order in which the components of the sustainable forest management requirements should be implemented through phased approaches. However, participants shared the view that verification of legal compliance should form part of the first baseline requirements in all approaches.

Implementation aspects in small-scale and community forests: the experience in Latin America indicates that external support has usually been necessary for small-scale forest owners and community forests to achieve certification. Phased approaches should be designed in a way that makes certification accessible and affordable for these forests. This may require a detailed analysis of the bottlenecks that these producers are faced with in implementing certification.

Recommendations

The following recommendations were made for **ITTO** concerning follow-up action:

- promote the establishment of legal, technical and financial mechanisms as well as institutional capacity that will lead to sustainable forest management and, where appropriate, facilitate the implementation of certification, including through phased approaches;
- support the establishment of working groups in producing member

countries with the participation of representatives of social, economic and environmental interests in order to promote understanding and the development of certification and the phased approaches to achieving it;

- promote training programs on certification and auditing with certification bodies, the private sector and governments;
- carry out a study to evaluate the costs and benefits of certification in specific country contexts;
- prepare technical material and information to assist tropical timber-producing countries and their producers in implementing phased approaches to certification;
- carry out further consultations among buyers, producers, certification systems and bodies and other interested parties about the actual needs and implementation aspects related to phased approaches; and
- continue supporting projects in producing member countries to develop and implement criteria and indicators for sustainable forest management and to support capacity-building activities that can lead to certification.

Governments were encouraged to:

- facilitate discussions at the national level about certification and phased approaches to it, as well as the role that governments can play in encouraging the move towards sustainable forest management, including capacity-building at the field level;
- consider incorporating principles, criteria and indicators for sustainable forest management in national legislation;
- provide financial and other incentives targeted at sustainable forest management, including those that may lead to certification;
- facilitate the participation of civil society and other stakeholders in the relevant national and international processes;
- promote the implementation of certification and its phased approaches as a tool to facilitate sustainable forest management;

- provide and promote training programs related to certification and its implementation through phased approaches; and
- promote the use of certified products and consider phased approaches in public procurement policies.

Private sector and certification schemes were encouraged to:

- participate actively in the incorporation of the principles, criteria and indicators of sustainable forest management and the development of voluntary national and sub-national certification standards;
- participate actively in the development of legal, technical and financial mechanisms which facilitate the implementation of phased approaches to certification;
- establish a periodic process for the identification and revision of mechanisms to reduce certification costs;
- promote training programs related to certification;
- carry out information campaigns on certification and certified products, including the implementation of phased approaches; and
- promote the participation of civil society in the process of verifying legality and sustainability.

The outcomes and recommendations of the three regional workshops together with the comments and views of member countries will be used as the basis for finalising a study on 'the potential role of phased approaches to certification in tropical timber-producing countries as a tool to promote sustainable forest management.' A report of the study will be presented at the 35th session of the ITTC in November 2003.

Full reports of the regional workshops can be obtained from the Division of Economic Information and Market Intelligence, eimi@itto.or.jp

Congo partners meet ITTO/IUCN Regional workshop on actual situation and analysis of partnership experiences on forest management in the Congo Basin

29–31 July 2003
Douala, Cameroon

This ITTO/IUCN workshop arose from Decision 10 (XXXII) of the ITTC related to the reinforcement of sustainable forest management in the Congo Basin (which comprises Congo, Democratic Republic of Congo, Gabon, Cameroon and Central African Republic), which, among other things, called for a review and assessment of experiences in forest management partnerships in the Congo Basin. The aims of the workshop, which was attended by representatives of governments, NGOs, the private sector, research institutions, academia and various cooperation organisations, were to:

- facilitate the exchange of experiences;
- make recommendations for improving forest concession management, reinforce existing partnerships, and seek opportunities to establish new partnerships; and
- complete the content of the above-mentioned review and assessment.

During the workshop, the review and assessment process was explained, and national reports were presented from Cameroon, Gabon, Central African Republic, Congo and the Democratic Republic of Congo. A regional report synthesising the national reports was also presented.

Some of the points raised during discussions included:

- the need to improve the content of national reports: in their typology, structure, descriptions of partnerships, and specific country recommendations;
- the importance of taking into account the interests of local communities, and the implications of this for civil society and the private sector;
- the need to develop and implement a monitoring structure related to forest management in the region;
- the high costs of preparing and implementing forest management

plans, and the need to provide incentives to those companies positively engaged in the process;

- the need for a clear definition of the roles of each partner in forest management—private sector, local communities, civil society and research institutions—in each country;
- the need to develop and implement strategies for managing conflicts between partners;
- the importance of giving support to the institutional and administration frameworks to better organise the coordination of various partnership mechanisms in the country; and
- the urgent need for the development and transfer of new technologies for the sustainable management of the Congo Basin forests.

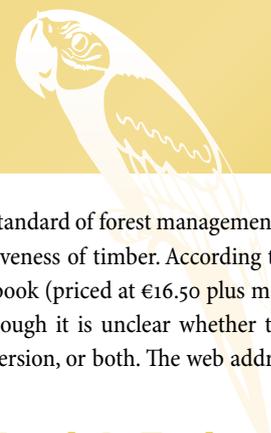
Presentations were made showing concrete examples of partnerships by Dr Martin Zehnlo from the United Nations Development Program, Mr Vincent Pele from Pallisco, Mr Vandenhoute from the World Wide Fund for Nature, Mr Antoine Eyebe from CARPE and Mr Martijn Ter Heedge from IUCN. Mr Parfait Mimbimi Esono presented data on market trends for the tropical timber trade.

A field visit in the forest management unit of Lokoundje Nyong gave participants an opportunity to see for themselves the implementation of a management plan and its effects on the local community in the village of Ebondi.

At the end of the workshop, the participants made the following main recommendations. The Congo Basin Initiative should:

- implement a monitoring mechanism for forest concessions in the Congo Basin;
- develop a coordination mechanism for the various partnerships, and conflict resolution mechanisms at all levels;
- develop and institute management tools;
- reinforce the roles of the private sector and civil society in sustainable forest management; and
- integrate forest management in regional and sub-regional process.

