

A Report for the Ministry of Foreign Affairs, Government of Japan

National and International Policies to Control Illegal Forest Activities

July, 2003



Luca Tacconi, *Forests and Governance Programme,*
Center for International Forestry Research
Marco Boscolo, *Center for International Development,*
Harvard University
Duncan Brack, *Sustainable Development Programme,*
The Royal Institute of International Affairs

Cover photo by Anne Casson

Published by

Center for International Forestry Research

Mailing address: P.O. Box 6596 JKPWB, Jakarta 10065, Indonesia

Office address: Jl. CIFOR, Situ Gede, Sindang Barang, Bogor Barat 16680, Indonesia

Tel.: +62 (251) 622622; Fax: +62 (251) 622100

E-mail: cifor@cgiar.org

Web site: <http://www.cifor.cgiar.org>

National and International Policies to Control Illegal Forest Activities

A report prepared for the Ministry of Foreign Affairs
of the Government of Japan

July, 2003

Luca Tacconi, Center for International Forestry Research

Marco Boscolo, Center for International Development, Harvard University

Duncan Brack, Sustainable Development Program, The Royal Institute of International Affairs

Contents

| | |
|---|-----------|
| EXECUTIVE SUMMARY | V |
| 1. INTRODUCTION..... | 1 |
| 2. ILLEGAL FOREST ACTIVITIES, IMPACTS, AND THE GLOBAL AND NATIONAL SITUATION | 2 |
| 2.1. DEFINING ILLEGAL FOREST ACTIVITIES | 2 |
| 2.2. POTENTIAL IMPACTS OF ILLEGAL FOREST ACTIVITIES..... | 4 |
| 2.3. GLOBAL AND NATIONAL SITUATION..... | 7 |
| 3. ILLEGAL LOGGING, ECONOMIC RATIONALITY, AND ETHICAL ISSUES | 8 |
| 3.1. DEFORESTATION AT THE NATIONAL LEVEL | 9 |
| 4. SUSTAINABLE FOREST MANAGEMENT | 10 |
| 4.1. WHAT IS SFM?..... | 10 |
| 4.1.1. <i>Definition</i> | 10 |
| 4.2. INITIATIVES TO PROMOTE SFM: A BRIEF OVERVIEW | 11 |
| 4.2.1. <i>Producer country measures</i> | 12 |
| 4.2.2. <i>Consumer country measures</i> | 14 |
| 4.2.3. <i>International initiatives and agreements</i> | 14 |
| 4.2.4. <i>Forest certification</i> | 16 |
| 4.2.5. <i>What was achieved?</i> | 16 |
| 5. THE CAUSES OF ILLEGAL FOREST ACTIVITIES AND POLICY OPTIONS..... | 17 |
| 5.1. MARKET CAUSES AND POLICY OPTIONS | 18 |
| 5.1.1. <i>Initiatives by consumer countries</i> | 21 |
| 5.2. GOVERNANCE CAUSES AND POLICY OPTIONS | 21 |
| 5.2.1. <i>Initiatives by consumer countries</i> | 25 |
| 5.3. LEGISLATIVE CAUSES AND POLICY OPTIONS | 25 |
| 5.3.1. <i>Initiatives by consumer countries</i> | 28 |
| 5.4. CAPACITY AND TECHNICAL CAUSES AND POLICY OPTIONS | 29 |
| 5.4.1. <i>Initiatives by consumer countries</i> | 30 |

| | | |
|---------------------|--|-----------|
| 6. | INTERNATIONAL AGREEMENTS, LESSONS, AND POLICY OPTIONS..... | 31 |
| 6.1. | TRADE-RELATED AGREEMENTS | 32 |
| 6.1.1. | <i>CITES</i> | 32 |
| 6.1.2. | <i>International Tropical Timber Agreement and Organisation</i> | 35 |
| 6.1.3. | <i>Lessons from the Kimberley Process</i> | 37 |
| 6.1.4. | <i>Lessons from other environmental agreements</i> | 38 |
| 6.1.5. | <i>Lessons from fisheries agreements</i> | 39 |
| 6.2. | GOVERNANCE AND ENFORCEMENT RELATED AGREEMENTS AND PROCESSES | 41 |
| 6.2.1. | <i>Lessons from the Lusaka Agreement</i> | 41 |
| 6.2.2. | <i>Forest Law Enforcement and Governance process</i> | 42 |
| 6.3. | CONCLUSIONS AND RECOMMENDATIONS..... | 43 |
| 7. | BILATERAL TRADE MEASURES AND ILLEGAL FOREST ACTIVITIES: POTENTIAL RELATIONSHIPS | 44 |
| 7.1. | TIMBER PRODUCTION AND TRADE PATTERNS | 44 |
| 7.1.1. | <i>Asia</i> | 45 |
| 7.1.2. | <i>Africa</i> | 45 |
| 7.2. | IMPLICATIONS FOR ILLEGAL FOREST ACTIVITIES REDUCTION STRATEGIES..... | 46 |
| 8. | CONCLUSION | 47 |
| 8.1. | PRINCIPLES AND CRITERIA FOR EVALUATING ALTERNATIVE OPTIONS | 47 |
| 8.1.1. | <i>Principles</i> | 47 |
| 8.1.2. | <i>Criteria</i> | 48 |
| 8.1.3. | <i>Initial sequencing steps</i> | 49 |
| 8.2. | CONCLUDING COMMENTS..... | 49 |
| 9. | BIBLIOGRAPHY..... | 50 |
| APPENDIX I: | REQUIREMENTS FOR SFM | 55 |
| APPENDIX II: | SUMMARY OF CAUSES OF ILLEGAL FOREST ACTIVITIES AND POLICY OPTIONS | 59 |

List of Tables

| | | |
|-------------------|--|----|
| Table 1. | Illegal Forest Practices..... | 3 |
| Table 2. | Environmental, economic, financial, social, and governance impacts of illegal forest activities..... | 5 |
| Table 3. | Estimates of illegal harvest | 8 |
| Table A2.1 | Producer country: Causes of illegal forest activities and policy options | 60 |

Executive Summary

The purpose of this study is to critically examine the range of national and international policy options available to reduce illegal forest activities.

Illegal forest activities include a broad array of legal violations that range from violating ownership and use rights to engaging in corrupt relationships. They also may span activities at all stages of the forest production chain, from the acquisition of authorizations, to planning, to harvesting and transport of raw material and finished products, to financial management.

Illegal forest activities pose a significant threat to the sustainability of forest ecosystems, result in losses of government revenues, foster a vicious cycle of bad governance, and may contribute to increased poverty and social conflict. As such, they have received considerable attention from the international community, particularly in recent years.

Yet, significant gaps still exist both in the identification and evaluation of policy responses and in linking such responses to critical development priorities such as improved governance, improved livelihoods for the rural poor, environmental protection, sustainable forest management (SFM), and economic development. As such, the current debate on illegal forest activities has yet to recognize fully the broader implications of some options for such priorities.

In this study we provide a framework for addressing these issues and to narrow these gaps.

We present an overview of the symptomatic manifestations of illegal forest activities: Forest products generated in violation of government policies represent a very significant fraction of total production and may amount to 10-15 billion dollars in lost government revenues.

We then provide a simple framework to understand the problem.

In this framework we lay out that profit and income maximization are key aspects of the economic behavior of firms and individuals. Illegal behavior is more likely when the benefits derived from violating the law (e.g., timber mining, tax evasion, harvesting protected species or in unauthorized areas) exceed the costs of non-compliance.

In large part, the policy options that are listed in the report consist of measures that *reduce the economic rewards from illegal behavior*, either by increasing the rewards of compliance, or by increasing the costs of non-compliance.

Potential underlying market, governance and institutional causes of illegal forest activities, as well as capacity and technical factors are identified. We do so by first relying on the lessons learned from efforts to promote SFM over the past two decades. There are several reasons for doing so and particularly the fact that efforts to promote SFM and to reduce illegal forest activities are motivated by similar goals and challenges. These lessons learned from SFM experiences are then integrated with knowledge and insights gained from recent developments in our understanding of good forest governance to develop an array of possible policy responses by producer and consumer countries.

An analysis of existing trade and environmental agreements, their lessons, and potential relevance to addressing illegal forest activities is presented.

An analysis of trade data shows that Asian producer countries export mainly to other Asian countries, whereas African countries export mostly to Europe. Therefore, trade measures adopted by Asian consumer countries are most likely to have an impact on illegal trade and illegal logging in Asia (with

the exception of China that imports from Africa as well). Trade measures implemented by European countries are most likely to be effective on illegal trade and illegal logging in Africa.

The report concludes by presenting principles, criteria, and initial sequencing steps to aid the development of appropriate policy options to reduce illegal forest activities.

Principles

- Reform efforts should proceed with input from all the important stakeholders;
- Property rights of forests must be clarified and resolved;
- Streamline the policy and regulatory framework;
- Divest certain functions to the private sector, NGOs, civil society and local governments;
- Promote integration and coordination with other sectors and with other players, both national and international.

Criteria

- Clarity;
- Economic efficiency;
- Effectiveness;
- Equity;
- Acceptability;
- Motivating;
- Institutional parsimony;
- Exploits synergies;
- Consistency with own priorities.

Initial sequencing steps

- Pick the reformers;
- Comprehensive diagnosis of the problem;
- Consider all available options creatively and match response to underlying cause;
- Pursue no-regrets policies first.

The most significant actions to address illegal forest activities will need to be taken by producer countries, as they can directly affect illegal forest activities, and particularly illegal logging. Also, it is only in producer countries that appropriate reforms can be undertaken to ensure that rural communities are not negatively affected, but rather benefit from initiatives aimed at improving the management of forests.

Consumer countries can, of course, also play very significant roles that range from supporting further reform processes, to providing technical assistance, to exchanging data and other economic intelligence, to introducing legislation that limits the import of illegal forest products and facilitates trade in legal forest products.

Yet, there remain aspects of illegal forest activities that are still unclear. For example, which violations, among the numerous types, are the most serious? Which ones are causing the most economic losses, the most environmental losses, the most governance and social losses? Which ones should be tackled first? And how? Unfortunately, rigorous inquiries into these questions are still lacking.

1. Introduction

Illegal forest activities pose a significant threat to the sustainability of forest ecosystems, result in losses of government revenues, foster a vicious cycle of bad governance, and may contribute to increased poverty and social conflict. As such, they have received considerable attention from the international community, particularly in recent years.

Yet, significant gaps still exist both in the identification and evaluation of policy responses and in linking such responses to critical development priorities such as improved governance, improved livelihoods for the rural poor, environmental protection, sustainable forest management (SFM), and economic development. As such, the current debate on illegal forest activities has yet to recognize fully the broader implications of some options for such priorities.

The purpose of this study is to critically examine the range of national and international policy options available to reduce illegal forest activities. It does so by: (i) reviewing what is known regarding the nature and extent of the problem, (ii) identifying possible policy responses applicable by producer countries, by consumer countries, or via international initiatives, and (iii) suggesting possible principles and criteria for further evaluation and selection of policy options.

The report is structured as follows. Section 2 considers the definition of illegal forest practices, their global and national extent, and their potential impacts on a variety of development indicators. Section 3 then provides a simple framework based on economic rationality to understand the problem.

In section 4, we review the lessons learned from the efforts made to promote sustainable forest management (SFM). Our reasons for looking at the SFM experience were several. First, SFM has almost everywhere been promoted through policy reform (Poore and Chiew 2000) and, consequently, violations of government-defined SFM regulations are illegal. Second, efforts to promote SFM and to reduce illegal logging are motivated by similar goals. For example, both attempt to harmonize sustainable development and environmental protection goals. In fact, measures to reduce forest crime are seen as critical instruments to improve forest management (FAO 2001). Third, measures to advance SFM and reduce illegal logging also face the same complex challenges that range from poor governance to institutional weaknesses to adverse economic incentives. Fourth, while illegal activities have begun to receive significant attention from international donor agencies only in the last few years, SFM has been funded substantially for almost twenty years. During the mid-90s, for example, (Rice *et al.* 2001) estimated that approximately three-quarters of a billion dollars have been spent annually on international forestry assistance in the tropics, a large portion of which was spent directly or indirectly to support SFM (Shepherd *et al.* 1998). Much can be learned from the experience and research that has supported the advancement of SFM. Finally, initiatives to promote SFM or to reduce illegal forest activities both operate in a world characterized by a multiplicity of actors with different motivations, knowledge, resources, vulnerability, and alternatives.

We then turn to the analysis of the causes of illegal forest activities and the related policies options for producer and consumer countries. We do so in section 5. This is followed by a review of international agreements, lessons for addressing illegal forest activities, and recommendations. Section 7 then provides an analysis of trade data aimed at assessing the potential effectiveness of trade measures implemented by consumer countries.

The report concludes by outlining principles and criteria to aid the development of appropriate policy options to reduce illegal forest activities.

2. Illegal forest activities, impacts, and the global and national situation

2.1. Defining illegal forest activities

Illegal forest activities are defined here to include all illegal acts that related to forest ecosystems, forest-related industries, and timber and non-timber forest products. They range from acts related to the establishment of rights to the land to corrupt activities to acquire forest concessions, and activities at all stages of forest management and the forest goods production chain, from the planning stages, to harvesting and transport of raw material and finished products, to financial management.

A classification of illegal forest practices, based partly on (Contreras-Hermosilla 2001), is presented in Table 1. It stresses the different stages of allocation and acquisition of forest resources, and forest management and timber processing and trade, with an emphasis on the different types of violations.

Violations of indigenous people's rights, public trust, and public or private ownership rights may involve acts against constitutional, civil, criminal, or administrative law.

Violations of forest management regulations and other contractual agreements in either public or private forestlands are acts against forest legislation; this is the category that includes most of the acts that may be most appropriately referred to as 'illegal logging'.

Violations of transport and trade regulations include acts that violate forest legislation, but they may be related to legally or illegally harvested forest products. This category is referred to as illegal forest trade.

Timber processing activities may be regulated by industry and trade related legislation, as well as forest legislation. In this category, a violation directly linked to illegal logging is the use of illegally harvested logs.

Violation of financial, accounting and tax regulations may involve acts related to legally and/or illegally harvested and traded timber. This category is referred to in the report as illegal financial activities.

The many different illegal activities may be linked to each other in different ways, but two of the most significant links are worthwhile stressing here.

Violations of indigenous people's rights and of public trust may result in the establishment of forest operations that have a legal appearance. Timber extracted by these operations may seem legal to unaware traders and consumers, unless schemes aimed at certifying legality (see later in the report) also assess that due process is followed in the allocation of land to forest activities and in the allocation of forest concessions.

All violations can occur as the result, or at the prompting, of corrupt public officials. Corruption can affect the allocation of forest land, monitoring of forest operations, and law enforcement. Therefore, it can be one the most significant factors contributing to illegal forest activities.

The occurrence of a violation does not necessarily imply that policy options should necessarily focus on its prevention and repression. It is plausible that in some instances a revision of the legislation may be warranted. An example is a situation in which the legislation favors large-scale industrial harvesting operations and, as a result, small-scale rural operations find themselves operating illegally.

Table 1. Illegal Forest Practices

- *Violations of indigenous people's rights*
 - Illegal appropriation of indigenous land

 - *Violations of public trust*
 - Forestlands allocated unlawfully to other uses
 - Issuing and implementing regulations conflicting with other/higher regulations to legalize illegal timber products and activities
 - Issuing logging concessions, permits and authorizations in exchange for bribes and other private economic and political benefits
 - Using bribes, threats and violence to avoid prosecution/penalties or to obtain complacency
 - Using funds from illegal forest activities for political purposes

 - *Violations of public or private ownership rights*
 - Illegal expropriation of private or community forests
 - Illegal occupation of public forestlands, including slash and burn agriculture
 - Illegal harvest on public lands (outside concession areas)
 - Illegal harvest on indigenous lands

 - *Violations of forest management regulations and other contractual agreements in either public or private forestlands*
 - Logging without authorizations and/or required plans
 - Logging in excess of permitted cut
 - Logging unauthorized volumes, sizes, species (including protected ones)
 - Logging in prohibited areas such as steep slopes, riverbanks and water catchments
 - Girdling or ring-barking to kill trees so that they can be legally logged
 - Logging in protected areas
 - Arson to force conversion to other land use

 - *Violations of transport and trade regulations*
 - Transporting logs without authorization
 - Illegal transport of illegally harvested timber
 - Smuggling timber
 - Exporting and importing tree species banned under international law, such as CITES
 - Exporting and importing timber in contravention of national bans

 - *Violations of timber processing regulations*
 - Operating without a processing license
 - Expanding capacity without authorization
 - Using illegally obtained wood in industrial processing
 - Operating in violation of environmental, social and labor laws

 - *Violations of financial, accounting and tax regulations*
 - Untrue declarations of volumes, species, values
 - Declaring inflated prices for goods and services purchased from related companies, including transfer pricing#
 - Evasion and avoidance of taxes
 - Money-laundering through forest activities, or from illegal forest activities
-

When one part of a multinational organization in one country transfers (that is, sells) goods, services or know-how to another part in another country, the price charged for these goods or services is called 'transfer price'. This may be a purely arbitrary figure, meaning by this that it may be unrelated to costs incurred, may be unrelated to operations carried out or to added value. By manipulating the transfer price, multinational can reduce or even cancel out their total tax burden. Transfer pricing is not always illegal.

2.2. Potential impacts of illegal forest activities

The debate on illegal forest activities has focused almost completely on perceived negative aspects and impacts eg (Contreras-Hermosilla 2001), as they may:

- contribute to deforestation and loss of biological diversity;
- result in government revenue losses of billions of dollars;
- foster a vicious cycle of bad governance, ie corrupt individuals gain power through illegal revenues, then they may support bad governance to maintain revenues and acquire more power;
- contribute directly to increased poverty when people lose their resources, and indirectly as a result of a reduction in government revenues, that could in turn be made available for poverty reduction programs;
- contribute to funding national and regional conflicts thereby exacerbating them;
- distort forest product markets, thus reducing incentives for sustainable forest management.

However, it needs to be recognized that illegal forest activities have a positive side for some of the stakeholders, including:

- establishment of alternative land uses on forest land may provide local benefits to those involved;
- the (national or local) government may receive higher revenues as a result of illegal or legalized land conversion and increased timber production;
- the military and police forces derive income from illegal forest activities, and may be more willing to support the government;
- many people, including poor and unemployed, may derive an income from illegal forest activities;
- lower timber prices increase the competitiveness of national industries; and
- consumers may benefit as a result of lower prices.

A range of environmental, financial, economic, social, and governance impacts, and distribution on different stakeholders is presented in Table 2.

Recognizing this range of potential impacts is important in order to clarify the nature of the problem, to develop public policies aimed at addressing the problem, and assessing the possible direct and indirect impacts on the policy options.

The possible impacts, gains, and losses presented here are only some of the many possible combinations. Very limited work has been carried out in understanding the complex relationships between the different violations, the impacts on the various domains, and on the different stakeholders. Therefore, the information presented here can only be speculative and indicates possible areas for further work.

The terms 'loss' and 'gain' describing the impacts in Table 2 are used in neutral terms to highlight who and what may be affected negatively or positively affected by the different violations.

