

Latin America & the Caribbean

Forest resources

ITTO members in Latin America and the Caribbean can be divided into those that contain part of the Amazon Basin (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela) and those outside it (Guatemala, Honduras, Mexico, Panama and Trinidad and Tobago). The Amazon Basin countries contain an estimated 744 million hectares of closed tropical forest, most of which is in the Amazon Basin itself, where only about 30 million people live. However, the most economically important forest activities often occur outside the Amazon – in subtropical Brazil, in the Andean highlands of Bolivia, Peru, Ecuador and Colombia, and on the Pacific and Atlantic coasts of Ecuador, Colombia and Venezuela. Population pressure and economic activity are low, but annual deforestation in the Amazon is still 2–3 million hectares. This varies from year to year: in Brazil, an estimated 1.89 million hectares of the Amazon were deforested in a recent twelve-month period, down from 2.70 million hectares in the previous twelve months. Deforestation is also significant in Ecuador, Peru and Venezuela, but virtually non-existent in Guyana and Suriname. Deforestation is due mainly to

the expansion of capital-intensive agriculture, in particular cattle ranching and, more recently, the planting of soybeans, which are generally the most immediately profitable land-uses. Timber extraction from natural forests plays a relatively minor but increasing economic role in most of the region. Bolivia, Peru and some other countries have introduced forest concession systems that are expanding access to Amazonian timber resources; others (eg Brazil and Colombia) are considering or are in the process of doing so.

The closed tropical forests of the region include: wet evergreen forests in the Amazon Basin and the Atlantic regions of Central America (particularly Panama and Guatemala); degraded moist semi-deciduous and moist deciduous forests around the Amazon Basin and in Central America and Mexico; and freshwater swamp forest and mangroves in Brazil, Central America, Ecuador, Colombia, Guyana and Venezuela. Wet evergreen montane forests are important in the upper Amazon in Bolivia, Peru, Ecuador and Colombia; in the upper Orinoco watershed in Venezuela; and in Central America, in particular in Panama. Natural tropical coniferous forests play important ecological and livelihood roles in the ITTO member countries of Central America, particularly Honduras, Guatemala and Mexico.

Outside the Amazon Basin, the status of forest resources and the dynamics of forest resource change vary. The Pacific forest areas of Ecuador and Colombia have some of the highest deforestation rates in the world (more than 5% annually). Mexico had the second-highest annual loss of forests of all ITTO member countries in Latin America and the Caribbean in 1990–2000 (631,000 hectares); deforestation there, however, is not confined to tropical forests and in fact is more prevalent in subtropical and temperate areas. Forest fires are a major contributing factor to forest decline in the drier zones. There is also significant forest loss in Panama, Honduras and Guatemala. In Honduras and Guatemala, the lowest-income ITTO member countries in the region, deforestation is closely linked to high population pressure.

The thirteen ITTO member countries in the region can also be divided into three groups based on the status of their natural forests:

- (i) those in which very large areas of relatively undisturbed forest still remain – Brazil, Bolivia, Colombia, Guyana, Peru, Suriname and Venezuela;
- (ii) those in which remaining large tracts of relatively undisturbed forest are under imminent threat of depletion – Ecuador and Panama; and
- (iii) those in which remaining natural forests are mostly highly disturbed – Honduras, Guatemala, Mexico and Trinidad and Tobago.

Civil war or insurgency is not widespread in the region today; the exception is Colombia, where it makes SFM very difficult to achieve. However, the illegal cultivation of crops in forested areas and other forest crimes are significant issues in many countries.

PFE

Of the estimated 788 million hectares of closed natural tropical forest in the ITTO producer member countries of Latin America and the Caribbean, an estimated 185 million hectares (23%) are in production PFE and 351 million hectares (45%) in protection PFE. In addition, there are about 5.60 million hectares of plantations, giving a total PFE of 542 million hectares. By far the largest area of PFE is in Brazil, which has an estimated 373 million hectares of PFE, including 271 million hectares of protection PFE. The next-largest PFE is in Peru (41.1 million hectares), followed by Venezuela (34.5 million hectares) and Bolivia (31.8 million hectares).

