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Law Compliance in the Forestry Sector

An Overview

Arnoldo Contreras-Hermosilla

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Illegal acts are a major threat to global forest resources. Various studies on the magnitude and impact of forest crime completed in the last few years show rather shocking results: Illegal forest acts of various kinds are common everywhere, in developing and industrialized nations, and in all major forest types—boreal, temperate, and tropical. Forest crime prominently includes illegal logging but acts against the law also affect other sector operations such as forest products transport, industrial processing, and trade. This paper looks at available evidence on the magnitude and impacts of illegal acts, the vulnerabilities of the forest sector, and proposes a strategy for combating forest crime.

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Foreword

The problem of illegal logging and forest crimes is global and serious. Reliable statistics are scarce, but as much as 15% of global timber trade is estimated to involve illegalities and corrupt practices. Illegal logging in public lands worldwide is estimated to cause annual losses in assets and revenue in excess of US\$10 billion. In addition to the loss of revenue to governments and inefficiency of resource use, illegal logging directly threatens ecosystems and biodiversity in protected areas and parks across the world.

The World Bank has been active in highlighting the issue of forest crimes and illegal logging both in terms of its country policy dialogues and in lending for projects directly related to forest law enforcement in several countries including in the East Asia region. Additionally, the World Bank has disseminated information with a view to building a consensus for reforms among government policymakers, the private sector and NGOs, and to secure political commitment to tackle this problem at the highest level.

To facilitate national and regional cooperation, the World Bank Institute, working closely with the Bank's East Asia region, the Government of Indonesia, and donor partners (DFID and the Department of State of the US), organized an East Asia regional ministerial conference on forest law enforcement and governance in September 2001. The conference was preceded by a preparatory meeting, held in April 2001. A survey paper by Arnaldo H. Contreras was specially commissioned for these two events.

The paper looks at available evidence on the magnitude and impacts of illegal logging, the vulnerabilities of the forest sector, and proposes a strategy for combating forest crime. This strategy rests on three pillars: (i) an assessment of the governance situation of the country, (ii) streamlining the forest policy framework, and (iii) focusing operational activities for forest law enforcement around a prevention, detection and suppression framework. The paper has proven to be an excellent instrument to set the agenda, facilitate discussions on the issues and help identify key priorities for future action, and is likely to be useful for policymakers in countries contemplating improving law enforcement and governance in their forests sector.

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Introduction

Illegal acts are a major threat to global forest resources. Various studies on the magnitude and impact of forest crime completed in the last few years show rather shocking results: illegal forest acts of various kinds are common everywhere, in developing and industrialized nations, and in all major forest types – boreal, temperate, and tropical. Forest crime prominently includes illegal logging but acts against the law also affect other sector operations such as forest products transport, industrial processing, and trade.

This paper looks at available evidence on the magnitude and impacts of illegal acts, the vulnerabilities of the forest sector, and proposes a strategy for combating forest crime. This strategy rests on three pillars: (i) an assessment of the governance situation of the country, (ii) streamlining the policy framework, and (iii) focusing operational activities around a prevention detection and suppression framework.

How significant is forest crime?

Are illegal activities common? Despite a flurry of research in the last few years, comprehensive global or regional assessments of forest illegal activities are yet to be produced. However, available studies leave little doubt that forest crime is prevalent and of a considerable magnitude in many countries.

For example, various studies of the forestry sector of Cambodia show that until recently as much as 94 percent, was carried out in illegal ways. A recent report by the Government states that from 1999 to April 2001, there were 1,444 cases of forest crime reported in the country (WGNRM, 2001). An earlier policy review had already concluded:

“Log production is primarily conducted under the permit systems, with virtually no monitoring or enforcement of laws, policy and procedures. In fact, a significant proportion of log production is actually stolen from forest concession lands or from protected areas and national parks. From 1995 to 1997, forest exploitation formally contributed an average of \$15 million per year to Cambodian government revenue...whereas “informal” payments were estimated at \$200 million in 1997 alone. The \$12.4 million forest revenue collected by the Government in 1997 came from a mere 450,000 cubic meters of authorized log production from legitimate concessionaires – roughly 10% of the country’s total log production in 1997 of 4.3 million cubic meters” (World Rainforest Movement and Forest Monitor, 1998).