Table 2. Environmental, economic, financial, social, and governance impacts of illegal forest activities

| Type of violation | Impacts | | | | |
|--|--|--|--|---|---|
| | Environmental domain | Financial domain | Economic domain | Social domain | Governance domain |
| <i>Violations of indigenous rights</i> | | <p>Loss: reduction in indigenous people's revenues</p> <p>Gain: parties taking over rights gain from increased resource availability</p> | Indirect through the combined effects of financial loss and gain | Loss: indigenous people may lose cultural identity, indigenous resource management institutions weakened | |
| <i>Violations of public trust</i> | Indirect | <p>Loss: poor people have to bribe to access resources</p> <p>Gain: individual gains from bribes</p> | <p>Loss: loss of revenue impacts on economy; distortions through rent-seeking; competitiveness of industry affected; small-companies and individual may be marginalized; perverse incentives</p> <p>Gain: some individuals consume, invest, and distribute funds</p> | Loss: further marginalization of those without access to resources and little political clout | Loss: erosion of rule of law; weakened environmental governance |
| <i>Violation of public or private ownership rights</i> | Loss: biodiversity reduced and alteration of watershed and ecosystem functions, carbon emissions | <p>Loss: loss of government revenues, loss of company profit, individual financial loss</p> <p>Gain: individuals and companies benefit from returns from logging</p> | <p>Loss: similar as above</p> <p>Gain: increased logging activity benefits economy from increased employment, spending, exports</p> | <p>Loss: impacts on livelihoods from negative environmental change and through reduced government spending; social conflict, further marginalization and impoverishment of vulnerable communities that suffer violations</p> <p>Gain: allows survival strategy to some marginalized groups. Alleviates social pressures from the poor when government lacks capacity or intention to provide access to resources and services</p> | Loss: erosion of basic rights and of rule of law; corrupt politicians increase their power, and may in turn weaken general and environmental governance |

Table 2. Continued

| Type of violation | Impacts | | | | |
|--|---|--|---|--|--------------------------|
| | Environmental domain | Financial domain | Economic domain | Social domain | Governance domain |
| <i>Violations of forest regulations</i> | Loss: direct from minor to significant, depending upon the type of violation. May affect future growth, biodiversity, provision of environmental services | Loss: forest owner and government loose revenue Gain: loggers increase revenues or reduce costs | Direct loss of environmental values and of government revenues (e.g., if logging outside authorized areas while loggers pay only area taxes) | May impact livelihoods with negative environmental change, social conflict, and through reduced government income. | Loss: same as above |
| <i>Violations of transport and trade regulations</i> | Loss: indirect through increased harvesting of forest | Loss: tax revenue Gain: companies benefit from tax evasion | Loss: loss of revenue impacts on economy; distortions through rent-seeking; competitiveness of industry affected; small-companies and individual may be marginalized; perverse incentives | | Loss: same as above |
| <i>Violations of financial regulations</i> | Loss: indirect through increased harvesting of forest | Loss: tax revenue Gain: companies benefit from tax evasion and cheap credit | Loss: loss of revenue impacts on economy; distortions through rent-seeking; competitiveness of industry affected; perverse incentives | | Loss: same as above |
| <i>Violations of timber processing regulations</i> | Loss: indirect through increased harvesting of forest | Loss: tax revenue Gain: companies benefit from increased processing capacity, cheap timber | Loss: loss of revenue impacts on economy; distortions through rent-seeking; competitiveness of industry affected; perverse incentives | | Loss: same as above |

2.3. Global and national situation

This summary of the global and national situation is not intended to be exhaustive but to highlight the size of the problem by focusing on the widespread occurrence in different geographic areas.

Given its nature, accurate estimates of illegal forest activities are difficult to obtain. Globally, illegal forest activities are said to result in annual government revenue losses in the range of \$10-15 billion dollars losses (World Bank 2002). Illegal trade irregularities were estimated to be 15% of the total trade in the mid 1990s (Brack and Hayman 2001).

The data on illegal harvest (Table 3) are an approximation of the size of violations of forest regulations and some acts included in violations of property rights in Table 1. They clearly show that some countries may have a very significant problem. However, the fact that illegal harvest may be very high does not say what the type of the problem is. A country that has a large illegal harvest sold on the local market faces a completely different problem compared to a country whose timber is harvested illegally to supply international markets.

Data on revenue losses from illegal timber trade is available particularly in relation to losses arising from export tax evasion and timber smuggling eg (SGS Trade Assurance Services 2002). These data represent a very limited part of the picture. As noted in the previous section, there is a range of financial and economic impacts arising from illegal forest activities, and they are almost completely unknown. For instance, it is possible that the economic losses from illegal forest activities are significantly higher than the estimate of \$10-15 billion dollars presented above, if the environmental costs of illegal logging were estimated. On the other hand, it is also possible that for some countries the financial losses arising from illegal logging activities are more than matched (at least in the short term) by the benefits generated by increased economic activity resulting from the illegal activities, eg increased employment and consumer spending.

This, of course, does not imply that illegal activities should be promoted if they result in net economic benefits. It means that by focusing only on losses, the data available is only a partial indicator of the existence of a problem, but it is not sufficient to support a balanced development of policy options. ***Data on the benefits generated by illegal forest activities and their distribution is needed to identify the most appropriate policy options and their likely impacts.***

Table 3. Estimates of illegal harvest

| Country | Volume of illegality | Date | Source |
|--|---|--------------------|--|
| <i>Latin America</i> | | | |
| Brazil | 80% of 20-25m ³ in Amazon 80% of harvest in Amazon | 1998 Late 1990s | (AFP 1998) (Viana 1998) |
| Bolivia | 80-90% of total forest clearing | Late 1990s | (Contreras-Hermosilla 2001) |
| Colombia | 42% of harvest | | (Contreras-Hermosilla 2001) |
| <i>Africa</i> | | | |
| Benin | 80-90% of harvest | 2000 | (SGS Trade Assurance Services 2002) |
| Cameroon | 50% production indeterminate 50% of harvest 1/3 of harvest for local market | 1994 2000-01 | (Toornstra <i>et al.</i> 1994) (SGS Trade Assurance Services 2002) (Eba'a Atyi 1998) |
| Eastern province | 1/3 of harvest | 1992-93 | WRM-FM 1998 (World Rainforest Movement and Forests Monitor Ltd 1998) |
| Ghana | 2.6m ³ , more than 2 twice legal harvest | 1999 | (Birikorang 2001) |
| | 30% over allowable limit | 1993 | (Glastra 1999) |
| Mozambique | Perhaps 50% of legal harvest | 2000-01 | (SGS Trade Assurance Services 2002) |
| Tanzania | 130-500,000 ha affected | 2000 | (Panafrikan News Agency Daily Newswire 2000) |
| <i>Asia</i> | | | |
| Cambodia | 4.3m ³ , almost 10 times legal harvest | 1997 | (Global Witness 1999) |
| Indonesia | 64.6m ³ , 3 times official log production | 1998 | (Palmer 2000) |
| Malaysia | 1/3 of harvest | 1995 | (Dudley <i>et al.</i> 1995) |
| Myanmar | 80% of harvest | | (Brunner <i>et al.</i> 1998) |
| Philippines | 9m ³ | 70s-80s | |
| Russia | 20% of timber harvest violates law 50% of harvest | | (Greenpeace 2000) (Newell and Lebedev 2000) |
| Primorsky-Khabarovsk region (Far East) | | | |
| Siberia | 20% of harvest | 1998 | (Christian Science Monitor 1998) |

3. Illegal logging and economic rationality

Profit and income maximization are key aspects of the economic behavior of firms. Illegal behavior is more likely when the benefits derived from violating the law (e.g., timber mining, tax evasion, harvesting protected species or in unauthorized areas) exceed the costs of non-compliance.

In large part, the policy options that are listed in the rest of this report consist of measures that *reduce the economic rewards from illegal behavior*, either by increasing the rewards of compliance, or by increasing the costs of non-compliance.

Lack of transparency, accountability, and resources proportional to the responsibilities can lead individuals, companies, and public officials to behave in the pursuit of private economic benefit, political gain, or to apply the law in arbitrary ways.

SFM is defined by trends occurring at both national and ownership levels. Economic theory has been used extensively to understand and explain both broad changes in land use (e.g., deforestation at the national level) and harvesting decisions within a single ownership. Economic aspects of deforestation at the national level are considered below while issues relating to the single ownership level are addressed in the following section.

3.1. Deforestation at the national level

Past efforts aiming at promoting SFM have done little to curb deforestation. It is useful at this stage to introduce the economic fundamentals of deforestation.

The rent generated by land is the financial return from the land obtained from the sale of products (whether timber, crops, or something else) minus the costs of inputs (machinery, labor, etc) needed to generate those products. Land rent is economic value generated by the land as a factor of production in the long run.

Let us consider the land rent from two alternative land uses: forest and agriculture. In either land use lower quality land generates lower rents. The rent from agriculture is higher than the forest one on better land (e.g., lowlands with rich soils) but lower on lower quality land (e.g., uplands, broken topography, unsuitable soils for agriculture). Agriculture is economically superior to forestry in some, but not all, land.

This relationship between land rents of alternative land uses can help predict how much deforestation will occur once forestland begins being used for economic purposes.

It is critical to mention that institutional and market changes can result in changes in rents. For example, if the landowner could capture the value of the environmental services generated by the forest, the rent generated would increase without any changes in the quality of the land. Conversely, if the costs of agricultural labor or of other inputs go up, the rent from agricultural use would go down, thus making forest use superior to land use on some land at the margin.¹

This digression is made here to make the following points:

The presence of deforestation is, at certain stages of economic development, to be expected, particularly where agricultural uses are economically superior to forest uses.

Ignoring non-timber values and the off-site environmental damages caused by agriculture (e.g., water pollution) will lead to excessive forest conversion. (Vincent *et al.* 1997) suggest that the recent slowing down of deforestation in Malaysia may be interpreted in terms of the current land allocation approaching the point where the rent from agricultural land use equals the rent from forest land use, while, at the same time economic development has brought broader recognition of environmental services and increased the opportunity cost of agricultural labor.

Evaluation of progress towards SFM and the prevention and reduction of illegal logging activities should be prioritized for the lands where forest use is economically superior to agricultural use. Attempting to prevent forest conversion where (accounting for non-timber

¹ This conceptual model has been used extensively to understand the various factors that drive forest conversion to agricultural and other uses. A comprehensive review of these studies was produced by (Kaimowitz and Angelsen 1998).

benefits and the externalities of agricultural production) agricultural use is superior would go against national objectives of economic development.

4. Sustainable forest management

4.1. What is SFM?

Since the early 1980s, there has been considerable concern that deforestation and forest degradation were occurring at huge costs to society, measured in lost economic rents, inefficient allocation of resources, mining and degradation of renewable resources such as soil and forests, disruption of watershed services, social distress and conflict, massive loss of biodiversity, and emission of greenhouse gases. A series of ‘failures’ have then been identified as the root causes for these problems: Market failures, i.e., failing to use the corrective power of markets for allocating resources among uses and across time; and policy failures, i.e., government intervention aiming at mitigating market failures through taxation, regulation, public incentives, public projects, macroeconomic management and institutional reform (Panayotou 1993).

Given the right conditions (the correction and/or mitigation of the above failures), it was expected that sustainable forest management would have emerged as a better way to manage forest resources (Panayotou and Ashton 1992). Even as alternative options were identified and pursued to ensure the continued supply of many forest goods and services (e.g., forest protection), SFM was early on recognized as an important sustainable development strategy in light of the fact that many forest-rich tropical countries will continue to promote harvesting in significant portions of their forest estate and that much provision of non-timber goods and services occurs in ecosystems under human use (World Bank 2002).

Since its inception, SFM, by introducing the use of science in the planning and execution of harvesting operations sought to reduce the negative impacts of timber harvesting on other forest resources and services and increase yields of desired products and services from a given area of forest.

4.1.1. Definition

A considerable difficulty in promoting the widespread use of SFM has been the lack of an agreed upon definition of what it means.² Literally hundreds of definitions exist for SFM. The great majority of these definitions include the intent of ensuring a constant or increasing flow of wood but most definitions also include as a goal the continued provision of other goods and services such as NTFP and ecological and watershed services.

The international community is still struggling to find a unanimous definition of which goods and services should be considered and ‘sustained,’ how they should be measured, how should inevitable trade-offs among outputs and among the beneficiaries of those outputs be dealt

² The concept of sustainability was first placed on the international agenda by the Brundtland report in 1987 (World Commission on Environment and Development 1987), which defined sustainable development as ‘meeting the requirements of present generations without compromising the ability of future generations to meet their own needs.’ The first global policy on sustainable forest management was adopted at the Earth Summit held in 1992 and known as the ‘Forest Principles.’ It is worth mentioning, however, some authors point out that the concept of sustainability in forestry, defined as the importance of considering the needs of future generations, has been recognized for at least 200 years. For example the German forester Hartig, as early as 1804, stated that the goal of forestry should be to ‘utilize [forest stands] to the greatest possible extent, but still in a way that future generations will have at least as much benefit as the living generation’.

with, and, given the existence of such trade-offs, what criteria should be used in evaluating the desirability of a particular solution or ‘compromise.’

With the 1992 Earth Summit, the concept of sustainable forest management gained quickly considerable attention. Since it did so without being technically well-understood and without agreed upon guidelines with which to document progress toward SFM, it is not surprising that the first major set of initiatives to promote SFM have been the development of Criteria and Indicators for Sustainable Forest Management (C&I). By 1997, over 100 countries had committed to one of the various ‘processes’ that have been developed in different regions of the world.³ Criteria and Indicators are tools for assessing trends in forest conditions and forest management.⁴ They attempt to provide a common framework for describing, monitoring and evaluating progress toward sustainable forest management.⁵ As such, C&I have basically become the implicit definition of what sustainable forest management is, both conceptually and on the ground (Wijewardana 1998).

SFM is considered here as a set of practices that are undertaken within the legal and regulatory framework and that pursue a variety of goals, including the sustained yield of forest goods and services, positive socioeconomic impacts, and maintenance of biodiversity (Higman *et al.* 1999), see also Appendix I). Of particular relevance to this report is the criterion that specifies ‘Enabling Conditions for Sustainable Forest Management,’ that is concerned with the general legal, economic and institutional framework, without which actions included under the other criteria will not succeed.

4.2. Initiatives to promote SFM: A brief overview

This section aims at putting into context what can be learned from SFM in terms of its applicability to illegal logging. It serves as a brief background for the inquiry over what aspects of SFM can be generalized to inform initiatives to reduce illegal logging, inquiry that will be explored in the next section.

Initiatives to promote SFM have been broken down into:

- Producer country measures (e.g., instruments that affect supply such as policies and industry regulations, novel enforcement strategies and incentives);
- Consumer country measures (e.g., instruments that affect demand);
- International initiatives.

³ The concept and the terminology associated with C&I was introduced by the ITTO (ITTO 1992). Since then seven other ‘processes’ have been developed in different parts of the world. In June 1994, 38 European countries adopted the Helsinki Process. This was followed a few months later by 12 non-European temperate countries which established the Montreal Process. Following ITTO’s pioneering work and the comprehensive efforts of the Helsinki and Montreal processes, there was a proliferation in C&I initiatives. In 1995 eight countries in the Amazonian Cooperation Treaty began to formulate the Tarapoto Proposal, identifying C&I for the Amazon forest and since then, 27 sub-Saharan countries have been developing C&I for Dry Zone Africa, while similar work has been undertaken in the Near East and Central American regions. The latest addition is the C&I of the African Timber Organisation.

⁴ ‘Criteria’ define the essential components of sustainable forest management. These include vital forest functions, such as biological diversity and forest health, multiple socio-economic benefits of forests, such as wood production and cultural values and, in most cases, the legal and institutional framework needed to facilitate sustainable forest management. Associated ‘indicators’ serve to define what a criterion is and to measure it. For instance, ecosystem and species diversity are indicators of biological diversity. Measured over time, indicators can demonstrate trends towards or away from sustainable forest management, giving policy-makers the necessary information to implement corrective action.

⁵ A study by IIED (Nussbaum *et al.* 1996) examined the degree of consensus among SFM definitions. The authors concluded that there was more agreement over silvicultural aspects than on other forest goods and services like biodiversity conservation.

4.2.1. Producer country measures

The promotion of SFM in tropical countries has encountered many difficulties, including: poor understanding on what is SFM, market and policy failures (such as insecure tenure), limited law enforcements capability (limited capacity to police extended areas), corruption, large rent differential between SFM and conventional logging and between illegal and legal logging. Illegal logging and corruption have been usually identified as major obstacles to advance SFM.

Initiatives to promote SFM in producer countries have attempted to address this vast array of obstacles and difficulties.

Institutional, legislative and regulatory reform.

The pursuit of SFM and the reduction of illegality and corruption have often been advanced, or at least attempted, through policy and regulatory reforms that affected in various ways resource access, taxation, income distribution, and forest management. Furthermore, they often involved a radical reform of the regulatory agency, rarely with success (Poore and Chiew 2000).

A recent review commissioned by ITTO (Poore and Chiew 2000) noted that the most striking advances towards SFM have been in the field of policy and legislative reform. This legislative reform has often been followed by governance reform that included restructuring of ministries and government departments. These efforts have often included the devolution of responsibilities for implementation to local authorities. Clarification of the extent and boundaries of the permanent forest estate has also been accomplished in several countries.

Several tropical countries have undergone attempts to introduce such reforms, including Bolivia, Peru, Brazil, Cameroon, Indonesia, Malaysia, PNG, or the Philippines, to name just a few. With few exceptions, the international donor community played a massive role in promoting such reforms (Seymour and Dubash 2000).

These reforms have attempted to correct widespread market and policy failures (Repetto and Gillis 1998) as well as to correct major institutional and enforcement deficiencies.

The process of *allocating* forest resources was modified.

While traditionally the allocation of forest concession was done administratively and with a great deal of personal discretion, promotion of SFM, various countries introduced legislation mandating the allocation of forest concessions based on a transparent and competitive bidding process (e.g., Cameroon, Bolivia, Peru). This change introduced transparency, clearer allocation rules, and verifiable technical and financial obligations. In turn, this transparency and reduced discretion contributed to reduce corruption, to attract more qualified forest enterprises, and to increase government revenues.

Taxation was also the subject of considerable attention since countless policy experts and reports, beginning with the work of Malcolm Gillis in the early 1980s, pointed to insufficient rent capture a root cause of forests inefficient use and waste. As a result, many countries increased their fees (Suriname, Guyana), while others (e.g., Malaysia, Brazil, Bolivia or Cameroon) substituted or complemented existing volume or tree-based taxes with area-based taxes.

Shifts to area-based taxes in particular eliminated many discretionary powers of forest officers in charge of controlling the implementation of concession contracts. This reformed taxation

regime, coupled with the new allocation rules, reduced corruption (in some countries more than in others) and generally increased Government revenues. It was also hoped that increased rent capture by the State would have promoted more efficient logging and wood processing. However, very little evidence exists to suggest whether this outcome was achieved or not.

In countries like Bolivia, where volume-based taxes were eliminated, the new fiscal regime also contributed to reducing the total amount of acreage under concession contracts since holding concessions for purely speculative purposes or to harvest very selectively became a costly proposition. Because of this reduced acreage, lesser known species began to be utilized more widely (although there are other factors that contributed to this, such as increased scarcity of high value species). Where this happened, the area in need of monitoring became more commensurate with the capacity of the forest agency to carry out its duties.

Perhaps the most needed sets of reforms, however, were those clarifying the ownership and use rights of indigenous people and rural communities. Along this dimension, progress has been made, but it has been slow. Governments have been either incapable or reluctant to redistribute those tenure rights that had been nationalized around the middle of the 20th century. This process of clarifying ownership rights has been hampered by the opposition of powerful vested interests (e.g., Peluso 1992) but also by agricultural reforms that, in many tropical countries, aimed at redistributing land. These reforms left, as a collateral damage, much agricultural and forest land that current has multiple and simultaneous ownership, particularly in Latin America.