Reported by Parfait Mimbimi Esono



Edited
by
Alastair
Sarre

RIL training in Indonesia

A two-year ITTO project (PD 110/01 REV.4 (I)) in reduced impact logging (RIL) training kicked off recently with the signing of a memorandum of understanding between the implementing agencies—the Centre for Forestry Education and Training (CFET), within the Indonesian Ministry of Forestry, and the Tropical Forest Foundation. The project will facilitate and promote the adoption of RIL through training, demonstration, information dissemination, and the publication of procedures' manuals. Overall coordination of the project rests with CFET, which will organise 18 courses in contour and tree-position mapping following a training-of-trainers course.

Most project activities will focus on 'hands-on' training and the demonstration of RIL practices in forest management units. Field training will be on a 'request' basis and individual training sessions can be arranged by contacting Art Klassen (see address below).

The project will also host a variety of information sessions and RIL demonstrations. Specific details of upcoming events will be circulated via a newsletter called *RIL & certification*, the first copy of which should be available shortly. The first technical-procedure manual on contour and tree-position mapping was due to be released in August 2003 in English and Bahasa Indonesia.

ITTO also recently funded another RIL project, this time in Brazil; a summary can be found on page 18.

To request a copy of the newsletter or the manual, contact: Art Klassen, Regional Director, Tropical Forest Foundation, Manggala Wanabakti, Block IV, Floor 9, Wing 'C', Jl. Jend. Gatot Subroto, Senayan, Jakarta 10270, Indonesia; Tel 62-21-573 5589; Fax 62-21-579 02925; tff@cbn.net.id. The project coordinator at CFET is Dr Gusti Tantra: Tel 62-251-313622; Fax: 62-251-323565; tantra@indo.net.id

HERB project in Colombia

The HERB project in Colombia is a collaborative program between the Universidad del Cauca, the Instituto de Investigacion de Recursos Biologicos 'Alexander Von Humboldt' of the Colombian Ministry of Environment, and a number of research groups in Colombia and King's College London in the United Kingdom. The project employs field monitoring, geographical information systems (GIS) and computer modelling to further understand the structure and function of tropical montane cloud forest ecosystems. The project is building the environmental monitoring capacity at a number of reserves in Colombia's Pacific cloud forests, particularly at El Centro de Estudios Ambientales del Pacifico Tambito (Cauca) in southern Colombia. The project's website contains data, photography, GIS imagery, model results, animations, and reports from the ongoing research at Tambito. Go to www.kcl.ac.uk/kis/schools/hums/geog/herb/herb.htm for more information.

Reported by Antonio Villa Lopera

Certification gets a serve

A book written by journalist Hannes Mäntyranta in Finnish and recently published in an abridged form in English takes a swipe at forest certification in Finland. In *Forest certification: an ideal that became an absolute*, Mäntyranta writes that "one of the most important spin-offs of certification activity" has been the new partnerships formed between stakeholders, both within and between countries. However, he criticises certification for having failed in many of its aims, including in restoring rights to indigenous

peoples, improving the standard of forest management, and increasing the competitiveness of timber. According to the publisher's website, the book (priced at €16.50 plus mailing costs) has sold out, although it is unclear whether this is the Finnish or English version, or both. The web address is www.metsalehti.fi

New cat at Lanjak-Entimau

A rare species of cat has been recorded for the first time in the Lanjak-Entimau Wildlife Sanctuary in Sarawak, Malaysia, according to Mohd. Azlan J. from the Faculty of Resource Science and Technology at UNIMAS. The Bornean bay cat (*Catopuma badia*), a small cat with rounded ears and a long tail, was captured on film by a remote-location camera set up by scientists supported by the Sarawak Biodiversity Centre and IUCN. Little is known about the species, with fewer than ten museum specimens worldwide. It resembles the more common Asian golden cat, which is found throughout Southeast Asia (including Sumatra), and may well be an island form; Borneo has been separated from Sumatra and other islands on the Sunda Shelf for 10 000–15 000 years. The Lanjak-Entimau Wildlife Sanctuary is managed by the Sarawak Forestry Department with the assistance of an ITTO project (PD 16/99 REV.2(F)). It forms part of a 1.1-million hectare transboundary conservation reserve with the adjoining Betung Kerihun National Park (itself the subject of an ITTO project—PD 44/00 REV.3 (F)) in Indonesia's West Kalimantan.

New books

Three new textbooks in Spanish—on forest measurement, forest inventory and forest biometrics—were published recently in Colombia. *Elementos de estadística multivariada*, *Elementos estadísticos de dasometría y medicion forestal*, and *Elementos teórico-prácticos sobre inventarios forestales (estadística y planeación)* were all written by Alvaro de J. Lema Tapias and can be purchased from: Silvano Ltda, Medellín, Colombia; Tel 57-4-278 0979; silvanfors@hotmail.com

Corrections

The previous edition of the *TFU* contained incorrect data for Liberian timber exports. In fact, according to the *ITTO Annual Review and Assessment of the World Timber Situation 2002*, Liberia exported 900 000 m³ of logs in 2001 and 981 000 m³ in 2002. The email address of Dr James Gasana published on page 32 of the same edition was also incorrect: his actual address is jgasana@intercooperation.ch

Edited
by
Alastair
Sarre

► **ITTO 2003. Annual review and assessment of the world timber situation 2002. ITTO, Yokohama, Japan. ISBN 4 902045 06 0.**

Available from: ITTO, International Organizations Center—5th Floor, Pacifico-Yokohama, 1-1-1, Minato-mirai, Nishi-ku, Yokohama 220-0012, Japan; Fax 81-45-223 1110; itto@itto.or.jp. It can also be downloaded at www.itto.or.jp/inside/review2002/

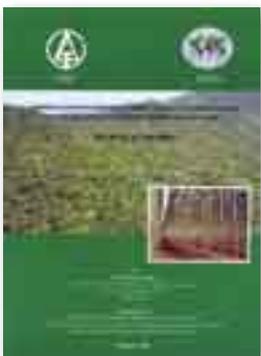


This is the latest edition of a long-running ITTO publication that compiles the most up-to-date and reliable international statistics available on global production and trade of timber, with an emphasis on tropical timber. It also provides information on trends in forest area, forest management and the

economies of ITTO member countries. The document is based on information submitted by member countries of ITTO through the Joint Forest Sector Questionnaire, supplemented by other sources as necessary.

