Impacts of illegality and barriers to legality: a diagnostic analysis of illegal logging in Honduras and Nicaragua

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SUMMARY

This paper summarises a diagnostic analysis of the illegal timber trade in Nicaragua and Honduras conducted by a team of local and international researchers during 2002.[1] Evidence of the scale and dynamics of illegal logging in both countries, as well as its economic, social, environment and governance impacts are presented. The paper describes how over-complex regulations and market competition from cheap illegal timber reduce the economic viability of operating legally. This particularly affects small-scale producer groups, leaving them vulnerable to economic capture by illegal timber traders. The paper calls for a combination of measures to reduce regulatory "barriers to legality", while tackling corruption and organised crime. Incentives for sustainable forest management, and regional coordination of forest law enforcement and governance in Central America, are also required.

Keywords: illegal logging, Honduras, Nicaragua, barriers, governance

INTRODUCTION

Honduras and Nicaragua are HIPC qualified countries, among the poorest in the Western Hemisphere. Both possess extensive natural forest cover[2] and high economic and livelihood dependence on natural resources. However, both countries suffer from high levels of deforestation[3] due to illegal logging, institutionalised forest sector corruption and expanding agricultural frontiers (although some of the latter may be regarded as socially desirable). While there is some anecdotal understanding of the consequences of illegal logging in these countries, there is little empirical data on the problem.

This study represents one of the first attempts at a systematic policy, legal and institutional assessment of illegal logging in Honduras and Nicaragua. The study was undertaken to: (a) document the scale, dynamics and impacts of the illegal logging trade (mainly in broadleaf forests); (b) improve understanding of the legal, regulatory and institutional constraints which make legal forest operations less economically viable; and (c) build political momentum for tackling the problems of illegal logging, both by assembling preliminary evidence of the costs of the illegal logging trade, and through a process of multiple-stakeholder dialogue. The study seeks to add value to on-going national and regional governance, anti-corruption, and poverty reduction initiatives in Central America[4].

This paper is divided into five main sections following a brief consideration of methodology, and definitional issues surrounding illegal logging. The first outlines the scale and dynamics of the illegal timber trade; the second assesses the main economic, social, governance and environmental impacts of illegal logging; the third sets out the legal, regulatory and institutional constraints and 'barriers to legality' underlying illegal logging; the fourth briefly examines the policy consensus-building process; and the fifth presents some policy conclusions.

[1] See Acknowledgement.
[2] Covering about 47% of Honduras, and 48% of Nicaragua (Harcout and Sayer 1996).
[3] About 3.5% (80,000–100,000 ha) in Honduras and 2.3% (70,000–75,000 ha) in Nicaragua.
[4] These include the 1993 Central America 'Forest Convention' under the aegis of the Central American Commission for Environment and Development (CCAD), the 1995 Central America Treaty for Democratic Security, the 1996 Organisation of American States Convention Against Corruption, and the National Poverty Reduction Strategies of Honduras and Nicaragua.

METHODS

The study involved the following main activities in each country:

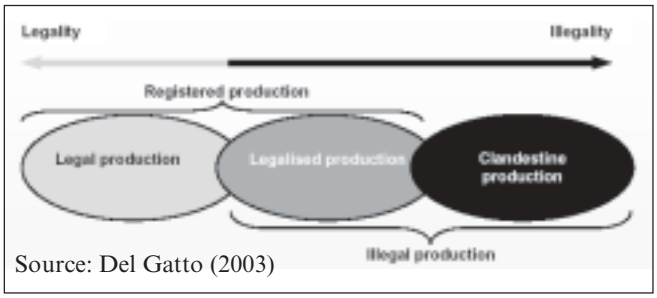
1. Three regional case studies were chosen as a representative sample of illegal timber production chains serving local and foreign markets. In Honduras, the case studies covered illegal logging operations in the Sico-Paulaya region in the north-east (Mosquitia), in Atlantida on the north coast, and in Olancho in the east (see Figure 3). In Nicaragua, the case study areas comprised the El Castillo municipality in the south-east San Juan River area (bordering Costa Rica), and the municipalities of Puerto Cabezas (Bilwi) and Rosita in the northern Atlantic region (Fiure 2). All of these were illegal logging "hotspots" located in broadleaf forest areas[5]. The availability of researchers with strong local knowledge and contacts also determined site selection.
2. Studies of the legal, regulatory and institutional barriers to legality facing forest producers.
3. Studies of the economic costs of illegal logging to the national governments.
4. A preliminary regional assessment of illegal timber trade flows, including an analysis of timber import and export data for Honduras, Nicaragua and their main trading partners.
5. Multi-stakeholder meetings to discuss the study's findings. Stakeholders included local forest users, small farmer (*campesino*) unions, local governments, the national forestry authorities, the state environmental monitoring services (*fiscalia*), and industry representatives.

FIGURE 1 *Case study locations in Honduras*

FIGURE 2 *Case study locations in Nicaragua*

WHAT IS ILLEGAL LOGGING?

Legal forest management or production conforms to a set of national laws and standards or norms that regulate forest extraction, processing, transport and trade. In practice, however, it is difficult to distinguish what is legal or illegal. Much apparently legal forest production is fraudulently 'legalised' at some point along the production chain. In the Central American context, it is therefore useful to group forest production into three (albeit overlapping) categories as suggested by Figure 3: legal, legalised and clandestine production. The latter two categories (legalised and clandestine) conform to 'illegal logging'.