This level of harvest exceeds the sustainable yield of Cambodia’s forests, which is in the order of 0.5-1.5 million cubic meters (Savet, 2000). At that rate, illegal logging would deplete national forest resources in less than a decade and, in some regions, even earlier (UNDP, 1999, Global Witness, 1999a).

In the last few years Indonesia also received a great deal of attention as evidence of cronyism and corruption in government steadily accumulated (The “KKN” system, “corruption, cronyism and nepotism”, World Bank, 2000). Much of it focused on activities in the forestry sector. A study

concluded that in 1997/1998 illegal timber harvesting in Indonesia was some 33 million cubic meters. This was more than the official production of 29.5 million cubic meters. Thus, more than 50 percent of the forest harvest was illegal (Scotland, 2000). This may have cost the government some \$3.5 billion per year in the mid nineties, or one third of the potential revenues from timber harvesting (World Commission on Forests and Sustainable Development, 1999). Research also shows that 84 percent of timber concessionaires violated various prescriptions of the law during the mid nineties and that in some cases systematic illegal logging was even taking place in some of Indonesia's most important national parks, the Gunung Leuser (Sumatra) and Tanjung Puting (Kalimantan). (Environmental Investigation Agency, 1999; World Resources Institute, 2000a). A large proportion, perhaps as much as 40 percent, of the large pulp and paper industry wood supplies come from undocumented sources (Barr, 2000).

During the eighties illegal logging and trade was so widespread in the Philippines that the country was losing an average of \$1.8 billion a year. There is little doubt that illegal acts contributed in a big way to the extensive deforestation that transformed the Philippines from a net exporter into a net importer (World Commission on Forests and Sustainable Development, 1999). Even today, with 90 percent of the primary forest gone, as much as 46 percent of domestic requirements of forest products originate in illegal logging operations (Acosta et al, 2000). Referring to the loss of forest resources in the Philippines, Senator Loren Legarda says "illegal logging remains the main culprit", and "from 1972 to 1988 the logging industry amassed \$42.85 billion in revenues... and laid waste to 8.57 million hectares of forests". Other observers confirm this. Thus, in 1990 the Ford Foundation and the Upland NGO Assistance Committee denounced a \$ 325 million national reforestation plan financed by borrowing from the Asian Development Bank as plagued by widespread corruption (Bengwayan, 1999).

One of the most detailed efforts ever to investigate illegal activities in the forestry sector was carried out in Papua New Guinea where the Government, concerned with widespread illegal acts in the forestry sector, created an independent Commission of Inquiry to investigate them. After two years of study, the Commission produced a definitive report that documented pervasive forest crime in the sector. The Commission revealed that certain companies obtained illegal forest exploitation authorizations, that there was widespread collusion involving regional and national level politicians and foreign companies, as well as massive tax evasion and extensive transfer pricing (see Box 1).

Box 1. The Barnett Inquiry of Forest Crime in Papua New Guinea

Illegal operations by foreign forestry companies in Papua New Guinea have been documented for at least twenty years (De' Ath, 1980).

In 1987, Prime Minister Paias Wingti appointed Australian Judge Thomas Barnett to lead a "Commission of Inquiry into Aspects of the Timber Industry in Papua New Guinea", prompted by what judge Barnett later described as the "heavy odour of corruption, fraud and scandal arising from the timber industry". The Commission of Inquiry operated for two years and gathered valuable evidence of illegal practices by foreign logging and trading companies:

"Operations were being commenced illegally, forest working plans, if submitted at all, were being widely ignored, logging tracks were being pushed through at the discretion of the bulldozer driver; hillsides and river banks were being logged; and the immature forest resource was being bashed and trampled in the reckless haste to get the logs down to the waiting log ships.

and

"in order to gain access to the timber, foreign operators misled and bribed local leaders, set up "puppet" native landowner companies, bribed provincial government premiers or ministers and gave gifts or bribes to national ministers or members of the national parliament or took such people into some form of partnership with them. They also similarly bribed and gave benefits to at least one secretary of the Department of Forests and other officers" (Barnett, 1992; Filer, 1996)

The Commission of Inquiry concluded:

"It would be fair to say, of some of the companies, that they are now roaming the countryside with the reassurance of robber barons; bribing politicians and leaders, creating social disharmony and ignoring laws in order to gain access to, rip out, and export the last remnants of the province's valuable timber. These companies are fooling the landowners and making use of corrupt, gullible and unthinking politicians... It is doubly outrageous that these foreign companies have then transferred offshore secret and illegal funds.... at the expense of the landowners and the government. There can be no doubt that the timber industry, by its very nature, is conducive to acts of a criminal nature contrary to law and proper government ministration" (Marshall, 1990).