Many reform processes also introduced the possibility of communities and indigenous groups to access public resources legally, such as in India, Bolivia and Cameroon.

Such reforms have also often included some form of *revenue re-distribution*. In Bolivia and Cameroon, for example, part of the revenues collected through taxation is distributed at the local level. This move has been partly a way to finance decentralization initiatives but also to sensitize local communities of the value of managing rationally forest resources.

Enforcement and capacity building.

Legislative and regulatory reform was often accompanied by reform and strengthening of forest *administration*. In Bolivia for example, a new enforcement agency, the Forest Superintendency was created to replace a notoriously inefficient and corrupt Forest Development Center. The new agency was designed to be fairly insulated from political pressures. The Superintendent is now selected by the President from a list of three names selected by Congress. His appointment is for six years, longer than the 5-year Presidential term. The new agency has a very professional staff and is fiscally independent since it is financed with 30% of the area tax collections. It also has a clearer mandate.

Many reforms also created provisions for the *privatization* of forest law enforcement. In Bolivia, firms or communities that chose to certify their operations are absolved from the mandated forest audit every five years. In Cameroon, an independent international organization verifies all exports. This reliance on the private and the NGO sector for many law enforcement activities appears to have greatly improved enforcement and compliance, reduced the public financial and personnel costs of enforcement, and increased credibility.

For several years now there has been a lot of talk about introducing *performance-based incentives for compliance* such as performance bonds. Notwithstanding their promise, their use so far has been somewhat limited.

4.2.2. Consumer country measures

Consumer countries have directed significant donor assistance to finance research, technical assistance, education, policy, regulatory and institutional reforms conducive to SFM. As of the mid 1990s, Rice *et al.* (2001) estimated European countries allocated half a billion dollars annually to forest-related investments in tropical countries.

Some countries have attempted to introduce changes in their procurement policies that reflected a discrimination in favor of sustainably produced forest products (e.g., Austria). The Austrian initiative has since then been judged in violation of GATT rules and has been scrapped. Other non-government initiatives have however been more successful. In the mid 1990s California state authorities decided to purchase only timber with FSC certification and their stance had not been judged in violation of GATT and WTO rules (because it did not come from the US central government) (Virtanen and Palmujoki 2002).

Substantial efforts from the international donor community have also been spent in funding research to understand tropical forests and to design better ways to manage them. These efforts have helped to breed a new form of professionalism among forest operators in producer countries.

4.2.3. International initiatives and agreements

Clarification of common goals and definitions

An important set of international initiatives aimed at establishing some form of consensus on forests and their use. Among them, a critical step to promote SFM has been the development of Criteria and Indicators for Sustainable Forest Management (C&I). A call for the development of C&I was already present in the Forest Principles and Chapter 11 of Agenda 21. These Forest Principles, approved by UNCED in 1992, recognized the principles of national sovereignty (nations should utilize their forests in accordance with their national objectives and priorities), public participation, and total economic valuation. They formed the launching pad for a series of international initiatives to define C&I.

Strengthening of producer country initiatives

Organizations such as ITTO have been instrumental in promoting policy and legal reform, in helping producer countries incorporate SFM principles in their administrative structures, and in national and regional planning efforts.

UNFF has helped to mobilize resources, provided a forum for continued policy development and dialogue on SFM, enhanced international cooperation and coordination, and assisted with monitoring and reporting progress (with discouraging results so far).

International agreements

SFM is considered in a number of multilateral environmental agreements (MEA) such as CITES (described later in the report), and the three main conventions that resulted from the Earth Summit of 1992: the Convention to Combat Desertification (CCD), the Convention on Biological Diversity (CBD), and the Framework Convention on Climate Change (FCCC).

An important idea behind the UN Conference on Environment and Development (UNCED) was that if countries could benefit economically from better forest use, then recognition and capture of such values could be more successful in promoting SFM than regulation alone. The problem with existing forest use was that national and local actors were not compensated for the global services they provide. However, the three conventions reflect different

compromises between the concerns of national sovereignty, socio-economic development, environmental conservation, and the principles of the market economy (Virtanen and Palmujoki 2002).

The CCD pays particular attention to socio-economic issues, public participation, and to the enabling of a more effective policy and institutional environment. The focus of the CCD is on national operational capacity and defines the preparation and implementation of national action programs as a central strategic element. Developed countries' role is in financing such programs and in facilitating access to technology.

The CBD has as stated objectives the conservation of biological diversity and the fair and equitable sharing of the benefits from the use of genetic resources. It seeks to channel donor resources to cover incremental costs, defined as the costs the host country incurs that are additional to expected spending because the provision of a global public good (biodiversity) is considered. In practice, this concept of incremental costs turned out to be very difficult to operationalize so that most biodiversity-related projects are funded through bilateral, regional, and other non-CBD channels.

The FCCC recognizes that forests play a key role in mitigating climate change. The Kyoto protocol (1997), together with GHG emission targets, established three main instruments for meeting them: Joint Implementation, emission trading, and the Clean Development Mechanism (CDM). The CDM explicitly acknowledges the role of developing countries and forest resources in mitigating climate change. However, progress to operationalize the CDM has been slow and it appears that forest conservation will not be included as an acceptable activity under the CDM, at least during the first commitment period (2008-2012). On the other hand, it is not clear whether other measures such as reforestation and improved management will be considered as acceptable.

Transfer payment approaches

CCD and FCCC have conceived a variety of mechanisms to promote better forest use. The principal international financing mechanism created for the implementation of CBD and FCCC is the Global Environmental Facility, a mechanism that directs funds from industrialized nations to developing countries. It was created to provide new and additional funds to meet the incremental costs of safeguarding global public benefits such as biodiversity, climate change, international waters and ozone layer depletion. GEF currently funds projects that fall into ten operational programs (OP). For example, OP3 (Forest ecosystems), is the main source of GEF funding to SFM.

Initiatives to promote market-based mechanisms

Through the creation of the CDM, the FCCC set up the possibility of using a market-based mechanisms (the trading of carbon offsets generated by better forest management) to partially offset emissions of GHG in industrialized countries.

FCCC gave also impetus for the launching of several initiatives that, although aiming at developing a market for global environmental services like carbon, have retained some elements of a transfer payment approach such as the Prototype Carbon Fund.

Besides governmental efforts like the CDM to create a market of global environmental services, non-governmental initiatives have appeared as well. The private sector has become an increasingly important player to fund initiatives aimed at improving forest management. Such initiatives seek to use market forces to fund the consolidation and establishment of protected areas (e.g. Noel Kempff in Bolivia), reforestation, and sustainable forest management (e.g., Rio Bravo in Belize and Sabah, Malaysia).

If, on one hand, existing initiatives are relatively scarce, the rapidity and dynamism with which they are being developed is an indication of the high potential for using market forces to advance SFM.

4.2.4. Forest certification

A particular type of market-based mechanism, forest certification, deserves separate mention. Certification is a procedure by which a third party provides assurance that a product, process, or service conforms to specified standards, on the basis of an audit conducted in accordance to agreed procedures (Bass *et al.* 2001).

The institutional foundations for an internationally acknowledged certification process were laid in 1993 when representatives of environmental, economic and social organizations from many countries founded the Forest Stewardship Council (FSC). FSC has the objectives to promote global standards of forest management, to accredit certifiers, and to encourage buyers to buy certified products. Since then several other international standard-based certification bodies have formed such as the Pan-European Forest Certification Framework (PEFC, launched in 1999), along with several national programs as well. National and regional certification initiatives have been supported by both multilateral and bilateral donors, as well as by international NGOs.

Forest certification, a form of product differentiation, has allowed producers to tap into a market niche until then unexploited. For the first time it linked a demand for sustainably produced goods to verified sources of these goods, offering producers a new incentive for improving forest management (Bass *et al.* 2001). Forest certification also allowed international NGOs to act proactively on their frustration with government and intergovernmental processes to improve forest management.

An element of the success of FSC has been its promotion of national working groups that craft national criteria and indicators that reflect the specific ecological, social and economic conditions of each country. More generally, FSC certification has embraced wholeheartedly the notion that the processes of standard setting and practice assessment had to be done through involving the affected stakeholders.

Certification also responded to the need of many donors to measure the impact of their efforts to promote SFM. A recent example is the target set by the WWF/World Bank Alliance to measure its progress towards sustainable forest management in terms of bringing 200 million hectares of global forests under certification by 2005.

4.2.5. What was achieved?

Progress towards SFM can be evaluated by looking at a variety of criteria and indicators that are applicable at various scales. Some of these C&I are national in scope (e.g., legal framework, or extent of forest area) and have often been incorporated into national guidelines. Other criteria and indicators are designed to address conditions within a single ownership (e.g., practices applied in forest management) and have often been made part of forest regulations and norms. Any evaluation of progress towards SFM needs to take into account this difference between national and ownership scales.

Furthermore, even at the single ownership level, any evaluation of progress needs to recognize that SFM is a 'package' that comprises various activities and practices. The adoption of some practices does not mean that all practices will be followed. For example, many forest management operations now have management plans (FAO 2001), while severe violations still occur of other forest regulations. In Malaysia for example, almost 73% of the forest area has management plans while only 55,000 ha are under certification (FAO 2001) and about one

third of the harvest may be illegal (Table 3). Another interesting example is Bolivia where virtually all forest concessions (6 million hectares) have forest management plans, almost one million hectares are under certification, and yet illegal deforestation continues at rates estimated at several times the authorized levels.

With these caveats, it can be said that the past two decades have marked some progress towards SFM. Important institutional and legislative reforms have taken place, reforms of the public sector have begun to address issues of corruption, efforts to clarify issues of land tenure have started, and almost everywhere government revenues from forestry have gone up.

In less than 10 years, about 2.8 million hectares of natural tropical forests have been certified by FSC-accredited bodies (FSC 2003). More than 80 million ha are currently certified worldwide, the majority of them in Europe (47 million ha) and North America (30 million ha) (FAO 2001).

To put this progress into context, however, one notes that overwhelming majority of natural production forest in the tropics is still utilized without much regard for ecological, economic or social sustainability, deforestation is still rampant, and even areas set aside for protective purposes are often at risk of degrading exploitation.

5. The causes of illegal forest activities and policy options

The objective of this section is to develop an initial listing of possible causes and most appropriate policy responses.

Besides the lessons learned from past experiences in promoting SFM, our understanding of illegal forest activities has been furthered by discussions held at official meetings, such as the Forest Law Enforcement and Governance meetings held in Asia and Africa, the papers and declarations arising from those gatherings (such as the Bali Declaration), and an increasing number of reports and papers, eg (Sizer and Plouvier 2000; Brack and Hayman 2001; Contreras-Hermosilla 2001; Environmental Investigation Agency and Telapak Indonesia 2001; Forest Monitor 2001; Casson and Obidzinski 2002; Environmental Investigation Agency and Telapak Indonesia 2002).

The causes of illegal forest activities (summarized in italics) and possible policy responses (highlighted in bold text) are organized under the following main headings: (i) market, (ii) governance, (iii) legislative, and (iv) capacity and technical. Policies may be effective against several causes. When this is the case, they are listed only once against the most relevant cause.

Market causes are major underlying causes of illegal forest activities and in most cases need to be addressed and regulated through governance and legislative measures that provide the framework within which the market operates. Therefore, market factors are discussed first. The section titles reflect the specific causes included under that heading, however, the policy options may be of a different nature, eg a market mechanism to address a governance cause.

The description of policy options includes producer and consumer countries' measures under the same heading. When the options are similar, only those available to the consumer country are discussed for simplicity. Consumer countries can support producer countries in the implementation of their specific policy options by providing financial and technical assistance, which can be applied to most of the policy options listed for producer countries, and is not included in the table for simplicity.

The underlying causes of illegal logging, possible policy responses and their expected impacts are summarized in Appendix II. In that Appendix, policy options are classified as:

- structural, referring to the social, institutional, and economic fabric of society and government, representing the most complex interventions;
- legislative, referring to interventions required to change the policies, laws, and regulations; and
- technical, referring to all other aspects that involve relatively clear mechanistic measures – the simpler interventions.

Policy options are further differentiated in *sectoral*, if they can be addressed within the forestry sector, or *extra sectoral*, if they involve initiatives outside the forestry sector. The timescale of intervention is also indicated, and is subdivided into short-term (1-3 years), medium term (3-5 years), and long term (more than 5 years).

Appendix II also provides a preliminary descriptive assessment of potential *impacts* of policy options with a focus on whether the policy affects the intended objective directly, meaning that it may be effective without requiring other conditions, unlike those policies that have an indirect effect, and need certain other conditions in order to be effective.

5.1. Market Causes and Policy Options

Profit and income maximization are key aspects of economic behavior. Illegal behavior is more likely when the benefits derived from violating the law (e.g., timber mining, tax evasion, harvesting protected species or in unauthorized areas) exceed the costs of non-compliance.

In large part, the policy options that are listed in the rest of this section consist of measures that reduce the economic reward from illegal behavior, either by increasing the rewards of compliance, or by increasing the costs of non-compliance.

Forest values are lower than values generated by alternative land uses.

In some instances, forest land may yield private and social benefits (including the value of environmental benefits) lower than alternative land uses, leading government officials, individuals, communities, or companies to change in land use against the existing legislation.

Revise legislation to allow land use change. When forest land use provides social benefits lower than other land uses, initiatives addressing illegal forest activities should focus on revising the legislation to allow land use changes, rather than attempting to enforce existing legislation.

Market and non-market subsidies.

Market and non-market subsidies, such as log export bans and cheap loans, result in an expansion of the installed processing capacity (possibly larger than authorized, ie illegally), thus increasing the domestic demand of raw materials for processing. In turn, this could lead to an increase in illegal logging if demand exceeds legal supply and if law enforcement is weak, or if political pressure to exceed the allowable cut (possibly set at a national sustainable level) is exerted by powerful conglomerates.

This is often referred to as ‘domestic processing capacity that exceeds timber supply’ (Karsenty 2001). ‘Over capacity’ contributes to an increase in the demand for the finished products (ie consumption) only to the extent that it causes a reduction in market prices, which leads to an increase in final demand. However, if this situation does not eventuate, it is the

domestic and export demand for the finished products rather than ‘over capacity’ that contributes to illegal logging. If the significant political pressure generated by domestic ‘over-capacity’, and the associated large investments, results in the acceptance of log harvest levels exceeding legal limits (Contreras-Hermosilla 2001), then the ‘over-capacity’ argument could hold. Even without over capacity, however, political pressure may be applied by logging companies to allow a level of log extraction that exceeds the legal harvest, as demonstrated by countries that do not have significant timber processing sectors such as the Solomon Islands (Duncan 1994).

These arguments do not mean that subsidies are not an issue. However, the logic behind some of the arguments, and the actual contribution of subsidies to current market and industry trends needs to be assessed. For instance, while the introduction of a log export ban in Indonesia in the 1980s is thought to have contributed significantly to the expansion of the Indonesian timber industry (Manurung and Buongiorno 1997), a very significant expansion of the industry has also taken place in other countries, eg European countries, on the back of a considerable increase in market demand, as shown by steep increases in the trade of timber products over several decades (Michie and Pesonen 2002).

Furthermore, ‘over capacity’ affects not only producer countries, but also consumer countries that import timber products for further processing. This, obviously, raises an issue of reciprocity in the implementation of much needed regulations allowing the closure of businesses using illegal timber and (less common in consumer countries) illegal timber products businesses, ie without permits to operate. Given the current difficulty in identifying illegal timber products and sourcing legal timber, the introduction of legislation regulating the use of timber products should proceed at a similar pace in consumer and producer countries to avoid providing an undue advantage to some countries.

Review and revise market and non-market subsidies. The above arguments imply that market and non-market subsidies may cause pressures that lead to illegal forest activities by distorting market signals. However, the degree they do this needs to be assessed, their direct or indirect contribution to illegal forest activities needs to be established, and options for reform developed.

Review and revise extra-sectoral market and non-market subsidies. Market and non-market subsidies to other sectors, eg agriculture, need also to be assessed and possibly reformed as they may result in private benefits from forests lower than alternative land uses, leading individuals, communities, or companies to attempt changes in land use against existing legislation.

Consumer countries can contribute to an assessment and possible reduction of perverse subsidies by ensuring that **Export Credit Agencies** have appropriate guidelines to screen out credit lines that may be contributing to the activities of illegal businesses or businesses using illegal timber (Leubuscher *et al.* 2002), or carrying out other illegal forest activities such as establishing oil palm and timber plantations by clearing forest against existing legislation (Tacconi 2003).

Under current market conditions conventional logging (or timber mining as it is often called), which is illegal if SFM regulations are in place, is financially superior to full adoption of good management (and compliance with the law).

With respect to areas harvested for timber, a recognized obstacle to the promotion of SFM is its perceived financial inferiority as compared to timber mining or land clearing (e.g., (Barreto *et al.* 1998; David *et al.* 1999; Pearce *et al.* 1999; Rice *et al.* 2001). In particular, certain SFM practices such as the obligation to harvest within the authorized area, the protection of rare but high value species, the establishment of conservation set asides, or the retention of seed trees or of trees below the prescribed minimum size (ie diameter at breast height) (among others)

result in immediate financial losses. These factors suggest that full adoption of SFM, from a purely financial standpoint, is often uncompetitive with timber mining.

There exist significant resistances and economic obstacles to change existing practices and to comply fully with the law.

Holmes et al. (1999) have demonstrated that the adoption of certain SFM practices (e.g., planning) in Brazil can result in higher economic efficiency of harvesting operations. Yet, adoption of these practices has obstacles. For example, timber mining still yields extraordinary rates of returns, giving loggers little motivation to improve further the efficiency of their operations. Furthermore, planning operations involve significant upfront costs that require the availability of functioning credit markets and can be hindered by unavailability of adequate machinery, trained personnel, and relatively high rates of time preference. Finally, insecurity of land tenure is a major deterrent.

Increase awareness about the environmental and financial benefits of certain practices.

When forest operators are educated about the financial benefits of certain SFM practices they are more likely to adopt them.

Dissonance between private and social values. Non-timber values do not figure in loggers decision making.

In some instances, economic benefits to society (including the value of environmental benefits) from forest land (net of the cost of monitoring and enforcing legislation) may be higher than those of alternative land uses, but with private financial benefits from forests lower than alternative land uses, and a lack of incentive mechanisms for retaining land under forest cover and managed sustainably, government officials, individuals, communities, or companies use the forest unsustainably and eventually attempt to change land use against existing legislation.

When non-timber goods and environmental services are taken into account, it is often the case that SFM is superior, from an economic standpoint, to timber mining and land clearing. The problem so far is that private sector initiatives to create a market for environmental assets such as carbon offsets, biodiversity, or watershed protection are still in infancy (Pagiola *et al.* 2002). Many seriously question whether SFM can be made more profitable than timber mining in the absence of international compensation for environmental services (Virtanen and Palmujoki 2002). A relatively small but increasing number of initiatives is being launched and tested, suggesting that, when operators are compensated for the non-timber values they provide they will make better forest management decisions.

Strengthen mechanisms that enable payments for the provision of environmental services. In situations where forests provide social benefits higher than other land uses, and the private benefits from forests are lower than the other land uses, the focus should be on developing financial mechanisms to compensate the appropriate stakeholders for maintaining the forest land use. Both governmental and private sector initiatives are being experimented with that provide compensation to forest users for the provision of environmental services such as carbon, biodiversity, and watershed protection. These initiatives deserve further support and testing (Pagiola *et al.* 2002).

Support certification initiatives attesting legal compliance. By providing support to campaigns that seek to increase society's awareness of the problem of illegal forest activities, governments, organizations, and civil society can stimulate the demand for legal products, as certified by accredited labeling schemes.