Source: Del Gatto (2003)

FIGURE 3 *Legality and illegality in forest production in Central America*

Legalised production is timber fraudulently legalised at the stump (for example, by adding timber from an unauthorised area), in transport (in Nicaragua, it is common for a transport permit to be used up to ten times) or in processing. Legalised production is accompanied by official documents, forest fees are paid, and it enters official statistics. Clandestine timber, by contrast, evades all documentation and fees, and remains unregistered. Bribing state forestry authority, local government and law enforcement (police) officials forms an integral part of both legalised and clandestine timber. In official data there is

[5] While some case study areas also had pine forests, the main focus in this preliminary study was on broadleaf forest.

therefore an overlap between legal and illegal logging, as shown in Figure 3, making it virtually impossible to quantify genuinely legal production. There is also some overlap between legalised and clandestine production; a log or plank may be removed from the forest clandestinely, but then be legalised (e.g., at a transport check-point) before conversion into a processed product (in our terminology this would be 'legalised' forest production).

SCALE AND DYNAMICS OF ILLEGAL LOGGING

The scale of clandestine timber production in Honduras and Nicaragua

(based on Del Gatto (2003a), and Alcocer López (2003))

As implied in the previous discussion, it is marginally easier to estimate clandestine as opposed to total (including legalised) illegal timber production. This was estimated using a combination of secondary data[6], key informant estimates, and supply and demand analysis[7]. For Honduras, clandestine production was estimated at 75–85% (about 125,000–145,000 m^3) of total hardwood production, and 30–50% (350,000–600,000 m^3) of softwood production, while for Nicaragua it represented about half (30,000–50,000 m^3) and 40–45% (110,000–135,000 m^3) of total hardwood and softwood production respectively. Anecdotal evidence suggests that most of the remaining or official timber production is fraudulently legalised.

The diversity of illegal production chains

(based on Del Gatto 2003d, REMBLAH 2003, Ampie Bustos 2003, Paniagua 2003, NICAMBIENTAL 2002)

'Legalised' and clandestine timber production chains feed a variety of markets. In Honduras, processing and export industries mainly located in 'free processing zones' around the main cities consume pine and higher value timber including mahogany for export as furniture or furniture parts. Among the main mahogany buyers are Mahogany International, Caobas de Honduras and Wellington Hall. In Nicaragua, the main mahogany exporters are MADENSA S.A., AMERINICA S.A., Aserrio R. L, Maderas Porteñas, and IMCASA. The US and the Caribbean are key markets. Production chains also feed national markets (for urban consumption) and local demand (for mines, and construction in local towns and villages). National demand focuses on a broader spectrum of species, from traditional high value timbers like mahogany to pine and lower value hardwoods.

Key actors and relationships in the illegal timber trade

(based on Del Gatto 2003d, Colindres 2003b, REMBLAH 2003, Ampie Bustos 2003, Paniagua 2003, NICAMBIENTAL 2002)

Illegal timber production chains in Honduras and Nicaragua involve a wide range of actors including forest owners, forest squatters, sawyers, forest professionals, timber truckers, timber industrialists, public officials, and community leaders. Institutional arrangements between these actors facilitate access to forest resources, provision of up-front capital and equipment, transportation, processing and marketing, as well as accompanying formal and informal transactions to 'legalise' production or circumvent the legal and fiscal system.

In both countries, processors and exporters rely for timber procurement on timber traders or local logging contractors. The latter usually operate by advancing funds and equipment to local forest owners, timber producer associations and individual sawyers. In Nicaragua, some processing companies use intermediaries to systematically buy up community and/or non-commercial use permits, as a means to access the resource and 'legalise' illegal cutting. The role of indigenous communities and private forest owners is therefore often limited to giving permission for their land to be logged.

In Honduras intermediaries have infiltrated forest producer organisations established under the Social Forestry System (SSF) in order to obtain cutting permits, typically licenses for domestic consumption theoretically non-commercial and local sales of deadwood. Being quicker and cheaper to comply with than management plans, the permits are an effective means of 'legalising' timber. These intermediaries dominate decision-making, maintain tight control of the production chain, and use local sawyers as hired labour.

Institutional weaknesses in the state forestry agencies of both countries mean that technicians and senior government officials have been instrumental in fraudulently legalising production. In Honduras, AFE-COHDEFOR's policy of issuing 'mahogany deadwood' licences following Hurricane Mitch (1998) resulted in fraudulent authorisations to fell standing mahogany trees. In Nicaragua, informal schemes are negotiated between INAFOR officials, local government (municipalities), community leaders (*síndicos*[8]) and other interest groups to legalise production. This includes issuing permits to cut larger volumes than obtainable from an authorised area.

Transboundary movements of illegal timber

(based on Del Gatto 2003c)

An estimated 20–30% of the regional timber trade in Central America is undocumented. Figure 4 sets out some

[6] For Honduras, data from a 1987 inspection survey of timber quantities in processing plants were available.

[7] The clandestine cut can be crudely estimated as the residual of demand (composed of national consumption and exports) less the sum of official supply and imports. One problem of this calculation is the difficulty of estimating clandestine imports and exports.

[8] A síndico is an indigenous community leader in the northern Atlantic region of Nicaragua

FIGURE 4 *Principle flows of clandestine timber in Central America*

of the principal transboundary flows. Export and import data comparisons are notoriously difficult, mainly due to problems with national statistics and cross-country inconsistencies. Here the comparisons were made based on the FAOSTAT (2002) Bilateral Trade Matrices. Notwithstanding the well-known limitations of the latter data they and anecdotal reports imply considerable under-declaration of exports of Nicaraguan and Honduran softwoods and hardwoods, including mahogany, especially to the Dominican Republic[9] and the US. In 1999 the US International Trade Commission registered the import of 2,222 m^3 of Honduran mahogany (sawnwood) revealing the violation of Honduras' 1998 hardwood log and sawnwood export ban.

Anecdotal evidence also suggests that Honduras exports significant quantities of illicit timber to Nicaragua, only to re-import it as 'legal' timber. El Salvador, the least forested country in Central America, has been a significant consumer of both Honduran and Nicaraguan timber, especially in recent years given the need for reconstruction following Hurricane Mitch and two earthquakes. On the Honduran – El Salvador border, the illegal timber trade appears to be exacerbated by old territorial disputes, and the 'timber conflicts' have even involved the local authorities as well as local armed groups including Salvadorans living in Honduras. This situation has the potential to escalate into a broader conflict.