Fraudulent declarations by forestry corporations were so prevalent in Papua New Guinea that until 1986 all companies were declaring losses and paid no taxes despite their rapid expansion in logging and exports and their unexplained persistence in having apparently losing-money operations running in Papua New Guinea. The Commission of Inquiry identified large-scale deception in declarations emanating from these companies of export values to Japan, South Korea, and other international markets (World Commission on Forests and Sustainable Development, 1999). In 1994 then Forest Minister Tim Neville estimated that as a consequence, everyday at least one million dollars worth of logs were being lost to illegalities (World Rainforest Movement and Forest Monitor, 1998).

Research in Cameroon by the Global Forest Watch Initiative, reveals that over half of all the active logging licenses were illegal and that the legality of allocations of 23 timber concessions was in doubt in 1999. At least three companies held concessions of more than 200,000 hectares, in violation of the law. Researchers found that many of the companies operated outside the law but were never prosecuted because of the influence of a higher authority that protected them (World Resources

Institute, 2000). Undeclared wood extractions in the Eastern Province were estimated to be one third of the total cut in 1992-1993 (World Rainforest Movement and Forest Monitor, 1998). Some, perhaps most, of these acts were carried out in connivance with foreign corporations operating in the country and with the willing support from their own governments. For example, French politicians put pressure on the Cameroonian Government to weaken some of the country's laws that were inconveniencing French companies (Ekoko, 1997).

In the mid nineties, the government of Bolivia organized a determined effort to reduce extensive illegal acts and corruption in the management of the forestry sector. A new law, approved in 1996, included various "textbook" provisions to improve prevention, detection, and control of such acts. After a government genuine effort, illegal practices have been reduced. Yet, a recent government assessment reveals that at least 80 percent—and perhaps as much as 90 percent—of all forest clearing is still illegal. (Superintendencia Forestal, 2000; Contreras-Hermosilla and Vargas, 2001).

A similar study by a Brazilian high-level commission showed that 80 percent of all logging in the Amazon was illegal during the late nineties (Viana, 1998). Among 13 companies that were investigated at that time, 12 were operating in violation of the law. The research institute, IMAZON, estimates that as much as 90 percent of all deforestation in the Brazilian Amazon is illegal (Greenpeace, 1999).

In the last few years Russia came under scrutiny for large-scale corruption and other illegal acts within the government and its emerging private corporate sector and, as a result, reports about illegal practices in the forestry sector abound. According to a recent study, at least 20 percent of timber in Russia is logged in violation of the forest law (Greenpeace, 2000). However, other observers suggest that illegal logging is far more prevalent than shown by these studies. Thus, an experienced forest specialist in the Russian Far East estimates that illegal logging in the Primorsky and Khabarovsk regions reaches 50 percent of the total harvest¹. In Khabarovsk illegal permits to log a cubic meter of ash may cost \$ 1, while these logs sell for \$ 600 per cubic meter in the Japanese market (Mabel, 2000).

Illegal acts are popularly associated with developing countries or countries going through traumatic changes such as those in transition. In this view, industrialized countries are rather immune to the plague of illegalities and corruption. This is misleading. Illegalities do not vanish with industrialization. Thus, the World Commission on Forests and Sustainable Development reports: "in 1994 the European Union charged several corporations for corrupt practices. A decade earlier, the EU fined 40 major pulp and paper producers for similar reasons" (1999).

Similarly, in Canada, a House Standing Committee on Environment and Sustainable Development investigation exposed that polluters routinely escaped prosecution: in 1996 twenty paper mills were caught illegally discharging toxic effluents in Quebec (Ottawa House of Commons, 1998). Research on law compliance in Ontario found that there were violations in logging operations in 55 percent of areas designated for protection as Areas of Concern and Riparian Reserves (World Resources Institute, 2000b). In one of the cases investigated, the forest management plan of the Algonquin Park, it was found that the Algonquin Forestry Authority, a provincial Crown corporation, had violated thirty five percent of the Areas of Concern investigated (Sierra Legal Defence Fund and Wildlands League, 2000). A recent analysis contends that since 1998, forest companies logging on the west coast have avoided paying \$ 149 million to the British Columbia government by abusing "grade setting". Grade setting allows companies to scale a large proportion of wood in timber concessions as