Certification allows producers to access markets that are sensitive to the way in which forests are used. The adoption of certification has been more widespread in countries with good

policies concerning both forestry and processing. In these countries, certification has provided an incentive to meet all legal requirements, even those that, for a variety of reasons, operators would not bother to meet.

Within the debate on how to further promote certification there are already suggestions to adopt a 'step-wise' approach to full certification. Since compliance with national and international laws is now one of the certification criteria in most schemes, a proposal to create a '**Certification of Legal Origin**' could be developed without much new infrastructure and know-how.

Certification has proposed a model of standards development based on a participatory approach that has proven responsive to local needs and realities. If the certification venue is chosen to pursue reduction of illegal forest practices, one should be cautious to avoid a proliferation of certification schemes. This can create confusion and lack of credibility.

When there are poor laws, compliance with legality is easier. If some form of certification will be used to induce compliance, careful thought should be given to the definition of 'minimum legal requirements.'

5.1.1. Initiatives by consumer countries

One of the components of the United States' President's Initiative Against Illegal Logging⁶ focuses on 'Energizing Market Forces'. The objective of the component is 'to promote good business practices, transparent markets, legal trade'. Activities will include the promotion and support of voluntary codes of conduct, exploring voluntary, trade-related arrangements with countries where illegal logging is a problem, studies to determine the scope and impacts of illegal logging, assessment of lessons learnt from CITES and identification of actions to be supported for implementation, and the promotion of mechanisms to address illegal logging through the US Administration's trade negotiating agenda.

5.2. Governance Causes and Policy Options

Governance is defined here as the process through which elements in society exercise power and authority. It is a broader notion than government, and its principle elements include the constitution, legislature, executive and judiciary. Governance involves interactions between these formal institutions and those of civil society. Criteria for assessing governance include degree of legitimacy, representativeness, transparency, accountability, efficiency, and fairness (The Governance Working Group of the International Institute of Administrative Sciences 1996; International Monetary Fund 1997).

A weak state.

A weak state has limited capacity to develop appropriate governance processes, to develop legislation, enforce the law, and guaranteeing fairness in the exercise of power. Many factors contribute to determining the weakness or strength of a state that go well beyond forest sector issues, and that cannot be addressed through policies focusing on illegal forest activities. However, the capacity to raise revenue (mainly derived through taxation) is a most fundamental task of the state and a factor that determines its capacity to function (Brautigam 2002).

⁶ Presented at the Asia FLEG Task Force Meeting, January 27-29 2003, Jakarta.

Strengthening the state capacity to raise and manage revenue, including in the forestry sector, would increase its capacity to govern.

Lack of transparency and accountability provides opportunities for abuse of power and corruption.

The Rio Declaration on the environment recognizes the importance of the principles of access to information, and accountability in environmental decision-making in order to improve environmental governance. Improvements on this front would result, for example, in increased civil society's capacity to scrutinize the use of public funds derived from, and invested in, natural resources, government's decisions about the use of natural resources, and the involvement of politicians and government officials in illegal forest activities. The attempts to promote SFM through increases in transparency and accountability have contributed to a containment of corruption in some countries.

Improve transparency and accountability. Examples include: a transparent forest concession allocation process; information on revenue collection from forestry widely available, such as maps of forest land and ownership rights; information of law enforcement actions and outcomes.

The adoption of anti-corruption legislation and codes of ethics would foster a reduction in political and business related corruption.

Greater reliance on market-based instruments has proven a valuable tool to reduce corruption and to increase transparency and efficiency. Changes in legislation affecting resource access, taxation, income distribution, and forest management (e.g., auctions) appear to have begun to make a difference. For example, reduced discretion in the award of contracts, authorizations, and permits, along with reduced discretion and simplification of taxation regimes have produced substantial increases in government revenues (e.g., in Cameroon) and allowed a broader public participation over the definition and establishment of forest priorities.

Lack of consultation and involvement of important stakeholders.

Policies and laws imposed without consultation with and involvement of important stakeholders lead to confrontational attitude towards government and its laws. Various forms of stakeholder consultation and involvement have proven extremely successful in policy reform and in the development of national certification standards. For example, a recent review of nine case studies of national forest certification working groups identified key lessons, including that 'working groups, in order to be successful, must fully engage with a range of stakeholders from environmental and social NGOs to industry, forest owners, to the local community and find mechanisms where decision making is truly shared among these often divergent groups.'⁷

Develop public consultation processes that are participatory and transparent for policy formulation, policy implementation, and information sharing.

Lack of funding for political activities.

Lack of funding, guidelines, and reporting requirements for political activities (eg parties, elections) are some of the factors that may contribute to corruption in the political system (The World Bank 2000). They may result in political support for illegal forest activities in order to fund political initiatives (McCarthy 2002b).

⁷ WWF/World Bank Alliance Project in Support of National Forest Certification Groups www.piec.org/MSWG_tolkit/.

Public funding for political activities and clear reporting requirements would reduce the incentives to raise funds through illegal activities. These measures would be supported by an increase in transparency and accountability processes as discussed above.

Political role, corruption, lack of funding of security forces.

Reliance of the political apparatus on security forces, the presence of widespread corruption, and/or their under-funding may result in direct involvement in (unregulated) timber operations or corruption that weakens the law enforcement system (Barber and Talbott 2003).

A reform of the security forces and the judiciary may be required if they are involved or facilitate significantly illegal forest activities. In a situation in which the law enforcement system does not function well, or is corrupt, the likelihood of conviction in relation to illegal forest activities decreases, hence their profitability increases, and improvements in other parts of the forest monitoring system will yield limited benefits (Tacconi *et al.* 2002).

Consumer countries could apply pressure to reform the security forces through a review of military cooperation agreements. However, in a global context in which the fight against terrorism has primary relevance, it is probably unlikely that a review of security cooperation agreements would be initiated on the basis of the need to address illegal forest practices.

A corrupt and/or weak judiciary.

A corrupt and/or weak judiciary weakens the law enforcement system, and as noted above the likelihood of conviction in relation to illegal forest activities decreases, therefore, they can be expected to continue. **A reform and/or strengthening of the judiciary may be required** (Buscaglia 2001).

Unclear allocation of competencies.

Unclear allocation of competencies over forest land between different levels of government may result in conflicting legislation, logging permits allowing harvest above the 'legal' national level, and a government level willing to 'legalize' with official documents forest products and activities that are illegal according to a different government level.

A lack of appropriate processes to deal with inter-agency disagreements over definitions and actions may result in a dissonance of views between government agencies, eg forestry and agriculture, over the allocation of resources to different uses may lead to lack of enforcement of land use plans. The development of appropriate and accepted land use plans, through participatory processes would result in a decrease of activities that were tolerated but considered illegal.

Changes and/or clarification of the competencies of different government levels and agencies. This would be required in order to establish their roles, responsibilities, and accountability. It may involve sectoral reforms when different levels of the same ministry or agency are involved, but it may call for extra-sectoral reforms when different levels of government and/or agencies are involved.

Clear processes to deal with inter-agency disagreements over definitions and actions. Sometimes, overlapping competencies are inevitable. In these cases, appropriate 'processes' or 'procedures' should be put in place to clarify how to resolve inter-agency disagreements.

Indigenous rights are not recognized or respected.

This may result in the expropriation/usurpation of their lands. The violation of indigenous rights can result in the marginalization of indigenous people, with negative effects on their livelihoods. They may resort to logging or other uses of the forest that are considered illegal according to the legislation that resulted in the usurpation of their rights, or that was implemented subsequently. The appropriateness of an approach that calls for enforcing this legislation to reduce illegal activities should be questioned.

Reinstatement of indigenous rights to land and other resources. This could lead to a reduction of illegal forest activities. However, this would depend on a range of conditions such as the definition of what is illegal, eg whether it conflicts with indigenous uses.

Consumer countries can support the reduction in violations of indigenous rights by ratifying, and prompting producer countries to **ratify international agreements** recognizing indigenous rights and claims to land, and by **monitor trade activities** to ensure they do not affect indigenous rights.

Land tenure.

When land is state property but individuals and communities contest ownership, or there is a lack of clear land tenure rights, illegal logging may take place and the state cannot or does not want to control it for political reasons. This may also apply to protected areas. Public and private ownership rights may be violated for a range of reasons, from a lack of acceptance of the legislation that does not recognize individual or community rights to land, to opportunistic actions due to a recognition of the lack of capacity to enforce recognized and generally accepted rights. Disputes over land tenure, coupled with a lack of enforcement capacity, result in a *de facto* open access resource management system, in which there are no incentives to control resource use.

Illegal forest activities in protected areas have been documented and calls for stopping them have been made (Environmental Investigation Agency and Telapak Indonesia 2002). Lawlessness in protected areas is not a desirable situation, but the best way to approach it is debatable. The enforcement of existing legislation may be appropriate in situations where illegal forest activities take place as a result of powerful groups interested in extracting resources illegally (McCarthy 2002a). However, when illegal activities are the result of rural people's need to make a living out of those areas, an approach that includes the provision of appropriate incentives backed by law enforcement is more desirable from an equity perspective.

The reform of the land tenure system should be given priority over an increase in enforcement capacity, which could provoke increased social conflict and marginalization of the weaker groups. Livelihoods would benefit from an increased access to forest resources, or if rural people were allowed to clear land for agricultural purposes if they wished to do so.

Increasing security of tenure does not necessarily involve reforming the land tenure system, which is an extremely complex, long term, and controversial task. **Land lease agreements can guarantee security of tenure while maintaining public control over the land**, thus allowing a reform of the tenure system to take place over the appropriate time scale.

Reform protected area management. A reformed approach involves increased participation in protected area identification and management, payments for the provision of environmental services and maintenance of customary rights (Tacconi 2000), and the derivation of other benefits from the sustainable use of the area. In situations where the land included in protected areas was expropriated from the people now using it 'illegally', a rethinking of the appropriateness of the protected area may be needed.

5.2.1. Initiatives by consumer countries

A very comprehensive cooperation Action Plan on Illegal Logging has been developed by UK and Indonesia. A component of the Action Plan supports the involvement of civil society: to prepare the work program, identify civil society's roles in implementation and monitoring of the plan, monitoring of illegal logging, building civil society's capacity, and establishing an independent web site on illegal logging.

One of the components of the United States' President's Initiative Against Illegal Logging focuses on 'empowering communities'. The objective of the component is 'to foster the enabling conditions and incentives for local communities to reduce illegal logging and conserve forests and wildlife'. Activities will include the promotion of policy and institutional frameworks conducive to community forest management, strengthening managerial capabilities of communities, developing incentive-based programs to foster community participation and leadership, and training. It will seek to develop partnerships with companies, communities, and governments, as well as supporting appropriate networks.

5.3. Legislative Causes and Policy Options

Laws and regulations are essential to provide the 'rules of the game' by which economic activities, including forest use, operate. They are also essential to guide the activities of the private sector in a direction consistent with social objectives. Indeed, in the absence of regulation, loggers can be expected to ignore the negative social impacts of logging, as they derive little or no financial gain from mitigating them (Boscolo and Vincent 2000).

All too often though, important policy reform has not been completed. For example, Poore and Chiew (2000), concluded that some countries are still lagging behind in terms of passing critical legislation and developing proper institutions.

Yet, in other cases, laws and regulations have contributed to the problem rather than to its solution.

Conflicting and unclear legislation does not allow a clear distinction between legal and illegal activities and products.

Conflict may arise between different level of sectoral legislation, such as regulations vs laws, between legislation of different sectors, such as agricultural vs forestry, or legislation of different levels of government, such as central vs local governments. The adoption of integrated natural resource management legislation spanning more than one sector may improve, among other aspects, inter-sectoral coordination and reduce conflict between different laws regulating sectors such as forestry and agriculture. In the event of conflict between legislation of different levels of government, there may be a need to address governance processes as already discussed above. Much legislation also leaves a lot of discretion in the interpretation of the law. Regulations in British Columbia, for example, often use the verb 'may' instead of 'shall' in a variety of forest harvesting prescriptions.

Criteria and indicators assess the clarity, transparency, the appropriate level of discretion in the implementation of the law, and to assess progress towards legal compliance. In the SFM experience, C&I have greatly contributed in assessing the quality of existing management practices and provided a clear metric to measure progress toward improved practices. Clear C&I have served governments in producer countries as well as NGOs and donors in evaluating their own effectiveness in promoting SFM. In Bolivia for example, to foster accountability and as a verifiable indicator of the project's success, the BOLFOR Sustainable Forest Tropical Forest Management Project set early on the goal of

having 25% of the production forest in the Department of Santa Cruz certified as well managed by the Forest Stewardship Council (FSC) by 2001 (Putz *et al.* 2002). Similarly, the World Bank, in its revised forest policy strategy, resolved to 'to encourage the widespread use of internationally agreed criteria and indicators for sustainable forest management' (World Bank 2002, p. 40). Legislation and enforcement will need to find ways to deal with the variety of forms of illegality. Probably, a very strict adherence to 'legality' would make most of timber products 'illegal' not only in the tropics but in developed countries as well (see Contreras 2001).

With Clear C&I, **a chain of custody for timber products** may be designed to attest their legality and is an essential factor in making operational legislation discriminating between legal and illegal timber products, such as legislation banning the import of illegal timber products (Dykstra *et al.* 2002). Third party verification and certification has added credibility to claims of SFM. Third party monitoring and verification can probably do a lot for the credibility of claims of 'legality.'

Inappropriate regulations.

Many regulations are still excessively prescriptive, giving little flexibility for compliance, and introducing sporadic and arbitrary enforcement. Very prescriptive regulations can lead to many undesirable consequences. First, they are often expensive to comply with which makes non-compliance attractive. Second, they are often expensive for the public sector to enforce. As a consequence, public sector officials have often no choice but to focus on a limited number of players. In these cases, enforcement becomes sporadic, arbitrary, and corrupt. They focus on those operators that have chosen to play by some rules. Because these operators are now opening (albeit partially) their books and becoming more transparent with their practices, they become more scrutinized than their blatantly illegal counterparts.

Clear and transparent criteria should be adopted in the implementation of the law (e.g., in the selection of which actors to inspect, etc.). Ideally, appeals should be possible if implementation of the law does not follow these criteria.

'Uniform' prescriptions can discriminate access based on resources, not capacity.

Most SFM regulations do not differentiate much among different types of producer and their size. Thus, communities seeking formalization or certification are often asked to meet the same criteria asked of larger operators. Quite often, to legalize their status as recognized entities, communities need to go through lengthy, cumbersome, and expensive, and at times corrupt, additional loops. The uniform application of a common management standard has in some countries (e.g., Bolivia and Brazil) produced perverse outcomes. High management standards have become a barrier to entry for the unskilled and marginalized who continues to operate, and to even gain 'market share' at the expense of 'formal' actors burdened by reformed fiscality and regulations. Still in Bolivia, anecdotal evidence suggests that operators that embraced SFM lost almost entirely the domestic market (amounting to about 50% of the sectoral GDP) to operators feeding the market with wood from unregulated (and illegal) sources.

Innovative regulatory forms (e.g., based on performance rather than on practices) should be sought that are flexible and adapt to local realities. This is a problem that has been recognized also in the certification field where 'low-input certification' is being considered for 'low input management' (Bass *et al.* 2001).

It is unclear at which stages some products become 'legal'.

More rigorous analyses are needed to assess where illegality occurs in comparison with where environmental and economic losses occur. For example, if logs are taxed when they

are sold or exported, actions to ensure that they are harvested legally will prevent environmental losses but will have only limited impact in terms of increasing government revenues.

Discrimination against livelihood activities and small-scale forestry operations.

Forestry legislation often discriminates against the use of forests for livelihood purposes, and small-scale logging and processing, which are therefore considered ‘illegal’ activities. There are many examples and countries in which the legislation discriminates against livelihood uses of forests in favor of large scale industrial uses, often in the form of forest concessions, or the legal framework regulating livelihood uses is complex and leads to corruption and difficult access to resources (SGS Trade Assurance Services 2002). Supporting law enforcement would, therefore, have negative impacts on livelihoods.

A reform of the existing legislation to reduce/eliminate biases against livelihood and small-scale users of forests should receive priority attention. Activities strengthening law enforcement should pay attention not to weaken reform processes aimed at improving rural people participation in forest activities.

Transport and trade regulations are complex, unclear, difficult to enforce, inhibiting business activities.

Streamline bureaucratic requirements to minimize opportunities for corrupt practices, facilitate the flow of timber products, including those produced for livelihood purposes, while allowing authorities to monitor the flow of products and collect taxes. Specific enforceable rules that are suited to the local context may be used to curb the transport of illegal timber thus creating a barrier to illegal logging, such as declaring illegal the transport of timber during the night when policing is difficult.

Consumer countries can introduce legislation that seeks to **control the import of illegal products** and to facilitate the import of legal products. They can also set **lower tariffs for products certified as legal**, and introduce government **procurement guidelines** mandating that only timber products with a certificate of legal compliance can be purchased (Brack *et al.* 2002).

Financial and tax laws.

Lack of, or weak, money-laundering legislation allows investment in forestry of funds derived from criminal activities, and recycling of funds from illegal forest activities. Furthermore, financial and tax laws are complex and do not stipulate clear provisions for transparent business practices, thus facilitating illegal and corrupt activities. Violations of financial, accounting and tax regulations result in losses of government revenue as well as possible losses by share-holders if the business fails as a result of the violations.

A clear and enforceable financial and taxation regulatory system, including money-laundering measures, and financial/tax intelligence units are required to minimize illegal practices. The existence and monitoring of **due diligence guidelines** ensures that companies adhere to proper financial management thus limiting their capacity to engage in illegal activities. These policy options reduce the attractiveness of illegal financial activities and may result in an increase of government revenues.

The links between illegal financial activities and illegal logging need to be assessed to understand the extent to which curbing illegal financial activities would result in a reduction of illegal logging.

Penalties for illegal activities are set too low and do not act as a deterrent.

An appropriate level of penalties is required to ensure that the legislation has a sufficient deterrent effect. However, high penalties do not constitute a sufficient deterrent if the law enforcement system is weak. This results in a low probability of conviction and, therefore, a low expected cost of penalty.

5.3.1. Initiatives by consumer countries

The European Union is developing a FLEGT Action Plan. One of the proposed components of the Action Plan is the establishment of a 'legality licensing scheme'. Producer countries who join the scheme will issue legality licenses for wood products, that will be validated by the proposed EU Forest Partnership Agency. Producer countries joining the scheme will benefit from a legality label and promotional actions for their products in the EU. A Council regulation will be required to implement this scheme.

With regard to the WTO implications of a licensing scheme such as the one proposed for the EU, it seems unlikely to be found in violation of the GATT, although this cannot be excluded and depends on the details of the design (Brack 2003).

The proposed EU Action plan includes also measures to improve corporate responsibility through voluntary codes of conduct, will call on public procurement agencies to take measures to avoid purchasing illegal timber products, and will make a reference to financing institutions, including Export Credit Agencies, to exercise due diligence when making loans to wood-producing operations, including an assessment of their legality.

The United Kingdom is supporting the development of the EU regulation for a legality licensing scheme. Domestically, it is developing national government procurement guidelines to ensure that illegal timber products are not purchased. The procurement policy considered would have three timber product categories: legal and sustainable (preferred), legal and progressing towards sustainability (acceptable), and legal (if others not available).

Of particular significance for legislative aspects, the UK-Indonesia Action Plan will support the review of forest and forest related legislation, including decentralization regulations, customary law, constitution, forest law, rules, regulations and decrees, and trade and transport regulations. This Action Plan is also supporting consultation work to arrive at a definition of legality in Indonesia.