According to Campos Arce *et al*. 2001, Costa Rica has been much more successful than its neighbours in controlling illegal logging. However, Costa Rica at least partly makes up for its national supply shortfall by importing illegal Nicaraguan timber across the highly permeable San Juan River border.

THE IMPACTS OF ILLEGAL LOGGING

Economic impacts

(based on Richards *et al*. 2003, Del Gatto 2003a, and Alcocer López 2003)

Introduction

Calculating the economic cost of illegal logging to the national economies can send out a powerful political message, since it can persuade governments of the case for self-interested action. However, any estimate of the economic cost of illegal logging is bound to be imprecise. Without expensive, intensive and dangerous forest-based research involving close contact with loggers and other forest users, estimates have to be based on second-best or indirect methods. The 'back of the envelope' calculations presented here constitute 'order of magnitude' estimates. This can help pinpoint areas where further research could be carried out. The calculations, which are made using conservative assumptions and probably understate the real costs, are divided into direct fiscal losses (including losses from pine forests) and indirect economic costs. Referring to the definitional discussion of illegal logging, our main concern here is with clandestine timber.

Direct fiscal losses

Figure 5 presents the estimated direct fiscal losses due to illegal logging in terms of the loss of forest fees (mainly

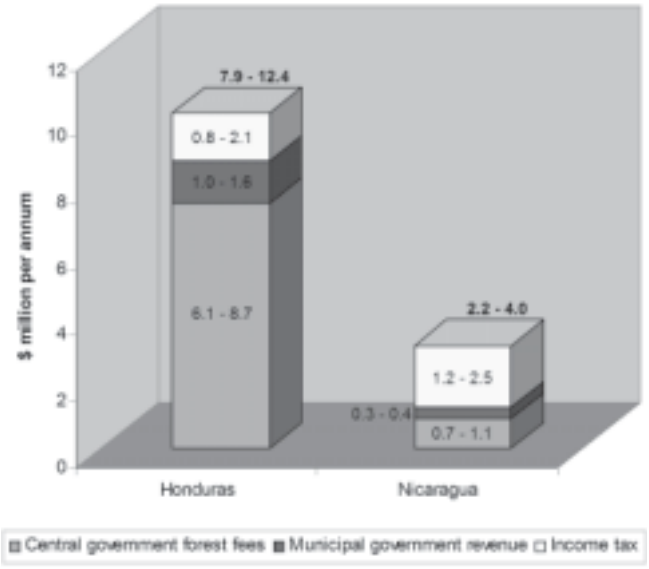


FIGURE 5 *Annual financial loss due to illegal logging (US$ million)*

[9] Certain Caribbean countries appear to act as 'black holes' for Central American timber in the sense that they absorb apparently large amounts of timber without leaving much evidence (in the import statistics), unlike the US where reporting is efficient and timber laundering less likely. While this is partly a reporting problem, the situation can be exploited by interested actors who may be laundering illegal timber on the international market – but this requires further research.

stumpage charges on production from national forestland), municipal revenues, and income tax[10].

The direct annual fiscal losses came to $7.9–12.4 million for Honduras and $2.2–4.0 million for Nicaragua. The level of forest revenue in Honduras was significantly higher due to the higher state ownership of forests (almost all broadleaf forest is national forest), but income tax losses in Nicaragua were higher. In the case of Honduras, the fiscal loss was at least half the annual budget of AFE-COHDEFOR, and in Nicaragua it was the equivalent of employing about 2,500 schoolteachers. These are annually recurring costs. Allowing for declining timber production in line with a constant deforestation rate, the net present value (NPV) was estimated in the ranges $58–91 million (10% discount rate) for Honduras and $16–30 million for Nicaragua[11].

These figures underestimate the fiscal losses from the illegal logging trade and associated illegalities, since they exclude: additional income and sales taxes that would result from higher market prices (key informants in Nicaragua estimated that timber prices would be 20% higher without illegal logging); stumpage charge losses due to species falsification; the probable reduction in pine concession auction values in Honduras; foregone export levies from various border or customs irregularities; fraudulent use of community forest rights by loggers or timber merchants; and costs to the judiciary system, the police and the state environmental monitoring service (‘*fiscalia*’).

Indirect economic losses

An important economic cost is the opportunity cost of ‘wasted expenditure’ on ‘sustainable forest management’ (SFM) by both national forest sector and foreign aid, including the costs of tackling illegal logging itself. While the low effectiveness of foreign aid and state forest expenditure is also due to a range of policy, market and institutional failures, illegal logging results in major negative incentives for SFM[12]. Based on expert opinion, this ‘wasted expenditure’ was assumed to be a modest 10–20%, resulting in an estimated annual opportunity cost of $3–6 million for Honduras and $2–4 million for Nicaragua.

An attempt was also made to estimate the value of environmental services and other ‘non-market’ values from broadleaf forests attributable to illegal logging. A conservative estimate based on expert opinion is that 10–20% of broadleaf deforestation in Central America is caused by illegal logging. There are many economic studies of environmental and other non-market values from tropical forests. A review of these by Pearce *et al*. 1999 found a reasonable consensus (ignoring extreme estimates) around a ‘central’ net annual loss value of $100 per ha for *national* non-market benefits[13].

The resulting net annual losses of *national* non-market values from illegal logging were $0.8–2 million for Honduras and $0.7–1.6 million for Nicaragua (the estimated annual loss of *global* non-market values was $5–20 million for Honduras and $4–16 for Nicaragua). The NPV of the *national* loss from *each year’s* deforestation due to illegal logging was $6–15 million for Honduras, and $5–12 million for Nicaragua, while the NPV of cumulative deforestation due to illegal logging was $62–124 million for Honduras, and $55–110 million for Nicaragua. These tentative estimates indicate that foregone non-market values are significant, and for broadleaf areas they are probably in excess of fiscal losses.