► **Yi Haoruo, Ji Ping & Qin Xianlin 2003. Tropical forest fire monitoring and management system based on satellite remote sensing data in China. Technical report produced under ITTO Pre-project PPD 22/01 (F). Chinese Academy of Science, Beijing, China.**

Available from: Information Officer, ITTO, International Organizations Center—5th Floor, Pacifico-Yokohama, 1-1-1, Minato-mirai, Nishi-ku, Yokohama 220-0012, Japan; Fax 81-45-223 1110; itto@itto.or.jp.



This report, one of the outputs of an ITTO pre-project, describes the design and operational rules for a forest fire monitoring and management system in China. It includes assessments of the proposed system by Chinese experts in fields such as meteorology, communications technology, forest management and forest fire. The pre-project also produced a proposal for a project to initiate the system.

► **Hirakuri, S. 2003. Can law save the forest? Lessons from Finland and Brazil. CIFOR, Bogor, Indonesia. ISBN 979-3361-02-6.**

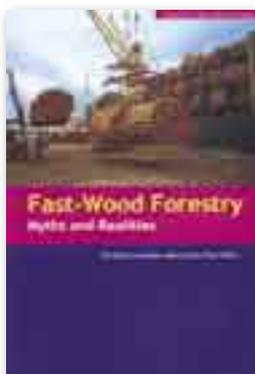
Available from: CIFOR, PO Box 6596 JKPWB, Jakarta 10065, Indonesia; Tel 62-251-622 622; Fax 62-251-622 100; cifor@cigar.org. It can also be downloaded from www.cifor.org



This report is derived from a doctoral dissertation and aims to “identify and highlight those variables which could be influenced or implemented in tropical forest countries to promote ... sustainable forest management”. It examines the degree of compliance with forest management laws in Finland and Brazil and analyses the factors that influence compliance.

► **Cossalter, C. and Pye-Smith, C. 2003. Fast-wood forestry: myths and realities. CIFOR, Bogor, Indonesia. ISBN 979-3361-09-3.**

Available from: CIFOR, PO Box 6596 JKPWB, Jakarta 10065, Indonesia; Tel 62-251-622 622; Fax 62-251-622 100; cifor@cigar.org. It can also be downloaded from www.cifor.org



One of the myths that this report demolishes is that fast-growing tree plantations take pressure off natural forests by providing a replacement timber resource. The authors thought this idea to be “highly tendentious” and found little evidence to support it.

► **FAO 2003. State of the world's forests 2003. FAO, Rome, Italy. ISBN 92-5-104865-7.**

Available from: FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy. It can also be downloaded from www.fao.org/forestry



This report, published every two years, contains commentaries on a wide range of topical forest-related issues, including (in this edition) mountain forests, forestry education, the Collaborative Partnership on Forests, illegal logging and illegal trade, and bushmeat. It also contains forest-related data previously published in the 2001 FAO Forest Resource Assessment.

► **Buongiorno, J., Zhu, S., Zhang, D., Turner, J. & Tomberlin, D. (2003). The global forest products model: structure, estimation, and applications. Academic Press. ISBN 0-12-141-362-4. £39.95**

Available from: Academic Press, 525 B Street, Suite 1900, San Diego, California 92101-4495, USA; www.elsevier-international.com

The GFPM is a dynamic economic equilibrium model to predict production, consumption, trade and prices of 14 forest product groups in 180 countries. The model describes how world forests and their industries interact through international trade. The book

documents the methods, data, and computer software of the model. Six applications of the model show its usefulness in addressing international economic and environmental issues. Readers can download the GFPM software and the data used in the various chapters from the website: www.forest.wisc.edu/facstaff/buongiorno/book/index.htm

Summary supplied by the primary author.

► **Buongiorno, J. & Gilles, J. (2003). Decision methods for forest resource management. Academic Press. ISBN 0-12-141360-8. £41.95**

Available from: Academic Press, 525 B Street, Suite 1900, San Diego, California 92101-4495, USA; www.elsevier-international.com

This is a textbook for senior undergraduates, first-year graduate students, and professionals in forestry and natural resource management. The essential modern decision methods used in the scientific management of forests are reviewed. Balanced treatment is given to the ecological and economic impact of alternative management decisions in both even-aged and uneven-aged forests. The relevant decision methods are presented simply using algebra and spreadsheet models along with a wide variety of examples. Readers can download the spreadsheets from: www.forest.wisc.edu/facstaff/buongiorno/book/index.htm. The book has an accompanying instructor manual.

Summary supplied by the primary author.

► **Uganda Forestry Sector Secretariat 2003. Farmer to farmer extension in rural poverty eradication. 30-minute video.**

Available from: Ms Brenda Mwebaze, Secretary of the Kamusiime Memorial Rural Development Pilot Scheme, who has kindly agreed to make limited copies of the video available to interested persons. She can be contacted at: KMRDPS, Rutoto Trading Centre, PO Box 64, Rubirizi, Bushenyi, Uganda; Tel 256-77 589659; kamusiimepilot@yahoo.com



This video, which was produced locally, features a visit by people from the Kikonge Voluntary Team, a registered community-based organisation (CBO) in rural Uganda, to the Kamusiime Memorial Rural Development Pilot Scheme, another CBO. The video makes a case for the support of CBOs as a strategy through which rural communities can participate in and benefit from forest management and agroforestry activities. It also shows the benefit of farmer-to-farmer extension, particularly between CBOs.

► **Steege, H. ter (ed) 2003. Long-term changes in tropical tree diversity. Studies from the Guiana Shield, Africa, Borneo and Melanesia. Tropenbos Series 22. Tropenbos International, Wageningen, Netherlands.**

Available from: Tropenbos International, PO Box 232, 6700 AE Wageningen, the Netherlands; www.tropenbos.org. €20.



This book contains papers from participants in a workshop called 'Changes in forest composition and diversity', which emphasised long-term studies and studies highlighting some of the mechanisms behind observed changes.