Institutional arrangements

Forest tenure

The balance in land ownership between the state and communities in ITTO member countries in the region changed considerably when Guatemala and Mexico joined the Organization; in these two countries, large areas of forest are owned collectively. Whereas the legal acknowledgement of indigenous rights over forest use has a long history in the other tropical regions, in Latin America and the Caribbean it is mostly a relatively recent phenomenon that is only now starting to influence forest management. Over the past 10–15 years there has been

an important shift towards the ownership of forest by local communities in several countries. Indigenous people now own large tracts of forest in Bolivia, Colombia, Panama and Peru, while more than 100 million hectares of forest in the Brazilian Amazon are indigenous lands. In most countries, however, the state retains some legal control over forest trees, even on private land.

The situation in countries within the Amazon Basin is as follows. In Bolivia, about 28 million hectares (53%) of the forest are publicly owned and administered by the state, nearly 17 million hectares (31%) are under specific user rights or ownership (including nearly 12 million hectares of indigenous community lands), about 2.8 million hectares (5%) are privately owned by communities, and another 5.4 million hectares (10%) are privately owned by individuals and industries.

In Brazil, a significant part of the PFE in the Amazon is privately owned; legal reserves on private lands cover 198 million hectares, and indigenous lands (Indian reserves) cover 103 million hectares. Parts of these forests have been set aside as extractive reserves. Despite the fact that private ownership is significant, the forests are considered to be a common asset for all inhabitants, and ownership and tenure disputes are a major problem. Illegal occupation is also common and adds to the difficulty of determining clear tenure and ownership. Colombia's constitution recognizes the ancestral rights to land of indigenous groups and of Afro-Colombian traditional communities. Today, about 22.1 million hectares of forest, mostly in the Amazon, are owned by indigenous communities and 5 million hectares, mainly in the Pacific region, by Afro-Colombian communities. In addition, many forest plots in the Andean region, particularly of planted forests, are owned privately. In Ecuador, there are legal provisions to allocate forests to indigenous communities, colonists and other interested groups already in possession of forest lands, on the condition that such groups guarantee the sustainable management and conservation of the forests allocated to them. About 4.5 million hectares of potential production forests have been allocated to indigenous communities and are now considered to be owned privately. The remaining

PFE is mostly in farmers' plots, but their tenure is unclear. In Guyana, ownership of the PFE is vested in the state; the remainder of the forest comprises other state land, Amerindian land and private property. Nine indigenous groups have legal title to about 1.4 million hectares of land, including forest. In Peru, forests are classified into public, private and indigenous ownership categories. More than 8 million hectares of forest are classified as public forests reserved for communities and indigenous groups; of these, about 6.2 million hectares have land titles. An additional 10 million hectares or more (one estimate puts the figure as high as 22.5 million hectares) are owned privately by community and indigenous groups. In Suriname, all forests (except those on private land) belong to the state. The constitution does not provide for collective rights or use of land, but Amerindian and Maroon people claim these rights, and there are conflicts over land tenure, particularly in the coastal zone and the northern forest area. More than 90% of the forests of Venezuela are owned by the state. There are private forest lots in both natural and planted forest areas, but their extent is not known. The constitution recognizes the right of indigenous people to the collective ownership of forest territories and to use forest resources, but there is no demarcation or formal recognition process in place.

