



3.4 Forest communities and legal timber in the Ecuadorian Amazon

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Introduction

Three groups of people inhabit Ecuador's Amazonian ecosystems: indigenous peoples, settlers and a migratory population. Indigenous peoples are the original inhabitants of the region and live mostly in vast areas of tropical rainforest. They belong to 13 different nations. Together, indigenous groups and settlers own about 60% of the remaining forest area (Palacios and Freire 2004); 40% is within protected areas (PAs). Shifting cultivation has traditionally been practised in harmony with natural forest dynamics. With the construction of roads and the involvement of indigenous people in the market, however, the possibilities and need for income have increased (Fundación Natura 2010).

After 1970, more and more settlers began migrating to the Amazon, converting the native forest into pastures and croplands while harvesting wood for sale. Their farmlands usually cover 40 to 50 hectares (Kautz 2004).

The migratory population is linked to oil exploration and in many ways is responsible for most of the threats to the Amazon rainforest. The opening of the forest by roads, the introduction of substantial economic resources and the demand for local resources have had a severe impact on the forest.

Logging and forest conversion are direct threats to the Amazon forest. Unfortunately, their impact is intensifying, as there is an increasing demand for wood for urban areas and export.

Most production of timber is informal and illegal. In response, the state has improved forest control with a computerized permit system launched in 2009. The World Bank (2006) has stated that, in order to be effective, solutions to illegal forest exploitation caused by poverty must focus on alleviating the precarious economic situation.



IMPROVED TIMBER
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Chainsaw milling is the main mean of production for sawn timber. Unfortunately, it yields less than 50% of the standing trunks (Gatter and Romero 2005); more efficient technologies that improve quality and the cutting process — such as guide frames or band saws — are not widely used. Implementing basic rules of forest management as a mechanism for maintaining forest cover that allows for sustainable forest use and contributes to poverty alleviation has not been widely promoted in Ecuador.

Objective and methodology

Our study¹ analyzed the use and sale of timber produced by chainsaw milling in a small selection of indigenous and settler organizations in the Amazon region of Ecuador (Box 1). Interviews with key actors and consultative meetings with selected organizations in two different situations were held.

It was assumed that small forest owners needed to cooperate in order to improve many aspects of their lives. There are three reasons for individuals to form an organization: economic, socio-political and cultural-traditional. These reasons also guide cooperatively organized market activities.

Box 1. Organizations in the study area

- The *Asociación Artesanal Agroforestal Kanus* (ASOKANUS) and the Shuar community of Yukuip (known as NASHE, its abbreviation in Shuar) are indigenous peoples' associations.
- *Pre-Asociación Madereros* (PAM) and *Asociación de Operadores de motosierras de orellana* (ASOPEM) are organizations of timber traders and chainsaw operators. Members own one or more chainsaws and have interests in a communal timber yard. They are exerting political pressure for a new agreement with forest authorities that has simplified procedures.
- *Perla de la Amazonía* and *Las Canelas* are local settlers' organizations. Their members convert forest to establish pastures and crops and sell standing trees to intermediaries. Some members own their own chainsaw, but most rent them or hire a chainsaw operator.

ASOKANUS supports its members through communal technicians and the elaboration of management plans. Under its micro-credit programme it provides about US\$250–500 for each member to cover the initial costs of timber harvesting and legal procedures. The organization itself mills the timber with two chainsaws and arranges the collaborative sale of timber. The timber is legal and has valid permits, and since its clients explicitly demand legal timber it receives a price premium. In addition, ASOKANUS was the only local organization to do an inventory of the remaining forest stocks and harvestable timber. ASOKANUS is shifting from a traditional-cultural organization to an economic one; it facilitates but does not promote logging.

NASHE has also begun to establish community control over forest resources. Half of the families within the association's area already agree with this process and have promised to comply with forest regulations. The association does not yet own chainsaws or other means of production. NASHE remains a traditional-cultural organization. It is strengthening its outreach and has a vision of moving towards community timber marketing.

Perla de la Amazonía and *Las Canelas* are traditional-cultural in nature and are not interested in developing their organizations. The main goal of PAM and ASOPEM, which are organizations of chainsaw millers and wood traders, is to generate political influence. They feel that chainsaw milling is the most appropriate way to produce timber and that this is done best by individuals.

The Shuar organizations have collective territories and have adopted internal regulations for logging. They are interested in selling legal timber. ASOKANUS has ten years of experience in timber harvesting. However, the annual production capacity from a forest area of 180,000 ha remains low, at about 300 m³ of sawn timber (*Fundación Natura* 2010). The settlers and chainsaw millers from the organizations in the province of Orellana have some recent experience with sustainable forest management (SFM).

The main problems in improving timber production

Application and enforcement of forest laws

In 2000 the Ecuadorian Environmental Ministry adopted a regulation for SFM of timber harvesting in tropical rainforests.² It established simple requirements for the harvest and transport of timber. There are no initiatives of the forest authority or stipulations within regulatory framework to improve the effectiveness of timber milling or promote reduced-impact logging (RIL).