► **Anon. 2002. Ley forestal y de fauna silvestre (Ley No 27308): reglamento de la ley. Peruvian Ministry of Agriculture, Peruvian National Institute for Natural Resources and ITTO. Lima, Peru and Yokohama, Japan.**

Available from: Information Officer, ITTO, International Organizations Center - 5th Floor, Pacifico-Yokohama, 1-1-1, Minato-mirai, Nishi-ku, Yokohama 220-0012, Japan; Fax 81-45-223 1111; itto@itto.or.jp



This publication, an output of ITTO PROJECT PD 42/96 (F), contains Peru's Forestry and Wildlife Law, which was created in 2000, and its accompanying regulations, which were issued by decree in 2001. Articles in this TFU (see pages 10, 13, 14 and 32) address the ongoing process of implementing the law and its regulations.

► **Shanley, P., Pierce, A., Laird, S. & Guillén, A. 2002. Tapping the green market: certification and management of non-timber forest products. Earthscan, London.**

Available from: Earthscan Publications Ltd, 120 Pentonville Road, London NI 9JN, UK; Tel 44-20-7278 0433; Fax 44-20-7278 1142; earthinfo@earthscan.co.uk; www.earthscan.co.uk



This book contains guidelines on non-timber forest product (NTFP) management assessment and species-specific certification and summarises the opportunities and challenges presented by NTFP certification.

Fellowship reports available

The following ITTO Fellowship reports are available on request from the authors:

Almacenamiento de carbono en bosques secundarios en el Municipio de San Carlos, Nicaragua

Contact: Ms Chelsia Moraes Ferreira, Apartado 108, CATIE 7170, Turrialba, Costa Rica; Fax 506-556 1533; chelsia@catie.ac.cr

Key techniques of continuous cover forestry and their possible applications in tropical forest management in China

Contact: Mr Quinglin Huang, Box 33, Chinese Academy of Forestry, Wan Shou Shan, 100091, Beijing, P.R. China; huangql@caf.ac.cn

New protected areas in Amazonas

The state government of Amazonas has created six new protected areas covering 3.8 million hectares in the Brazilian Amazon. The six areas are: the Rio Urubú State Forest (45 000 hectares), the Cuieiras State Park (56 000 hectares), the Cujubim Sustainable Development Reserve (2.5 million hectares), the Catuá-Ipixuna Extractive Reserve (217 000 hectares), the Piagaçu-Purus Sustainable Development Reserve (1.0 million hectares), and the Samaúma State Park (51 hectares). Sustainable use will be permitted in several of these reserves.

Amazonas Secretary of Sustainable Development and Environment, Virgilio Viana, who announced the new reserves during the recent IUCN World Parks Congress, said that with their creation, 40% of the state (63 million hectares) was now in protected areas. "International partnerships and financing are vital to guarantee that these areas are efficiently protected," he said.

Mission reports available

A recent ITTO diagnostic mission to Guyana, the report of which was presented to the International Tropical Timber Council last May, has recommended that the country's forest sector avoid a high-volume timber production strategy and instead focus on small-volume, niche marketing, making use of its unique timber resource and its position in the regional market in the Caribbean. The mission reports that a good framework has been created within which sustainable management of the resource is possible, but the structure of the industry is such that profitability will be hard to achieve. It suggests that a combination of the need

to reduce investment and create employment indicated that labour-intensive, low-technology approaches based on mobile sawmills and improved chainsaw conversion would be desirable. This would also reduce the cost of transport and the creation of off-site residues. The mission recommended that ITTO should assist the Guyanese timber industry to reorient its approach to marketing.

Another ITTO diagnostic mission, to Trinidad and Tobago, also presented its report to the Council last May. It reviewed the draft *Forest Policy* and draft *Strategic Plan for the Forestry Department* and expressed its support for the vision of forestry outlined in those documents. It also praised the Forest Department's long and distinguished tradition of good forest management, but found that it now suffers from a number of institutional and policy weaknesses, many of which can only be resolved through action at a higher political level. It recommended, among other things, that ITTO support a project in Trinidad and Tobago to help strengthen the capacity of the Forest Department to carry out a multi-stakeholder, multi-resource assessment of forests.

These missions were two in a series initiated under Decision 2(xxix) of the International Tropical Timber Council to identify those factors most severely limiting progress towards achieving ITTO Objective 2000 and sustainable forest management and to formulate action plans to overcome these constraints. To date, missions have been sent to Brazil, Central African Republic, Guyana, Peru, the Philippines, Suriname, and Trinidad and Tobago. The reports can be obtained from the ITTO Information Officer, Mr Collins Ahadome (itto@itto.or.jp).

Civil society-private-sector partnerships

A working group met recently to provide guidance on ITTO's support for civil society/private sector partnerships designed to promote progress towards sustainable forest management and certification. Last November, the International Tropical Timber Council agreed to provide financial resources to help nurture such partnerships, including an initial US\$150 000 on a pilot basis. The working group, which met last April, proposed that entities eligible for such assistance should include:

- civil-society organisations such as:
 - environmental and social non-governmental organisations (national and/or international)
 - non-profit technical service providers
 - non-profit research and development organisations
 - local communities and associations
 - labour groups and trades union
 - indigenous groups and associations; and
- private-sector organisations such as:
 - private, publicly-owned or community-based forest managers and enterprises (domestic and/

or international) who have formally committed to achieving sustainable forest management and/or certification consistent with the ITTO *Criteria and indicators for sustainable management of natural tropical forests*

- forest products' manufacturers and traders; and
- private-sector trade associations.

The working group suggested that each proposal should include the following:

- the purpose and goal of the proposed project;
- intended outputs of the proposed project;
- intended social, environmental and economic impacts of the proposed project;
- description of key activities to be funded by ITTO and schedule for implementation;
- description of a process for joint monitoring of the implementation and impacts of the proposed project;
- plans to disseminate the results and lessons learned of the proposed project and partnership;
- description of a mutually agreed-upon procedure to

manage and address conflicts that may arise in the execution of the partnership

- a memorandum of understanding between the partners, describing the purpose of the partnership and the roles, responsibilities and commitments of each partner in the partnership as well as in the implementation of the project; and
- the proposed budget for ITTO support as well as descriptions of the complementary in-kind or financial contributions of each partner.