In Guatemala, an estimated 38% (1.5 million hectares) of forests are owned privately, 34% (1.4 million hectares) are national forests and about 28% (930,000 hectares) are owned municipally or communally. Indigenous communal lands (*ejidales*) have special legal status. The complicated system of land tenure has led to many overlapping rights. In Honduras, there are three main types of forest ownership: public, *ejidales*, and private. There are many claims over the use of forests, particularly private lands, and significant areas of closed forest have no clear ownership. An estimated 80% of Mexico's forests, some of which are non-tropical, is owned by local communities (mostly *ejidos*). Around 15% is owned privately and 5% is classified as national land. Most of the forests in Panama are state-owned. However, the majority of the closed forest is situated in collective landholding units known as *comarcas*, or indigenous reserves, and the constitution gives these communities

the authority to manage their lands according to customary law. Nearly 75% of forest land in Trinidad and Tobago is owned and administered by the state and the remainder is owned privately.

Forest policy and legislation

The principle of using C&I to monitor SFM has been fully accepted in all the ITTO producer members of Latin America and the Caribbean, except perhaps in Trinidad and Tobago, which still lacks a system of C&I suited to its needs. Different sets of C&I are used as tools to monitor forest management, but these are sufficiently similar to provide the basis for reasonably uniform standards.

All eight countries of the Amazon Basin have subscribed to the Tarapoto process for the development of C&I for the sustainability of the Amazon forests, which is sponsored by the Amazon Cooperation Treaty. There appears to be some overlap in the Tarapoto and ITTO processes and there have been recent moves at the regional and some national levels to harmonize them. Bolivia and Brazil recognize the Tarapoto C&I process but use the ITTO C&I as an instrument to monitor progress towards SFM. Colombia and Ecuador have developed their own C&I based on those of ITTO; Peru has adopted national C&I based on the Tarapoto process but has also decided to use ITTO's C&I at the FMU level (as has Panama). Guyana reviewed both sets in the development of a new national forest plan, Suriname plans to develop national-level C&I based on the Tarapoto model, and Venezuela plans to develop its own C&I based on the latest version of ITTO's C&I. Guatemala, Honduras, Mexico and Panama participate in the Lepaterique C&I process of the Central American countries; Guatemala and Honduras have applied the 1998 ITTO C&I to their tropical production forests, and Mexico plans to develop C&I specifically for its tropical forests based on the ITTO C&I.

All ITTO member countries in the region have revised or adapted their forest laws and policies since UNCED and in the light of the new environmental conventions and ITTO policies and guidelines. They generally have a comprehensive body of forest laws aimed at the sustainable use of forest resources, but the level of enforcement is less than adequate in many countries.

Although the laws are generally similar between countries, there are a few important differences. Few countries have a clearly designated PFE, and the estimates contained in this report are largely made on the basis of subjective judgements as to the level of commitment of the forest owner to maintaining forest cover in particular tracts of land. The legal categories of forest vary greatly between countries. Another significant difference is the degree of responsibility held by forestry services for forest management and regeneration. For example, Colombia no longer has a national forest service, and regional autonomous corporations have incorporated the task of managing forests into their broader mandates for resource management. In several countries (Bolivia, Brazil, Peru and Venezuela), the holders of concessions (or, in the case of Brazil, landowners wishing to harvest their forest) are legally responsible for forest management, but these duties are often evaded or else fulfilled by paying a fee to the forestry service to do the management for them. Partly because smaller licensed companies are not expected to manage the forests they harvest, and partly because of land-tenure issues, small operations have proliferated in some countries, notably in Ecuador and to a lesser degree in Panama and Venezuela.

Seventeen years ago, forestry was normally part of a ministry of agriculture or dealt with by a ministry of forestry. This is no longer so: in most countries, forestry is now part of wider ministries in charge of environment and remains part of the Ministry of Agriculture only in Peru, Guyana and Honduras. At the federal level in Brazil, forestry is the responsibility of the Ministry of the Environment, Water Resources and the Amazon; in Colombia, the Ministry for Environment, Housing and Territorial Development; in Ecuador, the Ministry of the Environment; in Guatemala, Mexico and Venezuela the Ministry of the Environment and Natural Resources; in Trinidad and Tobago, the Ministry of Public Utilities and the Environment; and in Panama, the National Environmental Authority. In Bolivia, forestry is part of a wider ministry in charge of rural development – the Ministry of Sustainable Development and Planning.