5.4. Capacity and Technical Causes and Policy Options

There exists a fundamental imbalance between government claims on forest resources and its capacity to administer it.

Forestry departments are generally under resourced and cannot monitor and enforce appropriately forest operations. This problem is compounded by the fact that enforcement can be prohibitively expensive when large and remote areas need to be controlled. Such imbalance between claims and capacity makes control and enforcement sporadic, arbitrary, and often corrupt.

Divesting and devolving state control over land, such as recognizing rights of indigenous and other groups to the land, and promoting community-based resource management would improve control over the territory as well as equity in resource allocation. Where appropriate, these measures may have to be backed by appropriate regulatory and market measures to ensure that forests are maintained.

Involve the private sector, NGOs and civil society in monitoring, enforcement, and other functions that they can carry out more efficiently than the public sector. Privatization of law enforcement activities has helped reduce the burden of enforcement agencies. Reliance on private parties (whether civil society, NGOs, or certification organizations) has greatly strengthened the government capacity to enforce certain laws and regulations (SGS Trade Assurance Services 2002).

Provide incentives for voluntary compliance. In Bolivia, for example, incentives exist for the adoption of certification (which mandates legal compliance). For example, certified forests are exempt from the 5-year government forest audit.

There exists an inadequate enforcement capacity in terms of qualified personnel and financial resources.

A recent review (Poore and Chiew 2000) concluded that, while significant legislative and institutional reforms have occurred over the past decade, these reforms have only marginally been acted upon. Individual countries argue that the problems lay in scarcity of qualified human resources and insufficient finances.

Adopt performance-based instruments (e.g., performance bonds) to increase the risks associated with non-compliance. Performance bonds work like a deposit that is made with the forest administration (or a mutually trusted third party) that will be forfeited in case conditions specified in the agreement (e.g., the concession contract) are violated.

Treat monitoring and enforcement as an economic activity. Governments should establish a stronger relationship between the value added by a unit of enforcement (e.g., the higher tax collection obtained because of an additional guard) and retribution to this enforcement unit (the guard's pay). As of now, the pay of enforcement actors has little relationship to the value generated by their work.

Develop more effective systems for detecting violations (e.g., focusing critical locations and activities) and to increase the firmness with which penalties are applied.

Mismatch between SFM practices and types of enforcement.

SFM is made up of several interconnected actions that range from data collection to planning to careful harvesting to silvicultural interventions. Like one might expect, certain practices are adopted more often than others: the practices that are economically advantageous are adopted first. At the same time, a recent study carried out in Bolivia, Boscolo et al. (Boscolo *et al.*

2002) found out that a significant factor affecting the adoption of a particular SFM practice is the ease with which the forest administration agency could enforce such practice. This *ease of enforcement*, measured by an index that accounted for the existence of double checks, the necessity of field visits and the permanence of the signs of non-compliance, appears to play a critical role in explaining the adoption of individual practices, at least in Bolivia. The same study suggests that managers who are more aware of the impacts of forest practices on sustainability are more likely to adopt improved practices.

Design regulations that can be enforced in multiple ways. For example, make the release of new authorizations contingent upon demonstrated fulfillment of past obligations.

Identification of illegal products is difficult.

This may be due to the fact that the legality of the product depends on the source (e.g., harvested legally) rather than the type of product (e.g., drugs).

Establish specialized timber trade units that detect mis-classifications and mis-reporting to avoid taxes.

Increase monitoring, enforcement efforts, and penalties. The potential benefits from illegal forest activities can be reduced, relative to those from legal activities, through an increase in the risk associated with illegal activities by increasing monitoring, enforcement efforts, and penalties (Tacconi *et al.* 2002). An increase in monitoring efforts using a range of methods, such as field checks and remote sensing technology, possibly carried out by independent parties, can have a direct impact on illegal logging as it targets the activities in the field.

Technological innovations, can also reduce the cost and allow increased surveillance. The effectiveness of increased monitoring capacity is dependent on governance variables, that is in a corrupt environment it is possible that increased capacity will not result in increased enforcement.

Under resourced Customs Departments cannot monitor trade appropriately.

Enforcement capacity may also be improved through better data collection, coordination, and sharing. Customs' operations would benefit from increased exchange of data on trade, including prior notification of shipments between producer and consumer countries.

5.4.1. Initiatives by consumer countries

The UK-Indonesia Action Plan aims to develop capacity to verify legality, establishing a system for independent verification, and establishing a chain of custody and tracking system. It seeks also to support the deployment of improved security equipment for forest protection, and the clarification of the role of Customs Departments in Indonesia and UK.

One of the components of the United States' President's Initiative Against Illegal Logging focuses on 'Strengthening the Rule of Law'. The objectives of the component are to build country capacity in on-the-ground forest law enforcement, including the ability to prosecute offenders, build intelligence sharing among law enforcement agencies, and increase knowledge, understanding and priority of logging crime among the US law enforcement community. Activities will include

- (i) assessments of the US international timber market and international financial investments in the timber industry, along with the analysis of supply routes, transshipment methods;

- (ii) assessment of the need to strengthen US authority to prosecute importation of illegally harvested timber,
- (iii) prepare briefings on illegal logging, rule of law and enforcement issues for international bodies such as INTERPOL and CITES;
- (iv) expand the use of international law enforcement communication systems to increase cooperation on illegal logging;
- (v) provide forest crime training segments in CITES programs;
- (vi) provide support to conduct an assistance needs assessment, including technology, and critical needs for reducing corruption and improving transparency and legal frameworks; and
- (vii) increase enforcement capacity through the provision of enforcement equipment and technology with associated training.

Another component of the above mentioned US initiative focuses on ‘Harnessing Technology’, with the objectives of supporting the development of integrated monitoring systems and building in-country capacity to monitor forest activity and forest law compliance. Activities will support mapping and monitoring, information and data sharing, training and knowledge transfer.

Various international initiatives to address illegal forest activities (promoted for example by ITTO) are presented and discussed in the next section.

6. International Agreements, Lessons, and Policy Options⁸

The purpose of this section is to examine international policy options to address illegal forest activities.

The section examines a range of agreements, both global and regional in scope. For those most directly relevant to forestry and the timber trade, it evaluates the potential for the international community to use their provisions to reduce illegal logging and trade in illegal timber. Other agreements not directly concerned with timber are examined with a view to discovering whether their provisions could usefully be emulated in international efforts to control illegal logging and trade in illegal timber. Where relevant, international institutions (sometimes themselves established as an outcome of an international agreement) are also considered briefly in passing.

The agreements and institutions considered in the section are divided into two broad categories. First, ‘trade-related’, those which place restrictions of some kind on trade: e.g., a requirement for a movement document such as a license or permit, or for prior informed consent before trade can proceed, or a ban on trade in particular products with particular countries. Second, ‘governance- and enforcement-related’, those which aim to enhance the effectiveness of efforts to improve standards of governance, or build transboundary frameworks to improve enforcement of regulations.

The section concludes by presenting some recommendations for adapting existing agreements, and developing new ones, with the aim of reducing illegal logging and the trade in illegal timber. It is likely that elements of all three categories considered here – trade regulation, governance and enforcement, and discussion – will be needed for effective action.

⁸ This section was contributed by Duncan Brack.

6.1. Trade-related agreements

6.1.1. CITES

The 1973 Convention on International Trade in Endangered Species (sometimes referred to as the Washington Convention, but more commonly known as CITES) aims to protect endangered species from over-exploitation by controlling international trade, under a system of import and export permits. Species are placed on different lists: Appendix I includes all species that are threatened with extinction; Appendix II includes species that are not necessarily threatened with extinction now but may become so unless trade in such species is subject to strict regulation; and Appendix III includes species that a party identifies as being subject to regulation for the purposes of preventing or restricting exploitation, and where it needs the co-operation of other parties in controlling trade.⁹

Amendments to Appendices I and II are implemented by the Conference of the Parties, whilst state parties themselves can place species on Appendix III. Countries may enter a reservation to CITES for a specific listed species, either upon becoming a party to CITES or upon an amendment to the appendix by the Conference of the Parties.

Trade in any species under any appendix is not permitted except in accordance with CITES. The degree of control exercised over trade varies with the appendix on which the species is placed; in all cases, export permits cannot be issued if the specimen was obtained in contravention of the exporting state's laws.

- For Appendix I species, trade cannot be detrimental to the survival of the species and must not be for primarily commercial purposes. In effect, this is a 'black list' of species for which trade is very strictly limited. Any trade in listed specimens must obtain both export and import permits, and certificates are also required for the re-export of specimens.
- Commercial trade in Appendix II specimens is allowed if it is not detrimental to the survival of the species. This is a 'grey list' of species for which trade is permitted under certain conditions. An export permit (though not an import permit) is required, and must be provided to the importing state's customs authorities.
- Trade in Appendix III specimens requires the management authority of the exporting state to issue an export permit. Importers must verify that the shipment is accompanied by an export permit, if the shipment is from a state which has listed that species on Appendix III, or a certificate of origin, if from another state.

Exceptions from these requirements are made for transit or trans-shipment of species; specimens that are personal or household effects; specimens that were acquired prior to CITES applying to the specimen; non-commercial trade between scientists or scientific institutions; or certain specimens that are part of a travelling zoo, circus or other travelling exhibition.

The CITES non-compliance response system uses 'carrots', mostly in the form of technical assistance, strongly backed by 'sticks' in the form of trade sanctions. In cases of serious non-compliance, the Standing Committee, based on Secretariat advice, has on several occasions recommended all parties to apply Article XIV(1) of CITES, which allows parties to take stricter domestic measures than those provided by the treaty, including complete prohibitions of trade in CITES-listed species, collectively (albeit temporarily) against the offending countries. Almost forty countries have been targeted for such prohibitions, including both non-parties and non-complying parties, although only in about half of these cases were trade sanctions actually applied. The success rate to date is almost 100% – though it is important to

⁹ For a good recent summary of the operation of CITES (Reeve 1992).

note that, with the exception of a few countries, no real major economic interests are involved in the trade, which means that parties are, in general, not under much pressure to resist a strong non-compliance regime.

Weaknesses in CITES

A key weakness of CITES is that the export and import permits effectively acquire a value, opening up possibilities for fraud, theft and corruption in issuing them. Falsification of CITES permits is a common problem, particularly for high-value products such as caviar. Theft and sale of blank documents similarly undermines the system. In theory, for an export permit to be issued, the Management Authority of the exporting state must be satisfied that the specimen was not obtained in contravention of the state's laws for the protection of fauna and flora. In practice, however, this is often not observed, thanks to a lack of capacity and/or corruption.

A second key weakness lies in the cross-checking of the documents against each other. The World Conservation Monitoring Centre (WCMC), once an NGO and now part of UNEP, monitors the legal trade taking place under CITES, receiving copies of all import and export permits issued. Although strictly speaking it is not part of WCMC's remit to investigate illegal trade, simple inspection of the permits sometimes reveals fraud. However, in common with other multilateral environmental agreements, CITES lacks a comprehensive and independent system of monitoring and verifying the issuance and use of permits and the central reporting of data.

The third key weakness lies in the cross-checking of the documents against what is actually in the shipment. Only a tiny fraction of the huge volume of goods in international trade can ever be physically inspected, and in the case of CITES, there are obvious problems in correctly identifying species, out of the almost 25,000 or so listed in its appendices.

Even in highly developed countries it is clear that the CITES permit system is subject to abuse. An analysis of mahogany imports into the US in 1997–98 (Blundell 2000)(mahogany is the most commonly traded timber species listed under CITES) estimated that at least 25% of sawnwood imports (worth more than \$17 million a year) were illegal; the figure did not include trade unreported to US Customs and the true magnitude is therefore likely to be much higher.

The question of the validity of export permits arose in 2002 with regard to exports of big-leafed mahogany from Brazil. The species is listed under Appendix III of CITES, and in 2001 the Brazilian government ordered a complete ban on logging and export. Nevertheless, shipments continued to be exported to Europe and North America in the first few months of 2002. Shipments reaching the US, Canada and a number of EU countries, including Germany, the Netherlands and Belgium, were seized by the authorities pending further enquiries; in March, the European Commission issued advice to EU management authorities that they should not accept imports of Brazilian mahogany since reasonable doubt existed over their legality.

In the UK, however, the government declined to take action. The arguments in a subsequent court case brought by Greenpeace against the UK revolved around whether the export permits had been validly issued (there was some confusion over the matter, in turn deriving from a number of court cases in Brazil dealing with whether the authorities had followed the proper procedures) and under what circumstances the authorities in the importing state would be justified in delaying the shipments and requiring further information on the validity of their export permits.

Greenpeace lost their judicial review in the Court of Appeal. In a ruling issued on 25 July 2002, two of the three judges concluded that to allow importing countries to query the validity

of export permits, even when some doubt existed over their validity, would introduce too great a level of uncertainty into international commerce. The third judge, however, dissented, accepting the argument that the survival of endangered species should take a higher priority.

CITES resolution Conf. 10.2, adopted in June 1997, agreed that parties should 'not authorise the import of any specimen if they have reason to believe that it was not legally acquired in the country of origin'. The decision of the UK court would seem to run counter to this conclusion, though the phrase 'reason to believe' is of course inevitably somewhat ambiguous.

CITES and timber

Nineteen tree species are currently listed on CITES appendices I and II, including Brazilian rosewood on Appendix I and small-leafed mahogany on Appendix II; different regional populations of the monkey-puzzle tree appear in both appendices. As a result of a decision taken at the last Conference of the Parties in November 2002, Latin American populations of big-leafed mahogany will be added to Appendix II from November 2003. However, an evaluation of 255 tree species carried out in 1998 against the CITES listing criteria found that about 15 new species could be added to Appendix I and almost 100 to Appendix II (World Conservation Monitoring Centre 1998).¹⁰

Such additions to the appendices would need to be agreed at conferences of the parties, and any proposal to add substantial numbers of new species, particularly those important in international trade, seems likely to rouse opposition. If it succeeded, it could change the nature of the agreement almost out of recognition. Total international trade in the animals, plants and their products currently covered by CITES is estimated to generate an annual turnover of about \$20 billion, but this is dwarfed by the value of timber and wood products in international trade, of almost \$150 billion. Although not every tree species in trade could be added to CITES, an expansion from 20 to 135 species or more seems likely to place severe strains on the treaty's operation.

Appendix III of CITES includes species subject to regulation only within the jurisdiction of a party and for which international cooperation is needed to control trade. Permits differ depending on whether exports originate in the listing country or in another range state. In the former case, an export permit must be granted subject to a finding that the specimen was legally obtained. In the latter, export is subject to the grant of a certificate of origin. Indonesia, for example, listed its own population of ramin on Appendix III in April 2001, with a zero export quota, and the measure became effective four months later. An immediate side-effect was to increase smuggling of ramin into Malaysia, which entered a reservation with regard to the listing.¹¹

Timber listings in Appendix III have been used so far mainly for mahogany (most will be replaced by the Appendix II listing in November 2003). The unilateral nature of Appendix III listings does offer an attractive way of controlling trade in particular species without waiting for a conference of the parties to agree a listing, and it may certainly prove of value in controlling the trade in particularly endangered tree species. Nevertheless, it suffers, along with the rest of the CITES system, from the drawbacks identified above – the lack of

¹⁰ The species evaluated were chosen to provide 'a reasonable representation of tree species from various regions, climates and grades of commercialisation and conservation' (p. 2). The availability of information on individual tree species varied considerably.

¹¹ This means that Malaysia should be regarded, for the purposes of trade in the species concerned, as a non-party to CITES. Trade with non-parties is not permitted except where documentation equivalent to CITES permits (or, in this case, a certificate of origin) is provided. Whether this is likely to be required in practice remains to be seen. However, the reservation does mean that Malaysia is under no obligation under CITES to regulate trade in ramin into and out of its own territories.

reliability of documentation and the onerous requirement on customs officers to be able to identify particular species.

Conclusions

The big advantages of CITES is that it is already in existence and is widely, if imperfectly, implemented. The treaty has had some success in preventing the extinction of particular endangered species, but as a general rule it has worked best where commercial trade has been ended completely (i.e. an Appendix I listing). To stretch it to control a substantial volume of international trade in new tree species seems likely not only not to work, but to place the rest of the agreement in jeopardy. CITES is, therefore, likely to prove of value as a safety-net mechanism in protecting individual tree species which are endangered, but it cannot credibly be extended into an agreement to control illegal trade in all timber.

6.1.2. International Tropical Timber Agreement and Organisation

The International Tropical Timber Agreement (ITTA) was originally agreed in 1983 and entered into force in 1985; it was renegotiated in 1994. Its aim is to facilitate discussion, consultation and international cooperation on all issues relating to the world timber economy, and in particular the international trade in timber and timber products, and sustainable management of the resource base. Its current membership comprise 57 countries representing 95 percent of world trade in tropical timber and 75 percent of the world's tropical forests. Its governing body is the International Tropical Timber Council, comprising representatives of its signatory states; the Council normally meets twice a year, the next meeting being scheduled for May 2003.

The Agreement establishes the International Tropical Timber Organisation (ITTO) as its secretariat and implementing agency. The ITTO, which came into existence in 1987, carries out a wide range of policy work and project activities, under the broad headings of economic information and market intelligence, reforestation and forest management, and forest industry; total project funding has totalled about \$250m in the last twelve or thirteen years.¹²

Unlike a number of other commodity agreements, the ITTA has no price regulation mechanisms or market intervention provisions, and accords equal importance to trade and conservation. Although it has a data reporting requirement,¹³ which actually covers all timber, not just tropical timber, members' record of reporting data is poor, despite about \$15m worth of ITTO expenditure in training workshops and capacity-building.

A central underlying concept of the ITTA is a commitment to the sustainable development of tropical forests, by encouraging and assisting the tropical timber industry and trade to manage and thus conserve the resource basis upon which they depend. The Agreement's 'Year 2000 Objective', enshrined in the 1994 text, aims to ensure that all tropical timber and timber products traded internationally by its member countries should originate from sustainably managed sources by 2000. In light of this, the Bali Partnership Fund was established to assist producing countries to make the necessary investments to enhance their capacity to implement a strategy for meeting the 2000 target. The Council and ITTO have also established a series of operational guidelines for achieving sustainable forest management, including a set of criteria

¹² Manoel Sobral Filho, Executive Director of ITTO, personal communication to D. Brack, February 2003.

¹³ ITTA Article 29, para 2, instructs members to furnish 'statistics and information on timber, its trade and the activities aimed at achieving sustainable management of timber-producing forests as well as other relevant information ...' The precise categories of information to be required are decided by the Council.

and indicators against which the standard of management and progress towards sustainability can be assessed.

The ITTO and illegal logging

The ITTO has devoted some effort to dealing with the illegal logging issue. At the Council meeting on 29 October 2001, the Executive Director called on members to cooperate in protecting forests from illegal logging. He pledged ITTO to assist national efforts at prosecution and enforcement by providing data and analysis and assisting in putting in place measures to prevent illegalities. He proposed that the Council should consider authorising and financing case studies on illegal logging and the illegal timber trade, followed up with an international seminar where the findings could be disclosed. If sufficient common elements in the problems and recommended solutions were found, guidelines on preventing illegal logging and illegal trade could be developed.

This work was, however, slow to start. No case studies have yet been completed, though some are under way. A series of studies on timber trade statistics has started, attempting to examine the large discrepancies between import and export data around the world and the extent to which these may be due to illegal timber trade (i.e. not declared at the point of export). The first of these, dealing with the UK, is due to report in March 2003, although of course there is little that can be concluded on an individual basis; more useful results will compare from cross-checking the results of the studies from importing and exporting countries.