The working group further proposed that ITTO funding could be used to finance activities that are either proposed by the partners or already under way. Eligible expenses to be financed by ITTO should include training, workshops, technical assistance and travel, but should not include major office equipment, civil works or the daily operations of enterprises. The ITTO proportion should not exceed US\$50 000 per project.

The report of the working group is available from the Information Officer, ITTO Secretariat (itto@itto.or.jp). ITTO invites interested parties to submit proposals based on the guidance provided by the report.

Career in industrial timber engineering

Starting in 2004, the Private University of Santa Cruz (UPSA) will offer a degree in industrial timber engineering. Currently over 50% of Bolivian timber exports comprise manufactured products and the hope is that this percentage will continue to increase. In the future UPSA aims to also offer postgraduate courses in the same discipline.

Contact: Lic. Jorge Estenssoro, Director de Investigación y Postgrado, or Ing. Javier Alanoca, Decano de la Facultad de Ingeniería, Tel 59-3911-3464000, 3492060; Fax 59-3911-3464343; postgrado@upsa.edu.bo

Participatory action research for community-based natural resource management

8-19 December 2003 (or customised course on request)
Cavite, Philippines

Cost: US\$2500

Language: English

This course, which is being run jointly by the International Institute of Rural Reconstruction (IIRR) and the Regional Community Forestry Training Center (RECOFTC), is designed for senior decision-makers working in community-based natural resource management. It will be run as a think-tank rather than as an instructive course with the aim of providing a stimulating learning environment for the sharing of ideas between participants, facilitators and others on participatory action research approaches. Topics up for discussion include rights, power relationships, multiple perspectives and participation. Participants will explore concepts, experiment with participatory approaches among different stakeholders, reflect, and write a 'think piece' paper.

Contact: Education and Training Program, IIRR, YC James Yen Center, Silang 4118, Cavite, Philippines; Tel 63-46-4142417; Fax 63-46-4142420; Education&Training@iirr.org; www.iirr.org

Managing conflict in community-based forestry

12-28 January 2004

Bangkok, Thailand

Cost: US\$2950

Language: English

This training course is designed for forestry and natural resource professionals who are involved in projects or programs in which an understanding of conflict management will assist their work. Participants will increase their knowledge and skills in analysing conflict, assessing options and developing strategies to manage conflict; learn a variety of conflict management techniques from two-party negotiations to facilitating multiparty meeting processes; and learn how to plan for and support collaborative approaches to problem-solving. Among other things, participants will visit a field site to observe and analyse a 'live' conflict, and to assess strategies for managing it. Finally, at the conclusion of the course, participants will identify areas for applying conflict management techniques in their daily work.

Contact: Vitoon Viriyasakultorn, RECOFTC, PO Box 1111, Kasetsart University, Bangkok 10903, Thailand; Tel 66-2-940 5700; Fax 66-2-561 4880; fvctv@ku.ac.th; www.recoftc.org

Decentralised forest management planning: improving the impact

23 February-3 March 2004

Bangkok, Thailand

Cost: US\$3495 (all-inclusive)

Language: English

The aim of this training course is to develop capacity at the local-government level to guide and manage cost-effective multi-stakeholder planning processes that will help realise the potential benefits of sustainable forest management within the context of decentralised rural development. The course is best suited to those working in planning environments, particularly in or with local government who have responsibility for making planning and budget decisions that impact on the role of forestry in decentralised natural resource management and local development.

Contact: RECOFTC, PO Box 1111, Kasetsart University, Bangkok 10903, Thailand; Tel 66-2-940 5700; Fax 66-2-561 4880; contact@recoftc.org; www.recoftc.org

Tropical dendrology in Costa Rica

15-27 March 2004 (English)

12-24 April 2004 (Spanish)

June 21-3 July 2004 (English)

San José and the field, Costa Rica

Cost: US\$1800

This course, which has been run since 1993, includes visits to four different 'life zones' within Costa Rica. Participants will gain skills in the identification of tree and shrub species in the American tropics using a technique developed by Dr L.R. Holdridge and expanded on by Dr Alwin H. Gentry. They will learn to identify 70-80% of neotropical species to family level, and to species level for some of Costa Rica's most important species. The course has been attended in the past by students, professionals and lay persons in biology, forestry, biodiversity, entomology, birding and ornithology, ecology, ethnobotany, medicinal botany, agroforestry, field guiding, and other areas in the natural resource field. Partial fellowships are offered.

Contact: Dr Humberto Jiménez-Saa, Tropical Science Center, PO Box 8-3870-1000, San Jose, Costa Rica; Tel 506-253 3267; Fax 506-253 4963; hjimenez@racsa.co.cr; hjimenez@geocities.com

Tropical birding in Costa Rica (Introduction to field ornithology)

26 July-7 August 2004

San José and the field, Costa Rica

US\$1800

Language: English

This course offers intensive practical and theoretical instruction in the field identification of Costa Rican avifauna. The ideal participant is someone without formal training in ornithology who wants to become a proficient bird-watcher in a short time. It is also useful for wildlife photographers or others working in nature conservation and wildlife management activities. Partial fellowships are offered.

Contact: Dr Humberto Jiménez-Saa, Tropical Science Center, PO Box 8-3870-1000, San Jose, Costa Rica; Tel 506-253 3267; Fax 506-253 4963; hjimenez@racsa.co.cr; hjimenez@geocities.com

Post-graduate studies in forest products technology

The Forest Products Research Centre at Buckinghamshire Chilterns, University College (UK) has developed a post-graduate course at the Master of Science level. This course provides training in wood science and technology to give students the expertise needed for a successful career in the forest products sector. On completion of the course, students will have a thorough understanding of wood as a material and how it is processed and used. The course will also enhance management and leadership skills through individual and group activities.

Contact: Mrs Carol Greiller, Admissions Coordinator, Faculty of Technology, Buckinghamshire Chilterns University College, High Wycombe, Buckinghamshire HP11 2JZ, United Kingdom; Tel 44-1494-605073; Fax 44-1494-605051; techno@bcuc.ac.uk; www.fprc.co.uk

By featuring these courses, ITTO doesn't necessarily endorse them. Potential applicants are advised to obtain further information about the courses of interest and the institutions offering them.