Specialized agencies, partly organized as semi-autonomous bodies, are responsible for forestry planning, the supervision of forest management and, in some cases, for the direct management of state forests. Their responsibilities, however, have been greatly reduced over the years. Other agencies, in particular those in charge of environment, have assumed part of the responsibility for defining, implementing and/or enforcing forest management policies. In many countries of the region, the designated forest authorities appear to lack the resources to adequately implement and enforce their forest laws.

Civil society is of great importance in forest management in this region; it includes environmental and social NGOs and industry associations. In fact, in many ITTO member countries, it is civil-society organizations that are shaping the course of national forest and environmental policies. Forest management certification has become a significant influence, particularly in Bolivia and Guatemala. Grassroots organizations in Guatemala, Honduras and Mexico are actively developing community forestry in production forests. In Guyana and Suriname, NGOs are playing an important role in monitoring logging and mining in natural forests and in advocating the causes of indigenous peoples and Maroons. International (mainly North American) NGOs are also influential in forest conservation, particularly in the countries of the Amazon Basin. Some NGOs have leased forest production concessions in Guyana and Peru to transform them into privately operated protected areas, although so far these cover a relatively small area (218,000 hectares).

Status of management

Natural production forests

Forest use is allocated through long-term and large-scale private forest concessions of up to 200,000 hectares in Bolivia, Guyana and Suriname; Peru, Guatemala, Panama and Venezuela have systems for medium-sized concessions. Timber harvesting is mostly done at a smaller scale in Colombia, Ecuador, Honduras, Mexico, Panama and Trinidad and Tobago. In the Brazilian Amazon, nearly all production management is conducted by private operators in privately owned forests.

Table 4a summarizes the management status of the production PFE in ITTO producer member countries in the region. Most of the area allocated to concessions or under licence (34.7 million hectares) is also covered by management plans (31.2 million hectares). Brazil's forests currently available for timber production are mostly privately owned and therefore there is no major concession or licensing system; a new law on public forests which will introduce a concession system was approved by Congress in February 2006 and is expected to have a major effect on commercial forestry in coming years. Brazil's privately owned forests do not figure in the area of forests allocated to concessions or under licence in Table 4a but contribute 5.25 million hectares to the area of forests under management plans. The proportion of the production PFE under management plans in Latin America and the Caribbean is set to grow as several recently revised forest laws now require the preparation of forest management plans prior to logging. At least 6.47 million hectares (3.5% of the natural-forest production PFE) are estimated to be under SFM.

The certification of forest management has become a significant factor in nearly all countries. Unlike the situation in the African and Asia-Pacific regions, a single standard – that developed by the FSC – has so far been used as the main vehicle for the assessment of forests for certification. A total of 4.15 million hectares (2.2% of the natural-forest production PFE and 60% of the estimated area under SFM) have been certified under this scheme, including 2.21 million hectares in Bolivia, 1.16 million hectares in Brazil, 520,000 hectares in Guatemala and 163,000 hectares in Mexico's tropical forests. Brazil has also developed its own national scheme, CERFLOR, and certifications by this body are likely to begin shortly as a national standard has just been completed with ITTO assistance. In Bolivia, and possibly elsewhere, certification has been promoted by international donors, but access to markets for certified timber often remains problematic. The lack of a significant price premium in the markets where certified timber is sold may make it difficult to maintain high forest management standards.

As easily accessible sources of tropical hardwoods in Asia and Africa become scarcer, the global hardwood market is turning towards the vast, relatively unexploited timber resources of the Amazon Basin. However, SFM is still quite rare there. In 1989, silviculture and other aspects of forest management were being practised in the Tapajós National Forest, Brazil, and the von Humboldt National Forest, Peru. Tapajós still functions as a demonstration area and timber production is set to increase there, but management has been abandoned in the von Humboldt National Forest. In neither country has this experience been widely extended to other forests. An exception is the Antimary State Forest in Brazil's Acre state, which is being managed in accordance with a management plan prepared under an ITTO-financed project and produced 16,700 m³ of timber in 2003 (and was certified by the FSC in late 2005). The estimated 2.21 million hectares of Bolivia's natural forests considered to be under SFM are located in the Amazon, as are Peru's 560,000 hectares. Nevertheless, a great deal more work needs to be done if SFM is to become more widespread there.