Conclusions

As noted, the ITTA is renegotiated periodically. The current Agreement, which was negotiated in 1994, will expire in 2006, and negotiations on a new ITTA are about to start. There are a number of possible options for strengthening the Agreement to deal with the issue of illegal logging and trade in illegal timber:

- A stronger requirement to report export and import data for timber and timber products. This is probably the function for which ITTO is best suited, but, as noted, its members' record of reporting data is poor, even by the generally low standards of most international agreements. This is likely to be partly because there is no obvious disincentive for not reporting; if access to project funding, or perhaps voting rights at the Council, were to be dependent on timely reporting, it should encourage countries to devote more effort to it.
- The new Agreement could include text dealing explicitly with the issue of illegal trade. ITTO is well placed to carry out and discuss the kind of studies already under way, and possibly thereafter to develop guidelines of dealing with the problem, and a greater emphasis on the issue in the new text would help underpin this work. It would also be helpful if the current wording of Article 36 ('Nothing in this Agreement authorises the use of measures to restrict or ban international trade in, and in particular as they concern imports of and utilisation of, timber and timber products.') was modified explicitly to permit restrictions on the trade in illegal timber – though unless the Agreement is to be used as a mechanism for implementing such restrictions, this potential rewording is slightly academic.

6.1.3. Lessons from the Kimberley Process

The Kimberley Process on conflict diamonds¹⁴ came into operation on 1 January 2003. The Process was initiated by a number of southern African countries who decided, in early 2000, to take action to stop the flow of conflict diamonds to the market while at the same time protecting the legitimate diamond industry – in the wake of the failure of UN Security Council sanctions, including controls on the import of rough diamonds, from Angola, Liberia and Sierra Leone. Unlike the rest of the agreements discussed in this section, the Process is not a treaty which countries must ratify; it is simply an intergovernmental agreement to establish a certification scheme for rough diamonds.

The system revolves, like CITES, around the certification of exports. Producer countries control the production and transport of rough diamonds from mine to point of export. Shipments of rough diamonds are sealed in tamper-resistant containers and a forgery-resistant Kimberley Process certificate issued for each shipment. Importing countries inspect the seal and the certificate at the time of import, and prohibit the import of rough diamonds not accompanied by a certificate issued by a Kimberley Process participant. Similarly, transit countries ensure that only rough diamonds accompanied by a Kimberley Process certificate are permitted to enter the chain of transactions from import to export. Imports from and exports to non-participants in the Process are prohibited, though it is expected that in due course all countries producing and trading rough diamonds will participate.

Participants undertake to establish internal systems to implement and enforce the certification scheme, including establishing suitable penalties for transgressions. The Process recommends, amongst other things, that the names of individuals and companies convicted of breaches of the certification scheme should be made known to all other participants. The diamond industry has undertaken to introduce a system of self-regulation to support the Process, involving a system of warranties underpinned through the verification of individual companies by independent auditors and supported by internal penalties set by the industry.

Conclusions

There are obvious parallels between the aim of the Kimberley Process, to exclude conflict diamonds from the legitimate diamond trade, and moves to exclude illegally sourced timber from legal markets. There are also, of course, important differences: diamonds are traded in far lower volumes than is timber, and can be sealed in tamper-proof containers; the number of countries involved in major imports and exports is lower; and the industry is largely united, world-wide, on the desirability of the system.

Despite these differences, there are lessons that can be learnt from the Process. The Kimberley Process inspection scheme for certificates is stricter than in CITES and other MEAs,¹⁵ and should avoid some of the weakness of CITES import and export permits. The co-option of the industry, including in particular the independent auditing of individual companies, is exceptionally helpful. And the sheer speed of action displayed by the international community on this issue (three years from beginnings to implementation is very fast in international terms) is a powerful demonstration of the ability to mobilise the political will to regulate,

¹⁴ The Process defines 'conflict diamonds' as 'rough diamonds used by rebel movements or their allies to finance conflict aimed at undermining legitimate governments, as described in relevant United Nations Security Council (UNSC) resolutions insofar as they remain in effect, or in other similar UNSC resolutions which may be adopted in the future, and as understood and recognized in United Nations General Assembly (UNGA) Resolution 55/56, or in other similar UNGA resolutions which may be adopted in future' – Kimberley Process Certification Scheme Section 1 (see www.kimberleyprocess.com).

¹⁵ Particularly in the EU, which is adopting more stringent requirements for monitoring trade.

through certification, the entire global trade in an important traded commodity and to exclude illegal production from the marketplace.

6.1.4. Lessons from other environmental agreements

In addition to CITES, several multilateral environmental agreements (MEAs) have been agreed in order to impose various controls on international trade in cases where the unregulated trade was causing, or was likely to cause, significant environmental damage. The most relevant are:¹⁶

- The Basel Convention on transboundary movements of hazardous wastes, which uses a system of ‘prior notification and consent’.
- The Rotterdam Convention on hazardous chemicals and pesticides in international trade (not yet in force), which will establish a system of ‘prior informed consent’.
- The Cartagena Protocol in biosafety (also not yet in force), which will establish a system of ‘advanced informed agreement’ to control the trade in genetically modified products.
- The Montreal Protocol on ozone-depleting substances, which, while not primarily concerned with international trade, has adopted a system of import and export licences primarily in order to reduce illegal trade. (The Protocol also contains trade measures in the form of bans in trade, in the controlled substances, with non-parties – and, potentially, non-complying parties – to the agreement.)
- The International Convention for the Conservation of Atlantic Tunas (ICCAT) and the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), which are considered in more detail below.

The purpose of all these trade instruments is to establish a system in which either or both exporting and importing countries (and in some cases countries of transit) have to agree to the trade taking place before it can proceed. Unregulated trade is therefore eliminated, or at least made more difficult. The various requirements for licenses or permits accompanying the movement of the products being regulated also helps customs officers and other enforcement agents check whether the trade is proceeding legally.

Conclusions

The problems with CITES have been outlined above. Its reliance on paper certificates to accompany the traded goods in question opens up possibilities for fraud, theft and corruption, and the permits are not adequately cross-checked against each other or against the goods they are accompanying. The Basel Convention suffers from similar problems: the vast majority of the illegal trade in hazardous waste is believed to involve falsified documentation, and hazardous waste can often be difficult to distinguish from non-hazardous waste (indeed, the two are sometimes deliberately mixed together). The export and import licenses of the Montreal Protocol are generally regarded as helpful in controlling illegal trade, though there are many cases of ozone-depleting substances being shipped in mislabelled containers and without licenses; these will often pass through customs unmonitored. Any system for controlling any part of the international trade in timber therefore needs to avoid these problems – though at least timber is more difficult to hide or disguise than some CITES specimens or ozone-depleting substances.

¹⁶ About 20 of the more than 200 MEAs currently in existence contain trade measures (requirements, restrictions or complete bans on trade).

6.1.5. Lessons from fisheries agreements

The problem of illegal fishing shares a number of characteristics with that of illegal logging. The activity in question can be undertaken legally (and sustainably) but frequently is not, and the various forms of ‘illegal, unregulated and unreported’ (IUU) fishing¹⁷ are all exacerbating the current over-exploitation of fish stocks around the world. No single global agreement governs fisheries management, though the UN Convention on the Law of the Sea (UNCLOS) (which establishes 200-mile exclusive economic zones), and the UNCLOS Straddling Stocks Agreement (not yet in force) are both relevant. A number of important regional fisheries agreements are also in force, two of which are considered below.

Difficulties in controlling IUU fishing include non-signatory states to the relevant conservation convention, ships flying flags of convenience to escape domestic controls, and the enormous difficulty of tracking illegal activities across a huge area of ocean. Misreporting of catches and retention of undersized fish or fish caught over the allowed quotas is common. The parallels with illegal logging are obvious, though there is a substantial difference between fisheries, where much illegal activity takes place in international waters and demands international cooperation, and forestry, where illegal activities take place on the sovereign territory of nations.

International Convention for the Conservation of Atlantic Tunas

The 1969 International Convention for the Conservation of Atlantic Tunas (ICCAT) is responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. It regulates about thirty species, including bluefin and yellowfin tuna, albacore, blue marlin, swordfish and various species of mackerel. It currently has thirty-one contracting parties.

In common with several other international agreements (see above), ICCAT uses trade measures as a means of enforcement. These are not specified in the text of the Convention, but a number of resolutions of the parties – recommended by the Convention’s Compliance Committee – have contained trade restrictions. Parties have decided to ban imports of bluefin tuna, Atlantic swordfish and products from three non-parties (Belize, Honduras and Panama) and from one non-complying party (Equatorial Guinea); a number of warnings have been issued to other countries. As a result, Panama has become a party and implemented appropriate regulations; however, many vessels registered with Belize, Honduras and Panama, and considered to be fishing illegally, have now registered with other countries – an example of the flag of convenience problem.

Convention for the Conservation of Antarctic Marine Living Resources

The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was signed in 1980 and entered into force in 1982. It establishes a Commission which oversees the implementation of the Convention; all parties to the Convention are entitled to join the Commission, which currently has twenty-four members, out of a total of thirty-one parties. The Commission sets policy on, and regulates, activities associated with the rational utilisation and management of marine living resources in the Southern Ocean.

As with ICCAT, CCAMLR does not contain trade measures in the text of the Convention, but parties have agreed to adopt some, notably a prohibition on parties allowing landing or

¹⁷ In UN terminology, illegal fishing takes place where the fishery is against the law; unreported fishing takes place where legal instruments are in place to control the fishery, but no requirements for reporting, or penalties for non-reporting, exist; and unregulated fishing occurs where legal instruments are not required, not applied, or not adequate.

transshipment of fish from the vessel of a non-party sighted fishing in CCAMLR-protected areas. Compliance with the conservation measures agreed by the parties is subject to an inspection process involving inspectors designated by members. Flag states are required to report to the CCAMLR Commission on prosecutions and sanctions imposed as a consequence of inspections conducted on vessels flying their flags. The Standing Committee on Observation and Inspection considers and prepares advice to the Commission on all matters related to inspections undertaken and steps taken by members to enforce compliance.

The CCAMLR Catch Documentation Scheme for the Patagonian toothfish, a heavily (and frequently illegally) fished deep-sea species, became binding on all members in May 2000. The Scheme is designed to track the landings and trade flows of toothfish caught in the Convention area and, where possible, adjacent waters. CCAMLR members are required to ensure that all of their flagged vessels fishing for toothfish are specifically authorised to do so, and complete catch document forms¹⁸ for all catches landed or trans-shipped; document forms are not to be issued to non-authorised ships.

All landings or trans-shipments of toothfish catches at CCAMLR members' ports are only permitted if they are accompanied by a valid form, and any export or re-export of toothfish must also be accompanied by the form countersigned by a responsible government official. Customs authorities are to require appropriate documentation for any case of import or export. Non-members of CCAMLR are entitled to join the scheme if they fulfil the same requirements. The CCAMLR secretariat holds the central register of all completed catch documentation forms.

The Scheme has had a clear impact on the price of toothfish, with a 20–30% price differential developing between illegal and legitimately caught fish (Agnew 2002).

FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing

In the wake of growing concern over IUU fishing, in 2001 the Food and Agriculture Organisation (FAO) agreed an International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA on IUU fishing). This non-binding series of measures contains a number of important elements that a series of cooperative controls on the timber trade could follow, including encouragement for:

- The adoption of multilaterally agreed trade-related measures to prevent IUU fishing for specific fish stocks or species – including catch documentation and certification requirements, and import and export controls or prohibitions.¹⁹
- ‘Comprehensive and effective monitoring, control and surveillance of fishing from its commencement, through the point of landing, to final destination’, which, allied with vessel monitoring system satellite receivers and catch documentation schemes, amounts to chain-of-custody monitoring.²⁰
- Allowing the traceability of fish or fish products, assisting any other state in deterring trade in fish and fish products illegally harvested in their jurisdiction, and considering legislation that makes it a violation to conduct business or to trade in fish or fish products derived from IUU fishing.²¹

¹⁸ The catch document includes details of the issuing authority and vessel, the weight of each toothfish species landed or trans-shipped, the areas and dates of the catch, and details of the landing or trans-shipment and the recipients of the catch.

¹⁹ Paras 68 and 69.

²⁰ Para 24.

²¹ Paras 71–73.

- Similarly, measures to ensure that states’ ‘fishers are aware of the detrimental effects of doing business with importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers and other services suppliers identified as doing business with vessels identified as engaged in IUU fishing’, including legislation that makes it a violation to conduct such business.²²

Conclusions

These regional fisheries agreements, and the FAO IPOA, have had to tackle similar problems as faced by those concerned about illegal logging. Several of these measures they incorporate – enforcement cooperation, trade measures against non-cooperating states, and in particular catch documentation schemes – could certainly apply to any putative agreements to prevent, deter and eliminate illegal logging and the trade in illegally sourced timber.

6.2. Governance and enforcement related agreements and processes

6.2.1. Lessons from the Lusaka Agreement

The Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora was agreed in 1994 and entered into force in 1996. Its aim is to reduce and ultimately eliminate illegal trade in wildlife, and it currently has six parties.²³ It is overseen by a governing council of ministers or their alternates.

The agreement’s core provision is the Lusaka Agreement Task Force (LATF), established in June 1999 and based in Nairobi, in the headquarters of the Kenya Wildlife Service. It comprises a director, an intelligence officer and several field officers, all seconded from national enforcement agencies (one of the parties’ commitments under the agreement is to second at least one member of staff), plus support staff. It works with national bureaux designated by the member countries, and its original activities involved establishing a database, intelligence-gathering and communications systems. It supplied cross-border intelligence to the national bureaux and also carried out training exercises for wildlife law enforcement officers.

As the Task Force gained in experience, however, it increasingly came to conduct cross-border operations of its own. LATF staff enjoy status equivalent to diplomatic immunity – including exemption from visa requirements and entry restrictions, immunity from arrest and detention, and so on – and can thus move relatively easily across borders. Its field officers retain national enforcement authority, and can therefore make arrests in their own countries. Sometimes dubbed the ‘African Interpol for wildlife’, in fact its powers exceed those of Interpol, whose staff carry out similar intelligence-gathering and communications functions but have no direct enforcement role. The Task Force has scored a number of successes in recent months, including the seizure, in June 2002, of a large shipment (six tonnes) of ivory smuggled from Zambia to Singapore.

The Lusaka Agreement has not been without its problems. It took more time to establish the Task Force than had been anticipated, largely because funding from donors was slow to emerge. In the end, the LATF’s initial funding derived entirely from parties and in-kind grants (e.g. its headquarters). Donor funding, from a number of governments, NGOs and UNEP, has now become available and is used for special operations, training and equipment; parties still provide the core funding. More seriously, the Agreement has lacked a number of key

²² Para 74.

²³ Congo-Brazzaville, Kenya, Lesotho, Tanzania, Uganda, Zambia.

participants. Disagreements amongst southern African countries over the resumption of the ivory trade meant that Botswana, Namibia and Zimbabwe (all supporters of reopening the trade) did not participate in the negotiations, and South Africa, which did participate, has not yet ratified (though indications are emerging that it may soon).

Conclusions

Does the Lusaka Agreement provide a model for enforcement operations directed against illegal logging? In principle, it does. It displays most of the key characteristics one would expect of such an agreement: a coordination mechanism for participating countries; a means to gather intelligence; and an ability to conduct cross-border operations. Indeed, the text of the agreement could be copied almost word for word, substituting the word 'timber' for 'wildlife'.

6.2.2. Forest Law Enforcement and Governance process

The World Bank's Forest Governance Programme was launched in 2000, with an emphasis on working in partnership with governments, civil society, the private sector and donor organisations. Partly stimulated by the G8 Action Programme on Forests, it began a Forest Law Enforcement and Governance (FLEG) process, initially in East Asia.

In September 2001, countries from East Asia and other regions (including Europe and US) participated in the FLEG ministerial conference in Bali, an initiative designed to establish a framework through which producer country governments could work together with each other and with governments of consumer countries to tackle illegal activities in the region. The conference partly acted as a forum for the exchange of views and the dissemination of technical knowledge on a wide range of governance and enforcement issues. Participants included senior officials from forest and related ministries, NGOs and industry representatives.

The Bali conference concluded with a ministerial declaration, which committed participating countries to, *inter alia*: 'take immediate action to intensify national efforts, and to strengthen bilateral, regional and multilateral collaboration to address violations of forest law and forest crime, in particular illegal logging, associated illegal trade and corruption, and their negative effects on the rule of law.'²⁴ The declaration also dealt with the topic of trade in illegally logged timber, including a commitment to 'explore ways in which the export and import of illegally harvested timber can be eliminated, including the possibility of a prior notification system for commercially traded timber'.²⁵

The conference established a regional task force to 'advance the objectives' of the Declaration, and an advisory group of NGOs and industry was also formed. Ministers agreed to meet again in 2003 to review progress. Both task force and advisory group had initial preparatory meetings in May 2002, and fuller meetings in January 2003. Progress could not exactly be described as rapid, but participants began to identify key priorities for activities, including nominating focal points in each country, and the collection and exchange of production and consumption data. The Indonesian Ministry of Forests and CIFOR volunteered to undertake interim secretariat functions, and it seems possible that a permanent secretariat may ultimately develop, should sufficient funding become available.

²⁴ Forest Law Enforcement and Governance East Asia Ministerial Conference, Bali, Indonesia, 11–13 September 2001; Ministerial Declaration, p. 1. See: Inweb18.worldbank.org/ESSD/essdext.nsf/14ByDocName/ForestGovernanceProgramMinisterialProcesses.

²⁵ *Ibid.*, p. 2.

Conclusions

The FLEG commitments, if followed through, provide a preliminary framework for the negotiation of regional agreements, initially in the East Asia region, concentrating on enforcement and governance. The collection and exchange of data could be a useful part of such an agreement, though care would need to be taken not to duplicate the work of ITTO and FAO in this regard. Probably more usefully, the agreements could provide the framework for the promotion and dissemination of examples of best practice, regional training initiatives and general networking, and possibly cross-border collaboration on enforcement (see the Lusaka Agreement).

6.3. Conclusions and recommendations

What would one want to see in an international or regional agreement to combat illegal logging? A number of components could be included, depending on the degree of agreement between the signatory parties:

- A. A forum for debate, consciousness-raising, information-sharing, and exchange of best practice.
- B. A mechanism (together with associated resources) for capacity-building and technology transfer.
- C. A data collection and exchange system, both on legal activities (production, processing, export, import, consumption) and, where detected, illegal behaviour.
- D. An international tracking and/or licensing system to guarantee legality, preferably not reliant simply on paper movement documents; ideally, with independent third-party monitoring.
- E. A framework for enforcement cooperation, including facilitation of cross-border enforcement operations (likely to work best at a regional level).
- F. A non-compliance mechanism, probably incorporating trade measures as sanctions against non-complying parties and (possibly) non-parties.

Clearly, no existing agreement contains anything like this range of activities, but there are examples of each one of them in one or more of the agreements and institutions considered in this section:

- A. *Forum for debate*: mainly to be found in ITTO, UNFF, FAO, and the FLEG meetings and to a lesser extent in the CBD.
- B. *Capacity-building*: to a limited extent under ITTO and FAO; the FLEG conferences themselves represent a degree of capacity-building, and if they develop into permanent regional agreements might provide an appropriate framework.
- C. *Data collection and exchange*: again to a limited and imperfect extent, under ITTO and, to a degree, FAO. The FLEG process once again provides a possible framework for enhanced data exchange. No organisation collects information systematically on the extent of illegal activities.