Finally there are various less quantifiable economic costs associated with illegal logging, listed by Contreras-Hermosilla (2002), Callister (1999) and others:

- illegal logging and corruption encourage inappropriate legal and institutional reforms, and direct private investment flows away from activities like SFM with high social and economic benefits, and towards rent-seeking investments[14];
- revenues from industrial scale illegal logging are more likely to be expatriated than spent in-country, resulting in loss of the national economy multiplier effect;
- macro-economic analysis shows a significant correlation between weak governance and per capita incomes, as well as with infant mortality, literacy and life expectancy rates; these factors dilute the impact of development programmes (Thomas 2000) – to the extent that illegal logging impairs governance (see below) and contributes to these adverse impacts;
- loss of tourism in dangerous areas, as may have happened in Atlantic coastal regions (although drug trafficking is another powerful driver in these areas).

It is important to note from the above that illegal logging affects the whole economy. The financial flows associated with illegal logging add to the informal sector and encourage speculative (e.g., real estate), shady and illegal

[10] The income tax calculations allow for recuperation of tax further along the processing chain, and were based on a modest 15–30% profit margin.

[11] All the net present value (NPV) calculations in this paper are based on a 10% discount rate.

[12] Depressed national prices due to illegal timber flows and low cost ‘unfair competition’ combine with complex regulations and institutional constraints to make legal and/or SFM production unprofitable, and to cause excess demand pressure on the resource (see also Box 2).

[13] This is composed of non-timber forest product subsistence values (about $50 per ha); environmental or ecological values ($30), excluding carbon; eco-tourism and recreation ($5–10); and non-use or existence values ($2–27). The term ‘national’ is used since the calculation excludes net *global* carbon retention values which, according to Pearce *et al*. (1999), are in a range of $600–4,400 per ha (depending on the forest type and subsequent land use) when using a climate change damage cost value for carbon. It is important to note that these average figures disguise major location-specific variations.

[14] A lax regulatory framework attracts less responsible international companies according to recent transition economy literature (Hellman *et al*. 2002). A characteristic of more responsible foreign direct investment is that it tends to avoid countries where illegalities and corruption are high.

investments. This dilutes the effectiveness of monetary and other macroeconomic policies, and encourages further corruption (Nalin Kishor, World Bank, pers comm.).

Governance impacts
(based on Contreras (2003), Del Gatto (2003b) and Pommier (2003))

Illegal logging, which is strongly associated with corruption and patronage in the national forestry authorities, impairs governance at the political and field ('bureaucratic' corruption) levels, and leaves government bodies too weak to fulfil their responsibilities. In particular, illegal logging distorts the *roles* of key players in the production and marketing chain. Logging companies and timber merchants in these countries have nurtured public-sector vested interests in order to gain a disproportionate influence in decision-making processes, cut through red-tape, and distort environmental monitoring procedures. Community organisations are left particularly vulnerable in these circumstances. They can be infiltrated and bought out by illegal timber merchants via a combination of credit, bribes and threats. Figure 6 indicates how these power-based relationships played themselves out in the case of the Sico-Paulaya valley (Honduras) during the 2000–2001 period.

The susceptibility of cash-strapped state forestry agencies and local governments to distortion by illegal logging is high where forest fees constitute a major source of revenue. This creates an incentive to fraudulently 'legalise' production through informal arrangements between forestry officials, field technicians, traders and community leaders.

Forest sector governance problems have important knock-on effects for governance as a whole through their impacts on the broader network of institutions, regulations and values, for example, impacts on police force standards (particularly implicated in the Olancho case study) and public respect for the law.

Social and poverty impacts
(based on Del Gatto (2003b) and Pommier (2003))

Foregone state revenues and the loss of non-market benefits tend to affect the poorest most, and the poor are most vulnerable to the breakdown of justice in rural areas. While the poor may obtain some short-term benefits to partially compensate the erosion of their natural capital (or of the benefits of common pool access rights), livelihood asset benefits tend to be thin and temporary as indicated by evidence from the Sico-Paulaya case study (Box 1). Most