Several studies have shown that the regulation is only partly enforced. Navarro, Del Gatto and Schroeder (2005) reported that between 1998 and 2001 the authorized annual harvest in native forests in Ecuador was about 660,000 m³, while industrial consumption amounted to 2.8 million m³. Palacios (2008a) estimated that in 2007 the illegal timber supply from the Amazon was about the same as the legal production. In Amazonian cities, the proportion of illegal timber is even higher; in Tena, it is 98% (Palacios 2009).

Participants in the project workshops confirmed different forms of illegality in timber harvest and transport. The most frequent was the misuse of transport permits by intermediaries; the timber is transported with a valid permit, but sourced from illegal logging. Intermediaries reported that once a management plan for an area is approved, transport licences are issued via the online permit system within a few hours. Of course, it is unlikely that timber would be ready to be transported within such a short time.

Only about 30 planks per day can be produced with a chainsaw. The only fast way to fill a truck with 500 planks is to buy them at the road on the edge of the forest.

In some Shuar communities,³ timber producers are bound by a local regulation. It builds on forest law, but also incorporates traditional elements.⁴ ASOKANUS owns chainsaws

and other means of production. Although it regularly sells shipments of legal timber, this activity includes only a third of its members. Many members still prefer to sell their timber on the informal market. It can be assumed that the main reason for this is the offer of immediate payment that avoids any bureaucratic or communal control.

The farms of the members of NASHE are located along a new road, which is projected to lead to the rainforest city of Taisha. NASHE applies local rules on forest management to promote legal timber harvesting, but does not own tools or sell timber. The organization is in the process of refining and enforcing its forest regulations. Its members currently produce illegal timber, but have reached an agreement⁵ to comply with local regulations in future.

Organizational levels of forest harvesting

In Ecuador, communities' organizational capacity to harvest timber is in its infancy. There are several initiatives from communities to organize themselves but these have not been consolidated. Between 1997 and 2000, about 15 organizations of Afro-Ecuadorians and indigenous Chachi people formed the Northern Community Forest Network of Esmeraldas in order to negotiate a fair price on wood (Padilla 1999). By mid-2007, five organizations in the southeast and northwest of the country, with the support of NGOs, intended to create a platform for small producers, but the organization never became operational.

While mapping the activities of timber-related organizations, Palacios (2008a) noticed that most involved raising complaints to the authorities. It is a challenge to form collaborative organizations that support the improved harvesting, processing and fair trade of wood.



Capacity for timber production

Smallholders possess essentially all native Amazonian forest outside of PAs. Settlers and indigenous peoples also occupy most of the formally declared national forest reserve (Palacios 2008b).

In most cases, indigenous people share large communal plots of land, which can be up to 780,000 hectares (Palacios 2005). These are often divided into farms, each managed by a single family. In some cases they carry out unauthorized clear felling; this is more common when farms are located close to roads (Romero et al. 2009).

Settlers make use of felled wood or sell standing trees to intermediaries. In a few cases, but more often than indigenous families, settlers have their own chainsaws; because they have processing capacity they have the advantage of selling a more valuable product than standing trees. Mules or people transport the sawn timber from the forest to the road.

Some indigenous communities in remote places without access to roads or navigable rivers maintain ancestral forms of use and resource management. They fell trees for subsistence using borrowed chainsaws. This situation changes drastically once a road is built because

timber becomes an easy source of income. In most cases, the standing trees are sold to intermediaries, who use their own chainsaws or hire chainsaw millers.

None of the people interviewed expressed the intent to employ other, more effective milling techniques. Members of ASOKANUS have received demonstrations from NGOs on how to use guide frames to enhance productivity and product quality and reduce waste. They do not make these changes, even though the organization's technicians know that badly sawn timber is wasteful and less valuable and may not meet the terms of the contract. Changing habits is difficult; this, along with the necessity of having an assistant for improved production methods, makes it difficult to get people to adopt new techniques (Fundación Natura 2010).

Timber markets and prices

The forest offers the settlers and the indigenous people an opportunity to earn income quickly (Kautz 2004). Frequently, timber felling starts when a new road is built because of the easy access it provides to the forest. Intermediaries persuade forest owners to sell standing trees and then accumulate large volumes of timber to be transported and sold in urban centres for the domestic market. Intermediaries manage market information and have the capital to finance the timber harvest; they also maintain contact with forest managers and officials.

The forest owners receive an unfairly low price because no extra value is added to the product. The intermediaries provide all the capital, since the forest owner has basically no money, and determine the price and the contractual conditions. According to Gatter and Romero (2005), illegal timber costs less than legal timber. Poorly chainsawn timber is accepted because of its low price.

The lack of demand for legal timber or for valuable, good quality timber influences these prices (Jiménez 2000, quoted in Kautz 2004). Timber traders argue that the control of timber at its destinations such as urban traders or the timber industry is vital to reduce illegal logging and allow prices to increase. Table 1 illustrates the prices paid for timber.