▶ 30–31 October 2003. **1st Ibero-American Eucalyptus globulus Symposium.** Montevideo, Uruguay. **Contact:** Rogino de Aguilar, AUPEG; mundial@adinet.com.uy

▶ 3–6 November 2003. **Joint Meeting of the 12th National Symposium on Forest Parasitology and the 54th Western Forest Insect Work Conference.** Guadalajara, Mexico. **Contact:** www.fsl.orst.edu/wfiwfc/

▶ 3–8 November 2003. **35th Session of the International Tropical Timber Council.** Yokohama, Japan. **Contact:** Collins Ahadome; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 6–9 November 2003. **1st International Congress on Dry Forests.** Piura, Peru. **Contact:** Tel 511-433 6851; informes@congresointernacionalbosquesecos.com; www.congresointernacionalbosquesecos.com

▶ 6–8 November 2003. **International Workshop on Protected Forest Areas.** Montreal, Canada. **Contact:** Secretariat of the Convention on Biological Diversity, 393, rue St Jacques, Suite 300, Montreal, Quebec H2Y 1N9, Canada; Tel 1-514-288 2220; Fax 1-514-288 6588; jo.mulongoy@biodiv.org

▶ 10–12 November 2003. **2nd Preparatory Committee (PrepCom II) for the Negotiation of a Successor Agreement to the ITTA, 1994.** Yokohama, Japan. **Contact:** Collins Ahadome; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 12–15 November 2003. **Monitoring and Indicators of Forest Biodiversity—From Ideas to Operationality.** Florence,

Italy. **Contact:** Ms. Brita Pajari, European Forest Institute, Torikatu 34, FIN-80100 Joensuu; Tel 358-13-252 0223; Fax 358-13-134 393; brita.pajari@efi.fi

▶ 17–20 November 2003. **International Expert Meeting on the Development and Implementation of National Codes of Practice for Forest Harvesting—Issues and Options.** Kisarazu City, Japan. **Contact:** yuuji_imaizumi@nm.maff.go.jp or kenji_shimada@nm.maff.go.jp

▶ 2–5 December 2003. **International Conference on Quality Timber Products of Teak from Sustainable Forest Management.** Kerala, India. **ITTO PROJECT PD 151/02 (1); IUFRO 5.06.02.** **Contact:** K.M. Bhat, Kerala Forest Research Institute, Peechi 680 653, India; kmbhat@kfri.org; www.kfri.org/html/ko5oofrm.htm

▶ 1–12 December 2003. **9th Conference of the Parties to the UN Framework Convention on Climate Change.** Milan, Italy. **Contact:** UNFCCC Secretariat, PO Box 260124, D-53153 Bonn, Germany; Tel 49-228-815 1000; secretariat@unfccc.int; www.unfccc.int

▶ 12–15 December 2003. **Woodworking Korea.** Seoul, Republic of Korea. **Contact:** Reed Exhibitions (Germany) GmbH; Tel 49-211-556281; Fax 49-211-556231; REC.Germany@reedexpo.co.uk; www.reedexpo.com

▶ 2–5 March 2004. **ITTO International Workshop on Environmental Economics of Tropical Forest and Green Policy—Planning and Budgeting.** Beijing, China. **ITTO PROJECT PD 39/98.** **Contact:** Mr Hou Yuanzhao or Ms Wu Shuirong, Chinese

Academy of Forestry, Beijing 100091, China; Fax 86-10-6288 4836; houyuanzhao@163.net; yuling@forestry.ac.cn

▶ 17–19 March 2004. **World of Wood.** Anaheim, California, USA. **Contact:** International Wood Products Association (IWPA), 4214 King Street West, Alexandria, VA 22302 USA; Tel 1-703-820 6696; Fax 1-703-820 8550; info@iwpawood.org; www.iwpawood.org/convention.html

▶ 12–14 April 2004. **Management of Tropical Dry Forest Woodlands and Savannas: Assessment, Silviculture, Scenarios.** Brasilia, Brazil. IUFRO 4.00.00. **Contact:** Professor Dr José Imaña Encinas, University of Brasilia, Forestry Department Caixa Postal 04357, 70919-970, Brasilia, DF, Brazil; Tel 55-61-2736026; Fax 55-61-3470631; iufro@umb.br

▶ 21–23 April 2004. **3rd International Symposium on Sustainable Management of Forest Resources—SIMFOR 2004.** IUFRO 1.00.00, 2.00.00. Pinar del Rio, Cuba. **Contact:** C. Fernando Hernández Martínez; Tel 82-779363; Fax 82-779353

▶ 3–14 May 2004. **4th Session of the United Nations Forum on Forests.** Geneva, Switzerland. **Contact:** Mia Söderlund, UNFF Secretariat; Tel 1-212-963 3262; Fax 1-212-963 4260; unff@un.org; www.un.org/esa/forests.htm

▶ 20–22 May 2004. **International Conference on Economics of Sustainable Forest Management.** Toronto, Canada. **Contact:** Shashi Kant, Conference Secretariat; Tel 1-416-978 6196; Fax 1-416-978 3834; shashi.kant@utoronto.ca; www.forestry.utoronto.ca/socio_economic/icesfm/

▶ 26–29 June 2004. **Forest Genetics and Climate Change.** IUFRO 7.01.04. Vernon, Canada. **Contact:** Alvin Yanchuk; Tel 1-250-387 3338; Fax 1-250-387 0046; alvin.yanchuk@gems4.gov.bc.ca

▶ 27 June–2 July 2004. **1st World Congress of Agroforestry: Working Together for Sustainable Land-Use Systems.** Orlando, Florida, USA. **Contact:** Mandy Padgett, Office of Conferences & Institutes, PO Box 110750, Gainesville, Florida 32611-0750, USA; mrpadgett@mail.ifas.ufl.edu; http://conference.ifas.ufl.edu/wca

▶ 20–23 July 2004. **36th Session of the International Tropical Timber Council.** Interlaken, Switzerland. **Contact:** Collins Ahadome; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 26–30 July 2004. **UN Conference (1st Part) for the Negotiation of a Successor Agreement to the ITTA, 1994.** Geneva, Switzerland. **Contact:** Collins Ahadome; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 15–20 August 2004. **Forest Diversity and Resistance to Native and Exotic Pest Insects.** IUFRO 7.03.07. Hammer Springs, New Zealand. **Contact:** Andrew Liebhold, Northeastern Research Station, USDA Forest Service, 180 Canfield St, Morgantown, WV 26505, USA; Fax 1-304-285 1505; aliebhold@fs.fed.us; http://iufro.boku.ac.at/iufro/