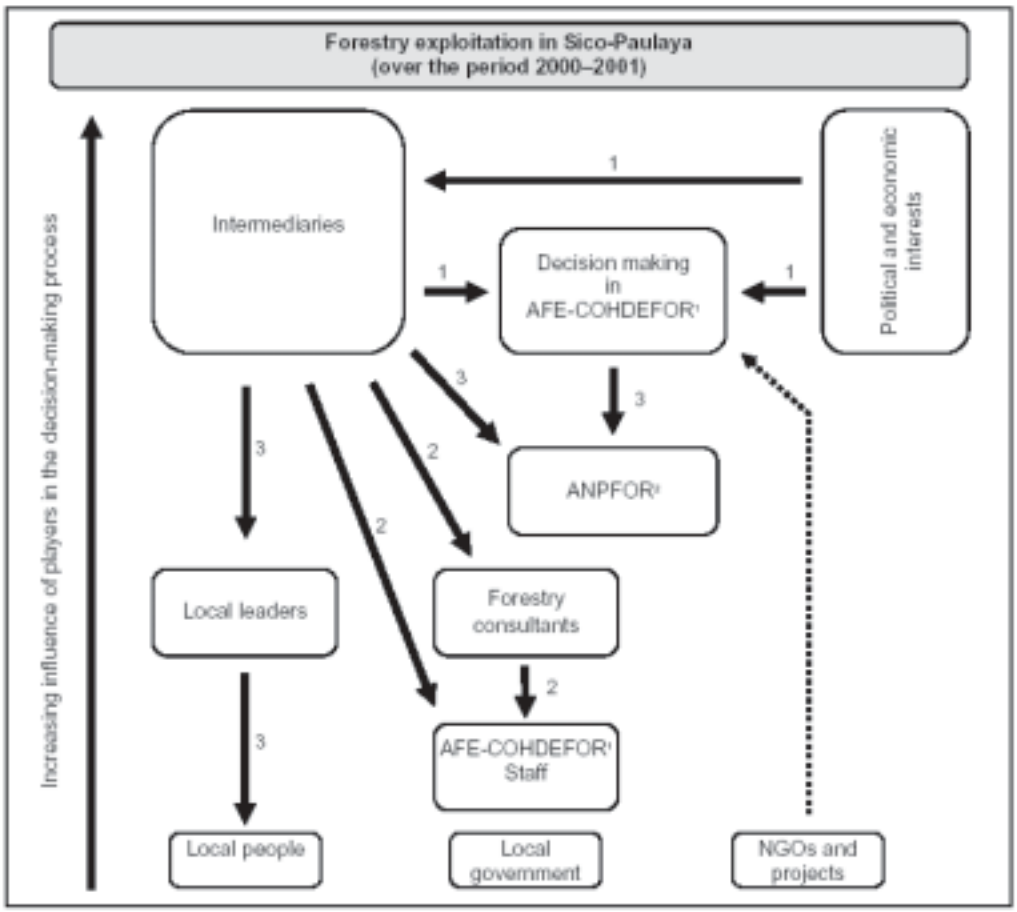


FIGURE 6 *Stakeholder interests in the Sico-Paulaya valley, Honduras*

¹ State Forestry Administration – Honduran Forestry Development Corporation
² National Association of Broadleaf Forest Producers

BOX 1 *Impacts on the financial and physical capital of the poor in Sico-Paulaya, Honduras (Del Gatto 2003b)*

Legalised and clandestine production of about 11,000 m^3 of mahogany in the Sico-Paulaya valley over 2000–2001 brought local people about US$1.2 million in wages and profits. But the impacts on their financial and physical assets have been fleeting and insignificant:

- over half the income was grabbed by powerful community members, eventually leaving only about a quarter of it for poorer groups;
- payments to the latter were either long delayed or came sporadically in part-payments, reducing the possibility of investing in capital assets like tools and equipment;
- two years of intensive activity were followed in 2002 by a spell of very low production; after a few months, little or nothing was left of the money saved either in cash or liquid assets (livestock, jewellery, etc);
- several chain-saw operators and local organisations ended the period significantly in debt.

local forest users or owners (such as indigenous groups in Nicaragua) become passive spectators or at best day-labourers in the logging process. It was estimated in Nicaragua that timber producers or forest owners only receive 5–10% of the timber's value, whether extracted legally or illegally. Employment generated by timber companies and traders tends to be poorly remunerated, but is important in view of limited alternative employment opportunities and the depressed state of small-scale farming.

The Sico-Paulaya case study also showed how the social capital of the poor is eroded when timber merchants infiltrate community organisations; and how illegal logging can divide and alienate a community. Local people accused each other of 'grassing' to the authorities, and rival chainsaw gangs emerged. In Nicaragua, illegal logging has corrupted indigenous leaders and eroded traditional institutions.

The poor are also the first to be accused of illegal logging, partly because it is difficult and dangerous for forestry officers or the police to accuse armed and powerful actors. Blaming the poor can provide a convenient smokescreen for the latter. As mentioned in Box 2, the poor also often find themselves criminalised due to the difficulty and cost of complying with forest regulations.

Violence is never far away from illegal logging operations. In Rosita, Nicaragua, armed gangs make their living by threatening loggers and traders. In Sico-Paulaya, many villagers invested in arms for family protection during the illegal logging boom. There have been various confrontations, including murders.

Environmental impacts

The impact on broadleaf environmental services has been mentioned under the indirect economic impacts. While not all the blame can be laid at the door of illegal logging, the latter is often the first step in a downward ecological spiral. For example, illegal logging is highly selective so that the most valuable species like mahogany and tropical cedar are most at risk. Honduran mahogany may be nearing extinction outside protected areas, following estimated annual extraction of 30,000–50,000 m^3 (Del Gatto 2003b).

BARRIERS TO LEGALITY: LEGAL AND INSTITUTIONAL CONSTRAINTS

(based on Contreras-Hermosilla 2003; Colindres 2002; Del Gatto 2003d; Guillen 2002; Pommier 2003)

Perceptions of the forest law as illegitimate and transitory

Actors may perceive the law as unfair and resist its application. Governments in both countries have tended to ignore the traditional rights of local forest users, for example, by assigning harvesting rights to third parties. Even when local communities are assigned national forestland, strict harvest limits may be imposed. Under Nicaragua's forest law, farmers have limited rights to harvest planted trees on their own land. Changes or inconsistencies in government regulation cause communities to regard any government ruling or agreement as transitory – which lessens their interest in long-term forest management. Tenurial changes add to the uncertainty. For example, the legal and institutional uncertainties surrounding the 1992 Law of Agricultural Modernisation in Honduras appear to have resulted in widespread speculative land clearance by wealthy locals and outsiders (Suazo *et al.* 1997). The main source of the uncertainty was the clause which stated that national forestland that had been under agricultural use for at least three years before 1992 could be titled.

Unclear and complex regulations

Forest regulations in both countries require actors to comply with unrealistic rules. Communities are asked to prepare highly technical forest management plans, and individuals growing a few trees are supposed to obtain transport permits which are not required for agricultural produce. Compliance can take up several days of work, often including wasted visits to distant offices. This compliance can appear meaningless when forest administration obviously lacks the capacity to control thousands of farmers, each logging and marketing a few trees. The complexity of forest regulations in both countries leaves them open to arbitrary interpretation. This is compounded by legal uncertainties where laws have been issued without their implementing regulations, or (as in Nicaragua) where forest regulations issued by Executive Decree have an unclear legal status vis-a-vis related legislation.