In the last 15 years, there have been many new timber inventories. Doubts have been expressed about the accuracy of some of these. Accurate or not, the findings have rarely been used, either by forest operators for the detailed planning of their logging or by the forestry services for issuing logging licences. Logging is still highly selective, but the species taken have changed. Seventeen years ago, mahogany was the principal species in many forests, but other species have now taken its place. More species are marketable internationally – about 25–40 species compared with 5–15 in the 1980s. Average logging intensities have increased from 2–5 m³ per hectare then to more than 20 m³ per hectare today and even, in some well-organized long-term concessions, to 35 m³ per hectare. Nevertheless, the economic viability of SFM based on these lesser-known species is itself unknown.

Planted forests

The total plantation estate in the tropical part of ITTO producer member countries in Latin America and the Caribbean amounts to about 5.60 million hectares, the majority (3.81 million hectares, or 68%) in Brazil (Table 4b), where the main (although not exclusive) use is for wood pulp. Venezuela boasts 863,000 hectares and Peru about 250,000 hectares. At least 2.37 million hectares (42%) of the region's plantation estate are covered by management plans. A total of 1.59 million hectares are certified, most of them in Brazil.

Venezuela has extensive tropical pine plantations, and there is some new development of planted forests in Central American countries, particularly Panama, and in Peru. Major initiatives to promote planted forests at private, community and state levels have recently been launched in Colombia, Mexico and Ecuador. Plantation forestry has been recognized in many countries of the region as a vehicle for economic development, given the comparative advantages of fast growth and lower extraction costs. However, the creation of planted forests does not necessarily – and certainly does not immediately – relieve harvesting pressure on remaining primary forests.

Eucalypts are mostly planted outside the moist tropical forest area in mountainous and dry regions. Teak is typically planted in lowland tropical areas with dry seasons, and it has recently been widely planted on private land. Certification for many of these teak plantations is being sought in order to gain access to international markets. Local hardwoods, including *Cordia alliodora*, *Cedrela* spp, *Jacaranda* spp, *Bombacopsis quinata* and *Schizolobium* spp, and other light hardwoods such as *Gmelina arborea* are also being grown in plantations. The region has an excellent base of research into plantation development.

Protection forests

Table 4c summarizes the management of the protection PFE in ITTO producer member countries in Latin America and the Caribbean; Map 3 shows the distribution of protected areas in IUCN categories I-IV against a background of forest cover.

As in the other regions, there is little consistent and reliable information about the amount and management of forested protected areas. According to the estimate given in Table 4c, the protection PFE covers 351 million hectares, considerably more than the 66.8 million hectares estimated by UNEP-WCMC (2004) to be in protected areas compatible with IUCN protected-area categories I-IV. All figures are heavily influenced by the estimate of protection PFE in the Brazilian Amazon forest, which, in this report, is taken to include indigenous lands in the Amazon and protected areas on private lands.

Data on the management of protected areas are even more questionable. An estimated 8.37 million hectares of protected areas are covered by management plans – of which more than 85% was accounted for by one country (Venezuela) – but information was not available for Bolivia, Brazil, Colombia, Guatemala, Honduras, Mexico, Peru or Suriname. Of the estimated 4.34 million hectares of the protection PFE under SFM, 2.38 million hectares are in Bolivia and 1.54 million hectares in Peru, where specific areas are known to be covered by management plans and significant resources are being invested in their implementation. Estimates of the area of protection PFE under SFM were not possible for Brazil, Colombia, Ecuador, Guatemala, Honduras, Mexico, Suriname, Trinidad and Tobago, and Venezuela.