Table 1. Prices for illegally produced timber, legalized through transport permits (US\$)

type and size of timber	species	price at the forest road	prices paid to intermediaries
board (<i>tablón</i>) (2.5 x 0.25 x 0.05 m)	Laurel (<i>Cordia alliodora</i>), Manzano colorado (<i>Guarea</i> sp.)	2.30	5.00 (Quito)
	Seique (<i>Cedrelinga cateniformis</i>)	3.50	7.00–8.00 (Quito)
block (<i>pieza</i>) (2.5 x 0.2 x 0.2 m)	Manzano colorado (<i>Guarea</i> sp.), Avio (<i>Chrysophyllum</i> sp.), Abio (<i>Pouteria</i> sp.)	10.00	16.00–17.00 (Huaquillas, Peruvian border)

Source: intermediaries in Lago Agrio, Ecuador

ASOKANUS was able to negotiate an agreement with a timber processor for the sale of Seique (*Cedrelinga cateniformis*). The price was as much as 25% higher than the market price since the buyer demands proven legal timber.

Conclusions

In general, the forest in Ecuador has been and is still considered to be a source of immediate income by rural people and an exploitable resource to meet the national timber demand. The current policy approach almost entirely overlooks the need for SFM to obtain a long-term yield and secure environmental services. This is evident because of the small area being well-managed and the lack of promotion of forest conservation.

Forest monitoring is recommended in order to prevent further losses due to forest degradation and conversion. Furthermore, the forest authority — in collaboration with other institutions, such as the National Development Bank⁶ — should design credit lines to improve the harvesting and sawing techniques used by small-scale millers and to offer micro-credit to harvest legal timber. These measures might prove to be even more effective when planning national measures related to Reducing Emissions from Deforestation and Forest Degradation (REDD).



One question always stands out: why is illegal timber more attractive than legal timber? Our findings reveal some possible answers:

- the production of legal timber is more expensive because of tax payments and the requirement to follow formal procedures;
- legal timber does not receive a fair price because of the lack of demand for it;
- the market accepts and often prefers illegal timber because of greater demand and the scant risk of being caught;
- the prevailing mean of production, the chainsaw, does not require formally established operations and financial monitoring, as the scale is small and little capital is involved; and
- the legal regulation does not address small-scale producers who cut only a few trees per year and chainsaw-mill them.

The solution to the problem of bad forest management and poor rate of recovery when marketing legal timber should be developed according to the ideas of local organizations, in order to have their acceptance. However, most representatives we contacted had only vague and partial ideas for improvements, most of which did not include milling technology. Freehand chainsaw milling is seen as the only feasible way to produce sawn timber. Arguments that the timber quality is bad, the dimensions vary too much and that much of the timber is lost during the process are countered with statements about the lack of capital and the forest's inaccessibility to larger equipment. In addition, chainsaws are widely available.

Different groups have different visions of the forest and its use. For indigenous peoples, living in remote areas far from roads, the forest represents their livelihood in a comprehensive sense. However, this vision is quickly being altered by more market connections and the resulting economic opportunities that new roads provide. Activities to raise awareness of the importance of standing forests and strengthen community organizations and monitoring initiatives are needed to support indigenous peoples in using the forest according to their vision.

Only organizations that have benefited from external technical assistance seem to have the resources to develop a vision of sustainable timber production. It is not known, however, if they can form a company that is capable of marketing legal timber. A business plan will have to consider the organizational aspects and limitations of an association. Improved timber production techniques can only be introduced if there is a willingness to carry out collaborative forestry activities. In such situations, chainsaw milling could be replaced by more effective methods.

For the intermediaries, the forest is a business opportunity. Their vision is simple: cut trees and sell timber. They should offset the loss of forests by planting new trees, but in reality, reforestation activities are very rare. Intermediaries heavily influence the production and trade of timber. Reforestation as a solution to the loss of native forests by these actors should be considered, but with clear ideas of where to do it, with which species, and under what technical and financial conditions.

For settlers, the forest has been the immediate source of a cash income and not a long-lasting source of livelihood. This view is changing, however. *Perla de la Amazonía* and *Las Canelas* are seeing new opportunities in the forest, related to a sustainable use of timber, development of tourism and/or environmental services. They know that some farms no longer yield as they once did due to complete deforestation. Several settlers have cultivated their farms since the beginning of colonization and worry about the state of their land when they pass it on to their children. They feel that a good farm has pasture and cropland, but also forest, which produces timber in the long term.

Endnotes

1. The project had the financial support of the VERIFOR initiative funded by the European Commission.
2. *Norma para el Manejo Forestal Sustentable para Aprovechamiento de Madera en Bosque Húmedo.*
3. The communities are composed of *Centros*, which organize several settlements and groups and control a significantly big forested land area, 160,000 ha in the case of ASOKANUS.
4. An example is the rule to fell only up to one tree per ha, which simulates traditional harvesting intensity.
5. This was supported by the local NGO *Servicio Forestal Amazónico*.
6. *Banco Nacional de Fomento*.

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