Over-complex rules greatly increase the transaction costs of compliance, leaving legal producers vulnerable to market competition from lower cost illegal timber. The case of the COATLAHL cooperative in northern Honduras

BOX 2 *Economic and social problems of COATLAHL Cooperative (Del Gatto 2003b)*

The COATLAHL timber Cooperative on the north coast of Honduras has been supplied by small community groups in the surrounding mountains since 1977. Establishing legal and equitable forest management has been a costly foreign aid endeavour. Administrative, conversion and storage inefficiencies, as well as increased regulatory and stumpage charges and excessive transaction costs, have been compounded by 'unfair competition' from illegal logging. The COATLAHL affiliated groups have found it difficult to survive given their higher production and transaction costs, and only marginally higher sale prices, than illegal loggers. Increasing conflict and insecurity is also discouraging long-term forest management – the timber is vulnerable to theft by armed bands. Ex COATLAHL members have now switched to illegal logging as a livelihood option. They have been effectively criminalised by the economic consequences of illegal logging, as well as over-complex regulations. Since the early 1990s, the number of affiliated groups has halved, and grassroots membership fallen by 75%. COATLAHL is now virtually bankrupt.

(Box 2) illustrates how high transaction costs and 'unfair competition' from illegal loggers has helped make legal production unattractive.

Overlapping or conflicting government responsibilities

Overlapping or conflicting forest governance responsibilities add to legal uncertainty. In Nicaragua there are often conflicts between central and regional 'autonomous' government, for example the Autonomous Region of the North Atlantic (RAAN), over the rights to assign harvesting permits (Ampié Bustos 2002). The confusion is heightened by an unclear distribution of law enforcement responsibilities between forestry agencies and other state institutions such as the police and judiciary. Such conditions create opportunities for corrupt public officials and corporate interests to "breach the law, either unintentionally due to confusion of roles or unclear procedures, or intentionally by exploiting the incoherencies" (Global Witness 2002).

Weak penalties and enforcement

Another problem is weak penalties – most fines are substantially lower than the potential benefits of operating illegally. Weak inspection and enforcement systems mean there is a low probability of being caught, and therefore 'crime pays'. These problems reflect public administration failures. State forestry agencies lack financial and human resources, so that loggers and companies have sometimes paid forestry officials for the logistical and subsistence costs of performing their official duties, casting doubts over official impartiality. Both INAFOR in Nicaragua and AFE-COHDEFOR in Honduras are financially dependent on forest revenues, so that revenue collection rather than forest law enforcement tends to become the main priority. The presence of armed gangs and drug traffickers, especially in agricultural frontier areas, makes law enforcement a dangerous and undesirable task for badly paid government staff. Box 3 describes a typical situation.

BOX 3 *Law enforcement in a Nicaraguan frontier region (Ampié Bustos 2002)*

The INAFOR office of Puerto Cabezas Municipality has one forestry officer, two assistants and a secretary. There is a single motorbike for transport. This team has to enforce the forest law in this and in the neighbouring Waspam Municipality – a total of more than 15,000 km^2 or 1.5 million ha. Attempts to enforce the law are subject to death threats, and salary levels do not justify taking such risks.

Institutional corruption

Surveys in both countries have identified corruption as a major cause of illegal logging and trade. Transparency International (2002) ranked Nicaragua as the 21st and Honduras the 31st most corrupt country globally. Recent World Bank sponsored surveys in Honduras show that corruption is particularly severe in the judiciary and police (WBI 2001). There are various on-going measures in both countries to tackle corruption. In Honduras, a National Anti-Corruption Council and Anti-Corruption Strategy have been established (CNI 2002).

Lack of information, transparency and accountability

Lack of information, transparency and accountability are major causes of both corruption and illegal logging. Public knowledge about forest resources and their management is scarce in both countries. Forest inventories are incomplete or out of date, and the public have limited access to them. In Honduras, some municipalities have denounced agreements between professional foresters and industrialists for under-declaring timber stocks (to evade taxes) on public lands. Forestry authorities lack the resources and data to control the implementation of forest management plans and monitor forest conditions. This situation discourages social control mechanisms; NGOs find it hard to adopt a public watchdog role, both due to the lack of information and of public access to it.

Links to organised crime

In remote rural areas, a combination of timber, drugs, unemployed youth and arms appears to be behind the collapse of civil governance. Anectodal evidence suggests that illegal logging is often linked to such criminal activities. The Sico-Paulaya valley in Honduras is part of a drug trafficking route and has become a refuge for people involved in criminal activities in urban centres (kidnappings, armed assaults, car robberies etc.). This has

generated significant sums of ready cash that can be conveniently invested in cutting and selling mahogany. One raid on an unregistered sawmill uncovered illegal timber, hijacked lorries, stolen goods and firearms – *prima facie* evidence of the links between illegal logging and organised crime. The gang leader proved to be a timber merchant.

THE POLICY CONCENSUS PROCESS

This study was undertaken to compile systematic evidence, as a basis for dialogue and future policy action to tackle illegal logging. In both countries, the support of key stakeholders, including state forestry agencies, *campesino* unions and forest management networks, was secured from the outset. Focus group discussions and national workshops, attended by other stakeholders including industry representatives, national assembly members[15], state environmental monitoring services (*fiscalia*) and donors, were held to review case and thematic study findings.

In Honduras, stakeholder discussions fed into deliberations on the draft of the new Forest Law[16], especially the sections on the SSF and community forestry concessions. A Policy Action Plan was produced at the national workshop. This emphasised measures to secure legal access to forest resources by local communities, increased transparency through decentralisation of forest management responsibilities, information flows to empower decentralised policy for a, awareness-raising and civil society participation, simplification of forest regulations; strengthening of regulatory institutions, effective implementation of management plans, and payments for environmental services.

In Nicaragua, stakeholder discussions focused on the role of community forest concessions and land tenure, including indigenous rights, regulatory rationalisation and simplification, institutional reforms including depoliticisation and modifying the revenue base of INAFOR, strengthening local government capacity, payments for environmental services; measures to support certification, and promoting the role of civil society (e.g. participation in social audits). A Policy Action Plan was also produced to address these issues.