- D. *International tracking and/or licensing system*: only exists in CITES, and only for a limited number of timber species. Examples outside timber include several MEAs, the Kimberley Process (which should come to include third-party monitoring) and CCAMLR's Catch Documentation Scheme – which may come to be encouraged, through the FAO's IPOA on IUU fishing, for other species and areas.
- E. *Framework for enforcement cooperation*: the only example considered here is the Lusaka Agreement; the FLEG processes may provide a suitable setting in which this could be emulated.
- F. *Non-compliance mechanism*: CITES has used trade measures quite successfully to encourage compliance and participation, as have other MEAs such as the Montreal Protocol, ICCAT and CCAMLR.

7. Bilateral trade measures and illegal forest activities: potential relationships

Trade measures can be a significant component of a strategy aimed at controlling illegal forest activities, and they are certainly one of the most important policy measures that consumer countries can implement. Therefore, this section sketches the global timber trade situation and derives some implications concerning the potential effectiveness of trade measures and for a global strategy to control illegal forest activities.

Consumer country trade measures may be aimed at reducing illegal trade and creating market incentives for legal products. Thus, they directly affect only illegal trade, while illegal logging is impacted indirectly. Illegal logging will be reduced only if trade measures result in a complete closure of market opportunities for the timber harvested illegally in the international market as well as in the producer country, and if a change in land use of the area where the timber is sourced is not beneficial (otherwise the forest may be cleared anyway). The creation of market incentives results in a decrease of illegal logging and illegal trade only if alternative markets for illegal products do not exist, because the new market opportunities could be filled by legally sourced timber while illegal timber could be redirected to alternative markets.

7.1. Timber production and trade patterns

A summary of trade patterns relating to producer countries Africa and Asia in year 2000 and their trading partners is presented below. (Due to time constraints for the preparation of this draft, these are preliminary data and will need to be verified. There are inconsistencies in the data, such as exports being larger than production, and it has to be ascertained if there are flaws in the original data or in the sourcing process.)

The ratio of timber product exports relative to production is an indicator of the potential aggregate impact of trade measures on the illegal logging activities in a producer country; the lower the share of exports to total production, the lower the expected reduction in illegal logging resulting from trade measures. However, a flaw in this measure is that illegal exports (non-declared) are not accounted for, and in some cases illegal trade can actually be a very significant share of total production.

The distribution of exports to partner countries is an indicator of the possible impact of trade restrictions/trade incentives implemented by consumer countries; the higher the share of total exports, the higher the impact a consumer country can have. A similar caveat noted above regarding undeclared products applies here.

Caution needs to be taken in using the analysis presented here. Firstly, there are inaccuracies in the data available through the FAOSTAT database (as a result of lack of, or gaps in, reporting of data by individual countries). These discrepancies in data are evident from the fact that in some cases, the ratio of domestic production exported to total production is above 100%. Secondly, due to time constraints, no attempt was made to assess the ratio of total roundwood equivalent export to total roundwood production, which would be the most appropriate measure to assess the significance of export markets relative to total production. Thirdly, the impacts of trade measures are dynamic and need to be modeled over time. Therefore, considering trade patterns at a point in time is only a very rough and indicative way of establishing potential impacts of trade measures. To assess these impacts more accurately, a dynamic trade model would be required.

7.1.1. Asia

The ratio of export to total production varies considerably among the different products and different countries. For the year 2000, with regard to the larger countries:

- Indonesia officially exports very limited amounts of roundwood (4.8%), while the share of export to production is relatively significant for sawnwood (22.2%), plywood (62.8%), woodpulp (37.4%), newsprint (64.77%) and paper (36.8%);
- Malaysia exports a large share of roundwood (45.35%) sawnwood (45.94%), and plywood (77.15%), with lower newsprint (16.4%) and paper (18.17%) export ratios;
- Papua New Guinea exports 62.94% of its roundwood;
- The Russian Federation exports a good share of roundwood (29.14%), and plywood (65.63%), woodpulp (28.22), newsprint (67.15%), and paper (30.85%), with a lower ratio for sawnwood (15.39%);
- China has the lowest export ratios: roundwood (0.76%), sawnwood (16.32%), plywood (10.27%), woodpulp (1.37) and paper (10.56%).

In relation to the distribution of exports, it is obvious that the most significant share of exports from Asian countries goes to other Asian countries, with China being the most significant importer followed by Japan. The Russian Federation is the only country with significant share of exports going to Europe.

7.1.2. Africa

African countries produce less processed products than Asian countries. Their production and exports are mainly concentrated on roundwood, and to a lesser degree on sawnwood.

The ratios of export to total production with regard to the larger countries are:

- Cameroon, roundwood (47%), sawnwood (85%);
- Central African Republic, roundwood (25%) sawnwood (65%);
- Congo, roundwood (24%) sawnwood (75%);
- Gabon, roundwood (100%) sawnwood (90%);
- Ghana, sawnwood (65%), veneer (45%) (data for roundwood missing).

African countries export mainly to Europe, with some exceptions. Cameroon exports 38.85% of its roundwood to Asia (of which 26.83% to China), and Gabon exports 75.41% of its roundwood to Asia (of which 68.11% to China).

7.2. Implications for strategies to reduce illegal forest activities

Five major implications arise from the analysis of trade patterns.

Most of the trade in Asian timber products takes place within Asia. Therefore, only trade measures adopted by Asian countries are likely to have significant effects on illegal trade from Asia.

European trade measures are more likely to have an impact on illegal trade from Africa. Given the already significant share of exports from Africa to China, whether the adoption of trade measures by Europe would result in a shift in trade towards Asia (if it does not adopt equivalent measures) has to be seen.

With regards to the impact of trade measures on illegal logging, it is difficult to speculate at this stage with the limited information available. However, it is clear the African countries have much higher export ratios than Asian countries, therefore, trade measures are more likely to reduce illegal logging in Africa than in Asia.

A chain of custody system probably is easier to implement for timber products from Africa than from Asia. Asian countries export processed products, and the market chain is therefore longer.

In terms of prioritization of policies to reduce illegal logging, trade related initiatives appear to be a good investment in Africa. They have less potential in Asia as export ratios are lower. In Asia, the policy options that need to receive significant attention should be those with most direct impacts on illegal logging, ie the ones to be adopted by the producer country. This, of course, does imply that Asian consumer countries should not work on trade measures as they can certainly have an impact.

8. Conclusion

8.1. Principles and criteria for evaluating alternative options

The previous sections have presented a vast array of possible policy responses to illegal forest practices. Such multiplicity reflects the complex context in which illegal forest practices occur and the extreme diversity of forest sectors in different countries. As a consequence, it is not possible to recommend specific actions that can be carried out indiscriminately. Specific actions will need to be preceded by a careful assessment of the local conditions.

In the following sections, we suggest a preliminary set of principles that can be used to orient progress towards an enabling policy environment. We then present some criteria and sequencing steps that can be used both to aid in the selection of possible alternatives and to guide their assessment, and to progress in the implementation.

8.1.1. Principles

Reform efforts should proceed with input from all the important stakeholders. Stakeholders' involvement is necessary and desirable for various reasons. First, it can provide critical information and insights to clearly understand the problem, the players, the options available, and their feasibility. Second, while it may be tempting to exclude some players, it is critical to recognize that without their support some reform efforts are doomed to fail. If you know you will eventually need them, it is better to involve them earlier rather than later.

Property rights of forests must be clarified and resolved. Illegal logging activities are, first and foremost, a form of theft of public (and private) resources for private gain. It is therefore inevitable that most actions aiming at reducing illegal forest activities will rest on a definition of what belongs to whom. Where such a definition is still vague or unresolved (as in the case of many indigenous territories) implementation of measures to reduce illegal logging could have unexpected consequences.

Streamline the policy and regulatory framework. Many policies and regulations should be simplified, made clearer and more transparent. They should set realist, achievable goals, and be forward looking, seeking to shape expectations in a positive economic and environmental direction. They should be designed in such a way that their implementation leaves little unnecessary room for discretion and for arbitrary interpretation. New policies should not create further uncertainty: they should be introduced in a foreseeable and gradual way, and be consistently applied to domestic and international actors alike. Finally, they should make economic sense (more on this below).

Divest certain functions to the private sector, NGOs, civil society and local governments. While public institutions have clearly the mandate to set the rules of the game, many functions currently carried out by public officials could more effectively and efficiently be carried out by other players.

Promote integration and coordination with other sectors and with other players, both national and international. Bureaucratic gridlock, overlapping and conflicting jurisdictions should be minimized. Processes should be set in place to deal with inevitable disagreements and conflicts. Efforts among producer and consumer countries should be coordinated, particularly in sharing economic intelligence.

8.1.2. Criteria

Criteria are the essential evaluative elements of an intervention strategy. Within a single criterion, several indicators can be used to measure and evaluate the degree to which a given criteria is being advanced. We suggest here a set of criteria that, in our opinion, should be considered when evaluating a possible intervention to reduce illegal forest activities.

Clarity. Does the new policy work in a clear and transparent way for all the actors? Is it based on information that is accessible to the public? How much room for interpretation does it leave? To whom?

Economic efficiency. Will society be better off with this new policy? If so, will this option achieve the desired objective at the lowest possible cost to society (cost-effectiveness)? Answering this question requires a realistic assessment of the direct and indirect costs of adopting the measure as well as an assessment of its direct and indirect impacts. Is it flexible enough to adapt to changes in technologies, or in market conditions?

Effectiveness. Will this new policy achieve the desired outcome within a specified time horizon? What degree of certainty can be expected?

Equity. Will the costs and benefits of the proposed policy fall disproportionately on limited groups? Will this policy motivate all those interested in better forest management or it is designed to favor specific actors?

Acceptability. Is the option considered understandable and broadly acceptable by the public and by at least some part of the private sector? Does it reflect some agreement among the different actors? Some level of industry acceptance is critical where enforcement capacity is limited.

Motivating. Does the new policy modify the behavior of operators towards a desired direction by motivating or by punishing them? Is there a good balance between stick and carrot?

Institutional parsimony. Does the policy require new bureaucracy?

Exploits synergies. Does it integrate international initiatives with reforms in producer countries? Initiatives that aim at limiting the flow of illegal forest products by affecting international trade will need to be integrated with initiatives in producer countries. The majority of international buyers are still largely indifferent to the process by which timber is produced (i.e., whether it is produced sustainably or not). Therefore, they will choose to purchase timber labeled as legal only if it had the same price (or quality, quantity, or service) of undifferentiated timber.

Consistency with own priorities. Different intervention strategies will have different impacts on various dimensions: livelihoods, governance, economic growth, protection of the environment (see Table 2). Different policy options will have different impacts on livelihood indicators. If, for example, a donor has as a priority the reduction of poverty, this will become an important evaluative criterion.

8.1.3. Initial sequencing steps

How should one proceed?

Pick the reformers. Identify the reform minded and interested very early in process to involve them in problem analysis and development of options. They will have to be the champions of change.

Comprehensive diagnosis of the problem. The diagnosis should consider at least the perceived impacts (including distribution among stakeholders), assess the underlying market, governance, and legislative causes, assess the possible links between the causes, and define the objectives to be achieved.

Consider all available options creatively and match response to underlying cause. Matching the policy option to the underlying cause of the problem is of fundamental importance to prevent ineffectiveness, in a best-case scenario, or even negative impacts, in a worse case scenario, such as significant negative impacts on livelihoods if they depend considerably on illegal activities. Avoid ‘When all you have is a hammer, everything looks like a nail’ mindset. Ideally, structural problems are met by structural reform, but this may not be always possible. Technical options could open up the process of reforms, but the risks of ineffectiveness are high.

Pursue no-regrets policies first. Efforts to address illegal logging are being considered for various reasons: environmental protection, improving livelihoods, economic growth, among others. While some measures involve inherent trade-offs, some don’t. “No-regrets” interventions may be pursued first. This would also help in initial broader acceptance of reform efforts.

8.2. Concluding comments

The existence of illegal forest activities is a serious threat to sustainable development in many countries. The severity of the problem is estimated in billions of dollars of public resources lost to private gain, environmental degradation, worsening governance, and possibly increased poverty and social conflict.

What this report has shown is that this is a very complex problem, more symptomatic of governance, legislative, and market weaknesses and deficiencies than of criminal attitudes of selected individuals. Any successful strategy to address illegal forest activities will need to take into account these underlying causes.

For these reasons, the most significant actions to address illegal forest activities will need to be taken by producer countries, as they can directly affect illegal forest activities, and particularly illegal logging. Also, it is only in producer countries that appropriate reforms can be undertaken to ensure that rural communities are not negatively affected, but rather benefit from initiatives aimed at improving the management of forests.

Consumer countries can, of course, also play very significant roles that range from supporting further reform processes, to providing technical assistance, to exchanging data and other economic intelligence, to introducing legislation that limits the import of illegal forest products and facilitates trade in legal forest products.

Yet, there remain aspects of illegal forest activities that are still unclear. For example, which violations, among the numerous types, are the most serious? Which ones are causing the most economic losses, the most environmental losses, the most governance and social losses?

Which ones should be tackled first? And how? Unfortunately, rigorous inquiries into these questions are still lacking.

9. Bibliography

- AFP. Bresil: Le Marche Noir Du Bois Devaste La Forest Amazonienne; BBC News Online, 12 April 2000: Amazon Tree Loss Continues.
- Agnew, D. May The Drivers Behind Black Markets: Illegal and Unregulated Fishing. RIIA Workshop on International Environmental Crime.
- Barber, C.V. and Talbott, K. 2003 The Chainsaw and the Gun: The Role of the Military in Deforesting Indonesia. *Journal of Sustainable Forestry* 16 (3/4): xx-xx.
- Barreto, P., Amaral, P., Vidal, E. and Uhl, C. 1998 Costs and Benefits of Forest Management for Timber Production in Eastern Amazonia. *Forest Ecology and Management* 108: 9-26.
- Bass, S., Grieg-Gran, M., Markopoulos, M., Roberts, S. and Thornber, K. 2001 Certification's Impacts on Forests, Stakeholders and Supply Chains. IIED.
- Birikorang, G. 2001 Ghana Wood Industry and Log Export Ban Study. Forestry Commission.
- Blundell, A.G. 2000 Mahogany: Unregulated Trade. US EPA.
- Boscolo, M., Snook, L. and Quevedo, L. 2002 What Determines the Adoption of Good Forestry Practices in Bolivia? Draft.
- Brack, D. 2003 WTO Implications of An International Timber Licensing Scheme. Draft. The Royal Institute of International Affairs. <http://www.illegal-logging.info/documents.htm>
- Brack, D. and Hayman, G. 2001 Intergovernmental Actions on Illegal Logging, Options for Intergovernmental Action to Help Combat Illegal Logging and Illegal Trade in Timber and Forest Products. The Royal Institute of International Affairs, London. <http://www.riia.org>.
- Brack, D., Marijnissen, C. and Ozinga, S. 2002 Controlling Imports of Illegal Timber: Options for Europe. FERN, Brussels. <http://www.fern.org>.
- Brautigam, D. 2002 Building Leviathan: Revenue, State Capacity and Governance.
- Brunner, J., Talbott, K. and Elkin, C. 1998 Logging Burma's Frontier Forests: Resources and The Regime. World Resources Institute, Washington D.C. <http://www.wri.org/wri>.
- Buscaglia, E. 2001 Judicial Corruption in Developing Countries: Its Causes and Economic Consequences. Centre for International Crime Prevention, United Nation Office for Drug Control and Crime Prevention, Vienna.
- Casson, A. and Obidzinski, K. 2002 From New Order to Regional Autonomy: Shifting Dynamics of Illegal Logging in Kalimantan, Indonesia. *World Development* 30 (12): 2133-2151.
- Christian Science Monitor 1998.
- Contreras-Hermosilla, A. 2001 Forest Law Compliance, An Overview.
- David, P., Putz, F. and Vanclay, J.K. 1999 A Sustainable Forest Future. CSERGE Working Paper GEC 99-15.
- Dudley, N., Jeanrenaud, J.P. and Sullivan, F. 1995 Bad Harvest? The Timber Trade and The Degradation of The World Forests. Earthscan and World Wide Fund for Nature, London.
- Duncan, R.C. 1994 Melanesian Forestry Sector Study. University of Canberra International Development (36).
- Dykstra, D.P., Kuru, G., Taylor, R., Nussbaum, R., Magrath, W.B. and Story, J. 2002 Technologies for Wood Tracking: Verifying and Monitoring the Chain of Custody and Legal Compliance in the Timber Industry. The World Bank.
- Eba'a Atyi 1998 Cameroon Logging Industry: Structure, Economic Importance and Effects of Devaluation. Center for International Forestry Research, Bogor, Indonesia.
- Environmental Investigation Agency and Telapak Indonesia 2001 Timber Trafficking, Illegal Logging in Indonesia, South East Asia and International Consumption of Illegally

- Sourced Timber. Environmental Investigation Agency, Telapak Indonesia.
<http://www.eia-international.org>, <http://www.telapak.org>.
- Environmental Investigation Agency and Telapak Indonesia 2002 Above The Law: Corruption, Collusion, nepotism and The Fate of Indonesia's Forests. Environmental Investigation Agency and Telapak. <http://www.eia-international.org>, <http://www.telapak.org>.
- FAO 2001 State of the World's Forests. FAO, Rome.
- Forest Monitor 2001 Sold Down The River: The Need to Control Transnational Forestry Corporations: A European Case Study. Forest Monitor Ltd, Cambridge.
<http://www.forestmonitor.org>.
- FSC 2003 Forests Certified by FSC-Accredited Certification Bodies.
- Glastra, R. 1999 Cut and Run: Illegal Logging and Timber Trade in The Tropics. International Development Research Centre, Ottawa.
- Global Witness 1999 The Untouchables: Forest Crimes and the Concessionaires-Cambodia Afford to Keep Them. Global Witness, London.
- Greenpeace 2000 Illegal Logging in Russia-Summary of Report Illegal Forest Felling Activities in Russia. Greenpeace.
- Higman, S., Bass, S., Judd, N., Mayers, J. and Nussbaum, R. 1999 The Sustainable Forestry Handbook. Earthscan, London.
- International Monetary Fund 1997 Good Governance: The IMF's Role. International Monetary Fund, Washington DC. <http://www.imf.org>.
- ITTO 1992 Criteria for the Measurement of Sustainable Forest Management. ITTO Policy Development Series No.3. ITTO, Yokohama.
- Kaimowitz, D. and Angelsen, A. 1998 Economic Models of Tropical Deforestation: A Review. Center for International Forestry Research, Bogor, Indonesia.
- Karsenty, A. 2001 Economics Instruments for Tropical Forests: The Congo Basin Case. International Institute for Environmental Development (IIED), Center for International Forestry Research (CIFOR), Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD) 2000, London, UK.
- Leubuscher, S., Marijnissen, C. and Ozinga, S. 2002 Cleaning Up ECA; The Possibilities for Action at The EU-level. FERN.
- Manurung, E.G.T. and Buongiorno, J. 1997 Effects of the Ban on Tropical Log Exports on the Forestry Sector of Indonesia. Journal of World Forest Resource Management 8: 21-49.
- McCarthy, J.F. 2002a Power and Interest on Sumatra's Rainforest Frontier: clientelist coalitions, illegal logging and conservation in the alas Valley. Journal of Southeast Asian Studies 33 (1): 77-106.
- McCarthy, J.F. 2002b Turning in Circles: District Governance, Illegal Logging, and Environmental Decline in Sumatra, Indonesia. Society and Natural Resources 15: 867-886.
- Michie, B. and Pesonen, E. 2002 East Asian Forest Products Trade and Europe's Trade Relationship with East Asian Countries. European Forest Institute, Joensuu.
- Newell, J. and Lebedev, A. 2000 Plundering Russia's Far Eastern Taiga: Illegal Logging Corruption and Trade. Bureau for Regional Oriental Campaigns, Friends of The Earth-Japan and Pacific Environment & Resources Center, Vladivostok.
<http://www.foejapan.org>
- Nussbaum, R., Bass, S., Morrison, E. and Speechly, H. 1996 Sustainable Forest Management: An Analysis of Principles, Criteria and Standards. International Institute for Environment and Development (IIED).
- Pagiola, S., Bishop, J. and Landell-Mills, N. eds. 2002 Selling Forest Environmental Services: Market-based Mechanisms for Conservation and Development. Earthscan, London.
- Palmer, C.E. 2000 The Extent and Causes of Illegal Logging: An Analysis of a Major Cause of Tropical Deforestation in Indonesia. Economics Department University College London, Center for Social Economic Research on the Global Environment University College London & University of East Anglia, London.