▶ 15–21 August 2004. **XII International Congress of Entomology.** Brisbane, Australia. **Contact:** Ashley Gordon, Congress Director; Ashley@ccm.com.au; www.ccm.com.au/icoe/index.html

▶ 17–21 November 2004. **International Symposium on Ecological Restoration.** Santa Clara City, Cuba. **Contact:** Grecia Montalvo, Empresa Nacional para la Protección de la Flora y la Fauna, Carretera Central km 306, Banda Placetas, Santa Clara, Villa Clara, Cuba Cp: 50 100; Fax 53-42-208430; sisre@ccb.civc.inf.cu or grecia_montalvo@yahoo.es

▶ 13–18 December 2004. **37th Session of the International Tropical Timber Council.** Yokohama, Japan. **Contact:** Collins Ahadome; Tel 81-45-223 1110; Fax 81-45-223 1111; itto@itto.or.jp; www.itto.or.jp

▶ 28 February–5 March 2005. **17th Commonwealth Forestry Conference: Forestry's Contribution to Poverty Reduction.** Colombo, Sri Lanka. **Contact:** Libby Jones; Tel 44-131-314 6137; Fax 44-131-334 0442; forlib@sltnet.lk or libby.jones@forestry.gsi.gov.uk

▶ 8–13 August 2005. **Forests in the Balance: Linking Tradition and Technology.** XXII IUFRO World Congress. Brisbane, Australia. **Contact:** Dr Russell Haines, Queensland Forestry Research Institute, PO Box 631, Indooroopilly 4068, Australia; Tel 61-7-3896 9714; Fax 61-7-3896 9628; hainesr@qfri1.se2.dpi.qld.gov.au; http://iufro.boku.ac.at

▶ 26–28 November 2003. **IV Forest Law Congress.** Santiago, Chile. **Contact:** Carmen Paz Medina Parra, Mr Enrique Gallardo Gallardo, Mr Celso Carnieletto, Secretaría General IV Congreso, Corporación Nacional Forestal; Tel 56-2-390033; Fax 56-2-6954788; congreso@conaf.cl; www.conaf.cl

The unknown quantities

Table 2: Most abundant forest species and timber volumes per hectare in four forest areas of the country

No.	Von Humboldt Forest	Volume (m ³ /hectare)	Alto Ucayali	Volume (m ³ /hectare)	Nanay River	Volume (m ³ /hectare)	Lower Amazonas Putumayo River	Volume (m ³ /hectare)
1	Zapote ⁴	4.50	Moena ³	3.90	Cumala ²	5.50	Cumala blanca ²	7.34
2	Lupuna ²	3.62	Cachimbo ²	3.88	Quinilla ²	3.99	Cumala colorada ²	4.45
3	Chimicua ⁴	3.46	Tornillo ²	3.32	Shimbillo ⁴	2.48	Palo sangre ⁴	2.80
4	Manchinga ³	3.06	Quina quina ³	2.02	Tornillo ²	1.97	Mari mari ³	2.58
5	Copaiba blanca ²	2.81	Huayruro ²	1.99	Almendro ⁴	1.96	Tornillo ²	1.90
6	Panguana ³	2.76	Almendra ⁴	1.54	Lupuna ²	1.34	Palisangre ⁴	1.66
7	Shihuahuaco ²	2.43	Camungo moena ⁴	1.15	Pashaco ³	1.33	Quillobordon ³	1.49
8	Mashonaste ⁴	2.10	Mashonaste ⁴	1.01	Loromicuna ⁴	1.07	Moena amarilla ²	1.39
9	Catahua ²	2.09	NNNN ⁴	1.07	Mari mari ³	1.06	Quillosisa ⁴	1.30
10	Quinilla colorada ²	2.06	Pashaco ³	0.84	Huarmi caspi ⁴	1.05	Azúcar huayo ²	0.79
11	Machin zapote ⁴	1.81	Copal ⁴	0.73	Caupuri ²	0.96	Moenas ³	0.69
TOTAL		30.70		21.45		22.71		26.39

1 = high commercial value; 2 = medium commercial value; 3 = low commercial value; 4 = potential value

and cooperation institutions supporting forest development in Peru are currently focused on:

- the consolidation of concessions;
- environmental conservation; and
- institutional strengthening.

These issues are important and should be addressed, but policy- and decision-makers do not seem to have a clear perception of the new forest development model they are trying to implement. In my view what they should be doing is developing a forest management model that takes a business-oriented approach, in which the three core pillars of the development process (forest—industry—market) are addressed simultaneously. The market component should be a priority because if the necessary information is not available, investment decisions will have to be made almost in the dark, similar to what could happen in harvesting operations if they are not based on reliable forest inventory data.

We should not lose sight of the fact that forest management operations in Peru are only implemented by the private sector; therefore, any forest policy failure could lead to negative economic results that could in turn jeopardise the whole process of sustainable forest management. Micro and small enterprises, which currently account for the majority of concessionaires in the country (and, despite the new regime, will continue to do so for some time), would be difficult to sustain in an environment of poor economic performance. This issue requires urgent attention because even now, a year after the first forest concessions were granted, many concessionaires are showing early symptoms of poor financial performance.

Cheap wood, anyone?

Table 3: Standing timber volume of tree species grouped by commercial value, in four forest areas (m³/hectare)

Area	High commercial value	Medium commercial value	Low commercial value	Potential unknown
Von Humboldt	–	13.0	5.8	11.9
Alto Ucayali	–	9.2	6.8	5.5
Nanay	–	13.8	2.4	6.6
Putumayo	–	15.9	4.8	5.8
Total		51.9	19.8	29.8

How could the market respond?

If the simulated scenario becomes a reality—that is, if the proposed management system is gradually put in place—there will be an oversupply of timber of medium and low commercial value. Under these conditions, the market response could be as follows:

- there will be an oversupply that would exceed the national demand. The excess supply will be difficult to place in the export market without concerted market promotion, which is not happening at present; and
- prices for traditional high-demand species (mahogany, cedar and tornillo) will increase as their supplies dwindle. The industry, unable to utilise many local species, may increase its use of pine imports from Chile, Ecuador, Brazil and the USA, leading to a shift in national timber consumption patterns.