The results have informed on-going initiatives in both countries to investigate and control institutional corruption in the forestry administrations. In Honduras, the evidence generated has fed into the work of the new National Anti-Corruption Council. At the regional level, the results and outcomes of national discussions are informing the development of a proposed forest governance and trade initiative under the auspices of the Central America Commission on Environment and Development (CCAD).[17]

CONCLUSIONS AND POLICY PRESCRIPTIONS

This study found that the economic, social, governance and environmental costs of illegal logging are very high. It also found that 'barriers to legality' within the legal, regulatory and institutional framework creates strong incentives to break or avoid the law. With ineffective state enforcement capacity, administrative confusion, unrealistic regulations and low penalties, forest laws and regulations in both countries are currently unenforceable. Both governments are in the process of trying to streamline their administrative, policy and legal frameworks, and, at least in Honduras, making the law more realistic, operational, fair and less vulnerable to corruption. The study has fed into government-wide initiatives in both countries to combat administrative corruption.

Simplifying administrative procedures can also reduce the costs and increase the returns to legal forest management. At the same time the costs and risks of illegal logging must be increased through a higher probability of detection (including strengthened monitoring of cross-border flows) and stiffer penalties. Such measures should increase timber prices, and, providing there is more effective regulation, this should increase the incentives for SFM. However, higher prices without effective regulation can merely encourage uncontrolled logging (Kaimowitz and Angelsen 1999).

To complement modifications to the regulatory framework, various other improvements are required:

- Transparency, data collection and access to information in order to make illegal logging and other forest crimes more difficult to hide.
- Monitoring, in partnership with NGOs and local communities groups. (A possible model is provided by the 'Vigilancia Verde' programme in Ecuador (Box 4)).
- Incentives for SFM, including payments for environmental services and certification (controlling illegal logging can increase market prices and therefore the returns in certified timber).

BOX 4 *Civil society participation in forest governance in Ecuador*

Under Ministry of Environment leadership, five NGOs are working with the army and police on the *Vigilancia Verde* programme to monitor and control logging activities (ITTO 2002a). This takes place within the framework of a set of national standards for SFM, and is funded by a trust that receives 50% of the value of confiscated illegal timber. Also, under the Forest Steward Programme, independent foresters are employed by the state to approve and monitor forest management plans.

[15] The Environmental Commission of the Nicaraguan National Assembly.

[16] The draft Forest Law was developed through a national consultative process that included NGO and industry representatives, as well as campesino and indigenous groups.

[17] Proyecto de Crecimiento de la Gobernabilidad y Comercio en el Sector Forestal de Centroamérica, CCAD (21 February 2003, Tegucigalpa, Honduras).

- Reforms to reduce the financial dependence of the state forestry agencies on forest fees.
- Depoliticising the selection of senior forestry officials.[18]

As the regional trade flow study (Del Gatto 2003c) and other literature (Richards 2003) shows, better control of illegal logging in one country (e.g., Costa Rica) increases demand pressures on illegal logging in neighbouring countries with weaker regulations (e.g., Nicaragua). This strengthens the case for a regional FLEG approach. A regional initiative should also include Caribbean countries such as the Dominican Republic which are important buyers of Central America timber. In view of the increasing consumer country demands for 'legal timber', a regional approach can help establish the credibility of exports from any country in the area.

However, the challenges to improved law enforcement in the forest sector are so great in these countries that it is doubtful whether the governments alone can accomplish much, and support from international donors, based on a sound understanding of the political power relationships, is essential. The reform agenda requires political mobilisation and action by actors both inside and outside the government, including the industrial sector, the general public, forest communities, NGOs, and consumer groups in importing countries.

ACKNOWLEDGEMENTS

This paper has only been possible due to the efforts of the field research staff, often working in dangerous social environments, including Gilberto Alcocer, Eduardo Ampié, Oscar Castillo, Ibis Colindres, Danilo Dávila, Jaime Guillén, Arístides Jiménez, Arnoldo Paniagua, and Abelardo Rivas. We are also grateful for the support of Penny Davies, comments by Nalin Kishor and Bill Hyde on an early draft of the economic calculations, and for anonymous reviewer comments. It is based on a research study coordinated by the Overseas Development Institute, and funded by the UK Department for International Development (DFID), the World Bank, and the Canadian International Development Agency (CIDA). The study was implemented in Honduras mainly by the Honduran Network for Broadleaf Forest Management (REMBLAH) with official backing from the State Forestry Administration (AFE-COHDEFOR) and the Honduran Federation of Agroforestry Cooperatives (FEHCAFOR). In Nicaragua, the main collaborator was the Nicaraguan NGO NICAMBIENTAL with official backing from the National Forestry Institute (INAFOR). The study received technical assistance from FAO, as well as from Global Witness and the Royal Institute of International Affairs (RIIA).

[18] This has been achieved in Bolivia where the Head of the *Superintendencia Forestal* is selected through a transparent process and appointed for six years, straddling the presidential term of five years. This partly protects the agency from political interference and corruption. In Honduras, similar reforms have been achieved outside the forest sector, as in the case of the Supreme Court of Justice. Such experiences should inform forest institutional reform.

REFERENCES

ALCOCER LOPEZ, G. 2002. Estimación de los costos económicos de la tala y el comercio ilegal para la economía nacional de Nicaragua. Consultancy report. www.talailegal-centroamerica.org

AMPIE BUSTOS, E. 2002. La producción forestal no controlada en el Municipio de Puerto Cabezas, Región Atlántico Norte. Nicambiental, Managua, Nicaragua. Consultancy report. www.talailegal-centroamerica.org

CALLISTER, D. J. 1999. Corrupt and Illegal Activities in the Forest Sector: Current understandings and implications for World Bank Forest Policy. Draft for Discussion for the World Bank Group. Forest Policy Implementation Review and Strategy Development: Analytical Studies. Washington, D.C.