- Panafrican News Agency Daily Newswire 2000 Illegal Timber Trade Denies Government Millions in Revenue.
- Panayotou, T. 1993 *Green Markets: The Economics of Sustainable Development*. International Center for Economic Growth and Harvard Institute for International Development.
- Panayotou, T. and Ashton, P. 1992 *Not By Timber Alone: Economics and Ecology for Sustaining Tropical Forests*. Island Press, Washington, DC.
- Pearce, D., Putz, F. and Vanclay, J.K. 1999 *A Sustainable Forest Future*. CSERGE Working Paper GEC 99-15.
- Poore, D. and Chiew, T.H. 2000 *Review of Progress Towards the Year 2000 Objective*. International Timber Trade Organization (ITTO), Yokohama.
- Putz, F.E., Pinard, M.A., Fredericksen, T.S. and Pena-Claros, M. 2002 *Forest Science and the Bolfor Experience: Lessons Learned About Natural Forest Management in Bolivia*. (Mimeo).
- Reeve, R. 1992 *Policing International Trade in Endangered Species: The CITES Treaty and Compliance*. RIIA/Earthscan, 2002.
- Repetto, R. and Gillis, M. 1998 *Public Policies and the Misuse of Forest Resources*. Cambridge University Press.
- Rice, R.E., Sugai, C.A., Ratay, S.M. and da Fonseca, G.A.B. 2001 *Sustainable Forest Management: A Review of Continental Wisdom*. Center for Applied Biodiversity Science, Conservation International, Washington, DC.
- Seymour, F.J. and Dubash, N.K. 2000 *The Right Conditions: The World Bank, Structural Adjustment, and Forest Sector Reform*. World Resources Institute, Washington, DC.
- SGS Trade Assurance Services 2002 *Forest Law Assessment in Selected African Countries*. Draft. World Bank / WWF Alliance, Geneva, Switzerland.
- Shepherd, G., Brown, D., Richards, M. and Schreckenber, K. 1998 *The EU Tropical Forestry Sourcebook (EC/ODI)*.
- Sizer, N. and Plouvier, D. 2000 *Increased Investment and Trade by Transnational Logging Companies in Africa, The Caribbean and The Pacific*. World Wide Fund for Nature, World Resources Institute and European Commission, Brussels. <http://www.itsi.co.uk/>.
- Tacconi, L. 2000 *Policy, Institutions, Values and Biodiversity Conservation in Vanuatu*. In: *Biodiversity and Ecological Economics: Participation, Values and Resource Management*, 162-180. Earthscan, London and Sterling, VA.
- Tacconi, L. 2003 *Fires in Indonesia: Causes, Costs, and Policy Implications*. CIFOR, Bogor.
- Tacconi, L., Obidzinski, K., Smith, J., Subarudi and Suramenggala, I. March 29 - 30, 2002 *Can Legalization of Illegal Forest Activities Reduce Illegal Logging? Lessons from East Kalimantan*. *Illegal Logging in the Tropics: Ecology, Economics, and Politics of Resource Misuse*, Yale University.
- The Governance Working Group of the International Institute of Administrative Sciences 1996 *Governance: A Working Definition*. <http://www.gdrc.org/u-gov/>.
- The World Bank 2000 *Anticorruption in Transition A Contribution to the Policy Debate*. The World Bank, Washington D. C.
- Toornstra, F.H., Persoon, G.A. and Youmbi, A. 1994 *Deforestation in Context: a Cameroon Case Study*. Enviro-Protect, Yaounde, Cameroon.
- Viana, G. 1998 *Report of the External Commission of the Chamber of Deputies Destined to Investigate the Acquisition of Wood, Lumber Mills and Extensive Portions of land in the Amazon by Asian Loggers*, Brasilia, Brazil.
- Vincent, J.R., Ali, R.M. and Associates, a. 1997 *Environment and Development in A Resource-Rich Economy: Malaysia Under New Economic Policy*. Harvard Institute for International Development.
- Virtanen, P. and Palmujoki, E. 2002 *Sustainable Forest Management Through Multilateral Environmental Agreements and Market-Based Mechanisms*. Finnish Ministry for Foreign Affairs, Unit for the Co-ordination of Development Policies., Helsinki.
- Wijewardana, D. 1998 *Criteria and Indicators for Sustainable Forest Management*. *Tropical Forest Update* 8 (3): 4-6.
- World Bank 2002 *A Revised Forest Strategy for The World Bank Group*. The World Bank.

- World Commission on Environment and Development 1987 Our Common Future. Oxford University Press, London.
- World Conservation Monitoring Centre 1998 Contribution to An Evaluation of Tree Species Using the New CITES Listing Criteria. WCMC.
- World Rainforest Movement and Forests Monitor Ltd 1998 High Stakes, The Need to Control Transnational Logging Companies: A Malaysian Case Study. World Rainforest Movement and Forests Monitor Ltd, Cambridge. <http://www.forestsmonitor.org/>.

Appendix I: Requirements for SFM

Source: *Higman, S., S. Bass, N. Judd, J. Mayers and R. Nussbaum. 1999. The Sustainable Forestry Handbook. Earthscan, London.*

| Requirement | Practice | From |
|--------------------|-----------------|-------------|
|--------------------|-----------------|-------------|

1. Legal and Policy Framework

| | | |
|--|---|------------------|
| 1.1 Compliance with legislation and regulation | Compliance with local and national regulations | FSC (expl. ITTO) |
| | Compliance with applicable international agreements | FSC (expl. ITTO) |
| | Payment of all charges, fees and royalties | FSC (expl. ITTO) |
| 1.2 Tenure and use rights | Long-term rights to manage the forest resource | FSC/ITTO |
| | Recognize and respect local communities' legal or customary rights | FSC/ITTO |
| 1.3 Forest organization's commitment and policy | Reinvest part of the financial benefits from forest management in maintaining SFM | FSC/ITTO |
| | Demonstrate long-term commitment to SFM | FSC |

2. Sustained and optimal production of forest products

| | | |
|--|---|----------|
| 2.1 Management planning | Undertake management planning at appropriate levels | FSC/ITTO |
| | Periodically revise the management plan | FSC |
| | Make a summary of the management plan publicly available | FSC |
| 2.2 Sustained yields of forest products | Set harvest rates at sustainable levels | FSC/ITTO |
| | Collect data defining sustainable production levels | FSC/ITTO |
| | Adopt a reliable method of controlling yield (AAC). Where data are unreliable, set production levels conservatively | FSC/ITTO |
| | Maintain records of actual production levels of wood and non-wood products | FSC/ITTO |
| | Periodically revise yield levels | FSC/ITTO |
| | Document and justify the choice of silvicultural system | FSC/ITTO |
| | Properly supervise all harvesting operations and silvicultural prescriptions | FSC/ITTO |
| 2.3 Monitoring | Monitor environmental, financial and social effects of operations | FSC/ITTO |
| | Carry out post-harvest assessments | FSC/ITTO |
| | Make a summary of monitoring information publicly available | FSC |

| Requirement | Practice | From |
|--|--|-------------|
| 2.4 Protection of the forest resource | Protect forest from illegal harvesting, encroachment and activities that are incompatible with SFM | FSC/ITTO |
| | Control inappropriate hunting, fishing, trapping and collecting | FSC/ITTO |
| | Establish a fire management plan and warning systems for the forest organization | FSC/ITTO |
| 2.5 Optimizing benefits from the forest | Ensure forest management is economically viable, taking into account full environmental and social costs | FSC/ITTO |
| | Safeguard multiple benefits of forests during all operations | FSC/ITTO |
| | Encourage optimal use | FSC |
| | Encourage local processing | FSC |

3. Protecting the environment

| | | |
|--|--|----------|
| 3.1 Environmental and social impact assessment (ESIA) | An ESIA should be carried out prior to site-disturbing operations | FSC/ITTO |
| | ESIA results must be integrated into management operations | FSC/ITTO |
| 3.2 Conservation of biodiversity | Conserve diversity at genetic, species and ecosystem levels | FSC/ITTO |
| | Establish conservation zones and protected areas, including representative examples of existing ecosystems | FSC/ITTO |
| | Ensure safeguards exist to protect rare, threatened and endangered species and their habitats | FSC/ITTO |
| | Genetically modified organisms must not be used | FSC |
| | Trees planted in natural forests must not significantly alter the natural ecosystem | FSC |
| | Primary forests and well-developed secondary forests must not be replaced by tree plantations or other land uses | FSC |
| 3.3 Ecological sustainability | Maintain processes of forest regeneration, succession and natural cycles | FSC/ITTO |
| | Develop and implement guidelines for the identification and protection of sensitive soil and water resources | FSC/ITTO |
| | Prepare and implement written guidelines for road construction and use | FSC/ITTO |
| | Develop and implement reduced impact harvesting and extraction guidelines | FSC/ITTO |

| Requirement | Practice | From |
|-----------------------------|---|-------------|
| 3.4 Use of chemicals | Minimize chemical use and adopt integrated pest management | FSC/ITTO |
| | Implement procedures for handling, storage and disposal of chemicals | FSC/ITTO |
| | Provide adequate training and equipment for chemical use | FSC/ITTO |
| | Special restrictions must apply to chemical use in sensitive areas | FSC/ITTO |
| | Recognized dangerous and banned chemicals must not be used | FSC |
| | Document, monitor, strictly control and minimize use of biological control agents | FSC |
| 3.5 Waste management | Dispose of all waste properly, off-site where appropriate | FSC |
| | Minimize waste from harvesting | FSC |

4. The well-being of people

| | | |
|---|--|----------|
| 4.1 Consultation and participation processes | Maintain consultations and encourage participation by people and groups affected by forest operations | FSC/ITTO |
| | Employ appropriate mechanisms for resolving grievances and providing compensation | FSC |
| 4.2 Social impact assessment | Carry out social impact assessment and incorporate results into management planning | FSC/ITTO |
| | Take measures to avoid possible negative social impacts | FSC/ITTO |
| 4.3 Recognition of rights and culture | Recognize and uphold legal and customary rights of local and indigenous communities to control management on their lands | FSC/ITTO |
| | Identify and protect sites of special cultural, ecological, economic or spiritual significance to indigenous peoples | FSC/ITTO |
| | Compensate indigenous peoples for the application of their traditional knowledge | FSC |
| 4.4 Relations with employees | Meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families | FSC/ITTO |
| | Provide adequate training for all staff | FSC/ITTO |
| | Provide opportunities for employment and training to communities in or near the forest operation | FSC |
| | Guarantee the rights of workers to organize and negotiate | FSC |
| 4.5 Contribution to development | Contribute to an equitable distribution of the benefits, costs and incentives of forest management | FSC/ITTO |
| | Strive to strengthen and diversify the local economy | FSC |

**Appendix II: Summary of Causes of Illegal Forest
Activities and Policy Options**

Table A2.1 Producer country: Causes of illegal forest activities and policy options

| Causes | Policies | Policy Type & Timescale* | Impacts | | | | | |
|---|--|---|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | GOV | LIV | IL | IT | IF | SFM |
| Market | | | | | | | | |
| Forests not economically superior (even including services) | <ul style="list-style-type: none"> Revise legislation to allow land use change where consistent with sustainable development | Le/Se; M | I | | D | | | |
| Market and non-market subsidies to forest industries | <ul style="list-style-type: none"> Assess and eventually reduce subsidies Legislation for closure of business using illegal products, and illegal business Monitoring of timber processing activities | Ma/ExS; M Le/ExSe; M Te/Se; Sh | | | I I I | | | I I I |
| Market and non-market subsidies to other land use sectors | <ul style="list-style-type: none"> Assess and eventually reduce subsidies | Te-Le/Se; M | | I(+/-) | I | | | I |
| Resistance to change | <ul style="list-style-type: none"> Increase awareness of benefits and costs Increase monitoring, enforcement efforts Voluntary industry code of conduct against crime and corruption | Te/Se; Sh/M Te/ExS; Sh/M Te/ExS; Sh | I I I | I I I | I I I | I I I | D D D | |
| Forests economically viable but lack incentives | <ul style="list-style-type: none"> Revise forestry tax policy Promote payments for environmental services Promote certification | Le/Se; M Ma/Se; Sh Te/Se; M | | I(+/-) | I I I | I I I | | I D D |

Table A2.1 Continued

| Causes | Policies | Policy Type & Timescale* | Impacts | | | | | |
|--|---|--------------------------|---------|-----|----|----|----|-----|
| | | | GOV | LIV | IL | IT | IF | SFM |
| <i>Governance</i> | | | | | | | | |
| State is weak | <ul style="list-style-type: none"> Strengthen/reform tax system | STR/ExS M/L | D | I | I | I | I | |
| Lack of transparency and accountability | <ul style="list-style-type: none"> Institutionalize transparent decision making systems and accountability reporting | STR/ExS/Se M | D | I | I | I | I | I |
| | <ul style="list-style-type: none"> Anti-corruption legislation and codes of ethics | LE/ExS/ M | D | I | I | I | I | I |
| | <ul style="list-style-type: none"> Greater reliance on market-based mechanisms (e.g., auctions) | Le/Se M | D | I | I | I | I | I |
| Lack of stakeholders' input | <ul style="list-style-type: none"> Develop public consultation and involvement processes | Str/Se/M | D | I | I | I | I | |
| Lack of funding for political activities and guidelines | <ul style="list-style-type: none"> Consider public funding | Le/ExS; M | D | I | I | I | I | |
| | <ul style="list-style-type: none"> Develop guidelines and reporting mechanisms | Te/ExS; M | D | I | I | I | I | |
| Security forces involved in illegal forest activities | <ul style="list-style-type: none"> Reform security forces | STR/ExS M/L | D | I | I | I | I | |
| | <ul style="list-style-type: none"> Increase funds to security forces, and salaries | Le/ExS M | D | I | I | I | I | |
| Judiciary is corrupt and/or weak | <ul style="list-style-type: none"> Reform judiciary, increase salaries | STR/ExS M/L | D | I | I | I | I | I |
| | <ul style="list-style-type: none"> Strengthen judiciary to deal with forestry crimes | Te/ExS Sh/M | D | I | I | I | I | I |
| Organizational structure of the public service favors corrupt activities | <ul style="list-style-type: none"> Reform of the public service | STR/ExS M/L | D | I | I | I | I | I |
| Unclear allocation of competencies over forest | <ul style="list-style-type: none"> Clarify competencies of agencies | Le/Se M | D | | I | I | I | I |
| | <ul style="list-style-type: none"> Establish clear and transparent process to deal with inter-agency disagreements | Le/ExS M/L | D | | I | I | I | I |
| Indigenous rights are not recognized or respected | <ul style="list-style-type: none"> Establish a process to assess and recognize indigenous claims | St/ExS M/L | D | D | I | | | |
| Land tenure contested | <ul style="list-style-type: none"> Review & reform of land tenure system | St/ExS M/L | D | D | I | | | I |
| | <ul style="list-style-type: none"> Increase security of tenure, e.g., with long term leases | St/ExS M | D | D | I | | | I |
| | <ul style="list-style-type: none"> Increase community involvement in protected areas, pay for environmental services | Le/Se; Sh/M | D | D | I | | | |

Table A2.1 Continued

| Causes | Policies | Policy Type & Timescale* | Impacts | | | | | | |
|---|--|---|------------------|------------------|------------------|----|----|-----------------------|---|
| | | | GOV | LIV | IL | IT | IF | SFM | |
| <i>Legislative</i> | | | | | | | | | |
| Conflicting legislation hinders recognition and suppression of illegal activities | <ul style="list-style-type: none"> Establish clear criteria and indicators to define “legal” products Consider chain of custody Establish clear criteria for law implementation (e.g., random audits) Favor market-based, performance-based solutions over bureaucratic ones Revise existing legislation to reduce over-ambitious goals & unnecessary prescriptions | Le/ExS; M | D D D I | I I I I | D D D I | | | I D I D I | |
| Not clear at which stage products become legal | <ul style="list-style-type: none"> More research is needed | Te/ExS; Sh | I | | I | I | I | I | I |
| Legislation discriminates against livelihood/small scale uses | <ul style="list-style-type: none"> Reduce biases against livelihood/small-scale use of forest | Le/Se; Sh/ M | | D | | | | | |
| Transport and trade regulations are complex, unclear, difficult to enforce | <ul style="list-style-type: none"> Streamline bureaucratic requirements | Le/ Se/ExS; M | D | | I | I | | | |
| Money-laundering legislation lacking/weak | <ul style="list-style-type: none"> Introduce/revise money laundering legislation | Le/ExS; M | D | | | | | D | |
| Financial/ tax laws complex, no clear provisions for transparent practices | <ul style="list-style-type: none"> Clear and enforceable taxation system Financial/tax intelligence units Due diligence guidelines | Le/ExS; M Le/ExS; Sh/M Te/ExS; Sh | I I I | | I I I | | | | |
| Penalties for illegal activities too low | <ul style="list-style-type: none"> Increase penalties to appropriate levels | Le/ExS; Sh | | | D | D | | | D |

Table A2.1 Continued

| Causes | Policies | Policy Type & Timescale* | Impacts | | | | | |
|---|--|----------------------------|---------|-----|----|----|----|-----|
| | | | GOV | LIV | IL | IT | IF | SFM |
| <i>Capacity and Technical</i> | | | | | | | | |
| Imbalance between government claim and its capacity to administer | <ul style="list-style-type: none"> Divest and devolve certain control functions to private sector and NGOs Provide incentives for voluntary compliance | STR/ExS; M/L | D | I | D | D | | I |
| | | | D | I | D | D | | I |
| Under resourced forestry departments | <ul style="list-style-type: none"> Adopt more cost-effective systems (e.g., market based) Invest in capacity of departments proportionally to the value added they generate Market intelligence units, data sharing | Te/Se; Sh/M Te/Se; Sh | D | | D | D | | D |
| | | | D | | D | D | | D |
| | | | I | | D | D | | D |
| Various regulations require different enforcement capacities | <ul style="list-style-type: none"> Provide for extensive double-checks | Te/Se; M | | | D | D | | D |
| Under resourced Customs Department | <ul style="list-style-type: none"> Invest in capacity of departments proportionally to the value added they generate Data exchange with consumer countries | Te/ExS; Sh/M Te/ExS; Sh | | | D | D | | I |
| | | | | | D | D | | |
| Identification of illegal products difficult | <ul style="list-style-type: none"> Chain of custody, certificate of legal compliance, log tracking, technological innovations | Te/Se; Sh/M | | | D | D | | I |

Legend. * STR: structural; Le: legislative; Te: technical; Sh: short term, 1-3 yr; M: medium term, 3-5 yr; L: Long term, >5 yr.
 # GOV: governance; Liv: livelihoods; IL: illegal logging; IT: illegal trade; IF: illegal finance.
 I=Indirect impact; D=Direct impact.