There is therefore an urgent need to develop products and markets at both the national and international levels to facilitate the marketing of new timber species to be produced as a result of the new forest management regime. Otherwise, the regime could have the perverse effect of minimising the contribution of the timber sector to the economic and social development of Peru, as is already happening in some neighbouring Amazonian countries. And the forest itself might then end up being replaced by more profitable land-uses, such as agriculture.

Out on a limb

The reality of the ongoing concession process in Peru is that much of the timber can't be sold

by Mauro Ríos Torres

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PERU'S new forest legislation, described in detail on page 10 of this edition, has introduced major changes to the country's approach to forestry, including its model of timber production.

The changes are far-reaching. Now we need to ensure the regime's sustainability, which is ultimately dependent on the sector's profitability; in this, production and market issues will play decisive roles. The social and environmental benefits of forest management can only be achieved if the management regime is economically and financially viable—not the other way round, as is often argued. But such viability depends on the marketability of the timber; I argue here that the timber industry won't be able to sell a large part of the resource, bringing the sustainability of the entire regime into question.

Expected timber supply

Peru's timber production is expected to increase in the next few years as the new forest management regime becomes consolidated. Under a simulated scenario based on a 25-year felling cycle, the projected growth in concession areas, and an increase in the number of species to be harvested and therefore the volume of timber to be extracted (to at least 12 m³ per hectare, or four times the current national average), the national timber production would increase dramatically (Table 1).

Since the implementation of the model will be phased, it is expected that the annual harvested area will be 250 000 hectares in 2005, 600 000 hectares in 2010, and 800 000 hectares in 2015. Thus, in 2005 the country will have the capacity to produce approximately 1.5 million m³ of timber and timber products, which is twice the production level in 2000, and we could reach a level of 4.8 million m³ by 2015.

Species likely to dominate the market

The results of recent 100% forest harvesting inventories show that in the next few years mahogany, cedar, ishpingo

Oversupply?

Table 1: Potential timber supply

Year	Allocated concessions (hectares)	Annual coupe (hectares)	Harvested roundwood (m ³)	Processed timber ¹ (m ³)
2000				713 053
2005	6 250 000	250 000	3 000 000	1 500 000
2010	15 000 000	600 000	7 200 000	3 600 000
2015	20 000 000	800 000	9 600 000	4 800 000

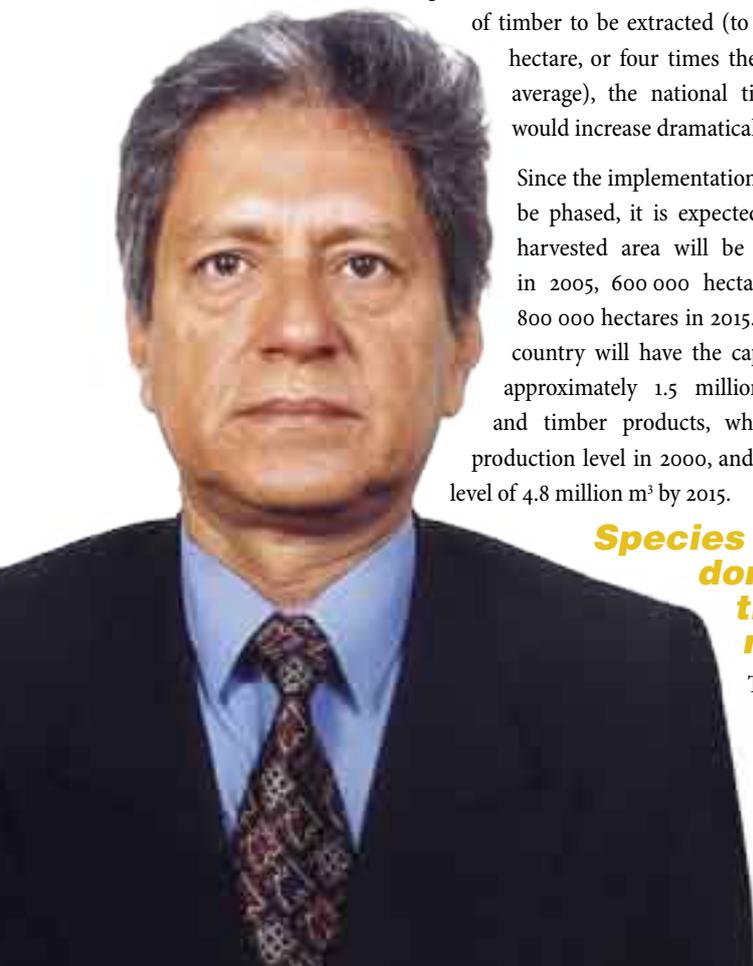
¹Finished-product conversion factor from roundwood = 0.5

and walnut—all high-value timber species that have been sustaining the timber industry up to now—will be in short supply. Instead, there will be a predominance of species that currently have only medium-to-low value or whose value is presently unknown (ie 'potential'; Table 2). Many of the former are known to be less resistant to the attacks of destructive biological agents and therefore have limited acceptance in the local market.

If forests are harvested under management plans, the national supply will be dominated by species of low and medium commercial value and those whose potential is unknown (Table 3). The list of medium-value species includes lupuna, copaiba, shihuahuaco, catahua, red quinilla, cachimbo, tornillo, huayruro, cumala and yellow moena; among these, cumala, shihuahuaco, lupuna and quinilla account for about 30% of the potential timber supply. These species already have an identified market at the domestic level, but new export markets would be needed at the proposed level of production. The remaining species, with the exception of tornillo and to a lesser extent yellow moena, are in limited demand in the local market. Therefore, nearly 70% of the potential supply currently has no identified market at either the national or international levels, and nothing is being done to change this situation. This is very risky, since higher timber harvesting volumes per hectare are being promoted as part of the new management regime but there is no clear guidance on how to sell the timber, to whom to sell it, and at what price.

What are the government's forest-sector priorities?

The priorities of government agencies



Continued on page 31