CAMPOS ARCE, J. J., CAMACHO CALVO, M., VILLALOBOS SOTO, R., RODRIGUEZ, C. and GOMEZ FLORES M. 2001. La Tala Ilegal en Costa Rica. Un análisis para la discusión. Informe elaborado por el Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) para la Comisión de Seguimiento del Plan Nacional de Desarrollo Forestal. Turrialba, Costa Rica.

CNA 2002. Estrategia Nacional Anticorrupción. Consejo Nacional Anticorrupción, Honduras. http://www.worldbank.org/wbi/governance/honduras/pdf/hon_estrategia-ac.pdf

COLINDRES, I. 2002a. Contexto social, institucional y político del subsector forestal en Honduras. Consultancy report. Tegucigalpa, Honduras. Consultancy report. www.talailegal-centroamerica.org

COLINDRES, I. 2002b. La Zona Sur de la Biosfera del Río Plátano: la Madera de Caoba un Recurso en Disputa. Case Study www.talailegal-centroamerica.org

CONTRERAS-HERMOSILLA, A. 2002. Policy and Legal Options to Improve Law Compliance in the Forest Sector. pp.43–91 in Proceedings. Reforming Government Policies and the Fight Against Forest Crime. Rome 14–16 January 2002. FAO. Rome.

CONTRERAS-HERMOSILLA, A. 2003. Barriers to legality in the forest sectors of Honduras and Nicaragua. Consultancy report. www.talailegal-centroamerica.org

DEL GATTO, F. 2003a. La producción forestal no controlada en Honduras. ¿Qué es?¿Cuánta es?¿Y Cuánto cuesta? Unas respuestas preliminares. Consultancy report. www.talailegal-centroamerica.org

DEL GATTO, F. 2003b. The impacts of unregulated forestry production in Honduras. Briefing Paper. www.talailegal-centroamerica.org

DEL GATTO, F. 2003c. El Comercio Regional No Documentado de Madera: Comparación de Datos Estadísticos y Evidencia Anecdótica. Consultancy report. www.talailegal-centroamerica.org

DEL GATTO, F. 2003d. The forestry sector in Honduras: the legal barriers. Briefing Paper. www.talailegal-centroamerica.org

DEL GATTO, F. 2003e "¡El Magnate de la Maderiada Soy Yo!" Defraudando el Sistema Social Forestal en el Valle del Río Paulaya. Case Study. www.talailegal-centroamerica.org

FAOSTAT. 2002. Bilateral Trade Matrices. FAOSTAT Forestry Data, FAO. Rome. http://apps.fao.org/cgi-bin/nph-db.pl?subset=forestry

GLOBAL WITNESS 2002. Independent Forest Monitoring and Support to Forest Law Enforcement. London, UK.

GUILLEN, J. 2002. Documento borrador sobre marco político e institucional del sector forestal en Nicaragua. Consultancy report. www.talailegal-centroamerica.org

HARCOURT, C. S and SAYER, J. A. eds. 1996. *The conservation atlas of tropical forests: the Americas*. Simon and Schuster. New York.

HELLMAN, J., JONES G. and KAUFMANN, D. 2002. Far From Home: Do Foreign Investors Import Higher Standards of Governance in Transition Economies? World Bank Institute draft for discussion and comments. www.worldbank.org/wbi/ governance

KAIMOWITZ, D. and ANGELSON, A. 1998. Economic Models of Tropical Deforestation. A Review. Centre for International Forestry Research. Bogor, Indonesia.

NICAMBIENTAL (NICARAGUAN SOCIETY FOR THE CONSERVATION OF NATURE AND ENVIRONMENTAL RESTORATION). 2003. La Producción Forestal No Controlada en El Municipio De Rosita. Case Study www.talailegal-centroamerica.org

PANIAGUA, A. 2003. La Producción Forestal No Controlada en Rio San Juan, Nicaragua. Case Study www.talailegal-centroamerica.org

PEARCE, D., PUTZ, F. and VANCLAY, J. 1999. A Sustainable Forest Future? Report prepared for Natural Resources International, UK and UK Department for International Development. Department of Economics, University College, London.

POMMIER, D. 2003. Barriers to legal compliance and good governance in the forest sector, and impacts on the poor in Nicaragua. Briefing Paper. www.talailegal-centroamerica.org

REMBLAH (HONDURAN NETWORK FOR BROADLEAF FOREST MANAGEMENT) 2003. Diagnóstico de la Producción Forestal Ilícita en El Departamento De Atlántida. Case Study www.talailegal-centroamerica.org

RICHARDS, M. 2003. Higher International Standards or Rent-Seeking Race to the Bottom? The Impacts of Forest Product Trade Liberalisation on Forest Governance. Paper presented at FAO Expert Consultation on 'Trade and Sustainable Forest Management – Impacts and Interactions', 3–5 February 2003. Rome.

RICHARDS, M., DEL GATTO, F. and ALCOCER LOPEZ, G. 2003. The Cost of Illegal Logging in Central America. How Much are the Honduran and Nicaraguan Governments Losing? Consultant report, London. www.talailegal-centroamerica.org

SOUTHGATE, D. 1998. *Tropical Forest Conservation. An Economic Assessment of the Alternatives in Latin America.* Oxford University Press, New York.

SUAZO, J., WALKER, I., RAMOS, M. y ZELAYA S. 1997. Políticas Forestales en Honduras: Análisis de las Restricciones para el Desarrollo del Sector Forestal. pp.230–267 in Seguro O., Kaimowitz D. y Rodríguez J. Editores. Políticas Forestales en Centro América. IICA-Holanda/LADERAS CA/CCAB-AP/Programa Frontera Agrícola/CIFOR.

THOMAS, V. 2000. *The Quality of Growth.* Oxford University Press, New York.

TRANSPARENCY INTERNATIONAL 2002. Corruption perceptions index 2002. Transparency International, Berlin.

WBI 2001. Honduras governance diagnostics. World Bank Institute, http://www.worldbank.org/wbi/governance/honduras/