¹ The Russian Far East comprises Khabarovsk, Primorsky, Sakhalin, Amur and Eastern Siberia – Irkutsk.

low value wood in the samples used by government to set the stumpage fee. Thus, companies can harvest high quality wood and pay fees for the artificially low value wood (Anderson and Werring, 2001). This loophole can be abused in benefit of the logging corporations and it appears that some have done so. Although these actions are technically not illegal, they go against the spirit of the law. Reacting to public pressure, the British Columbia Forest Minister announced that the government would address this issue because “the ministry’s preliminary information suggests that while most licensees are operating within the policy and legislation, others continue to manipulate the stumpage system” (Judd, 2001).

Furthermore, corporations from industrialised countries are often associated with illegal operations in host countries. Industrialised country corporations in association with African firms are involved in illegal exploitation of forests in the Democratic Republic of the Congo while others from Belgium, Denmark, Japan and the United States of America are buying timber known to be extracted illegally (UN, 2001). The Brazilian Environmental Agency (IBAMA) recently announced that a subsidiary of Osaka based Japanese transnational wood products firm Eidai Inc. will be fined the equivalent of \$1.88 million for violating various environmental laws for the protection of Brazil’s rainforests (Greenpeace, July 2000). In 1999 a Belgian company was illegally importing Afrormosia logs from Cameroon (a species protected under CITES) while another French corporation was caught importing Moabi undersized logs from Gabon and Cameroon. Despite a pledge by the G-8 to eliminate imports of illegally logged timber, it is reported that various G-8 corporations continue to buy logs from companies with a track record of illicit actions in the Amazon (Greenpeace, April 2000).

Thus, forest illegal activities often spill over national borders. For example, a study commissioned by the WWF concluded that most of the timber export trade in Asia was illegal (Dudley, 1995). Substantial log trade has been documented between Cambodia and Vietnam despite the legislation of these two countries prohibits such trade (Global Witness 1999). Similarly, illegal timber trade takes place between Myanmar and China, Thailand and India. In 1995, importer countries reported some 276,000 more cubic meters of logs than declared as exports by Myanmar. This could be equivalent to about \$86 million being undeclared or almost half of Myanmar’s forest exports revenues that year (World Resources Institute, 1998). Similarly, an undetermined but large illegal flow of eastern Siberian logs goes to China. “No one knows how much forest is cut illegally”, says Alexander Vasyanovich, the head of the Natural Resources Department of the Irkutsk regional administration. “No one will tell you the truth. The trees are cut down, hauled away and stolen”. Some of the illegal logging is due to the so-called sanitary logging, a loophole that some of the regional administrators have turned into a sizeable timber harvesting and export operation. According to Tatyana Goritskaya, a section head at the regional forest administration in Irkutsk, sanitary cuts exploded sevenfold since 1993 to reach some 1.5 million cubic meters of timber in 1998, most of it for the export market (Shulyakovskaya, 2000). Russia’s Institute for Economic Research estimates that at least 20 percent of the value of timber trade from the Russian Far East to Japan, China and South Korea, the three main export markets, is illegal. In 1999, the Primorski region alone illegally exported some 300,000 cubic meters, with a value of some \$24 million (Greenpeace, 2000). The Director General of the Primorsky region’s largest logging firm Primorsklesprom, declared that “as much as 40 to 50% of Russian timber is sold to Pacific Rim countries under dumping prices and faked contracts” (Newell et al, 2000).

The last few years have witnessed the expansion of international operations of aggressive transnational forest corporations from developing countries some with a reputation for having little respect for the law of host countries. These corporations obtain timber concessions by bribing public officials, ignore the prescriptions of forest management plans and engage in transfer pricing and other illegal practices often in collusion with government officials (Environmental Investigation Agency,

1996; World Rainforest Movement and Forest Monitor, 1998). In some cases, the opportunities created by the chaos of war facilitates illegal logging and trade by corporations from neighbouring countries. This is the situation affecting the Democratic Republic of the Congo where various companies from Uganda, Burundi and Rwanda associated with foreign armies and sometimes in partnership with Congolese firms illegally extract and export wood. As reported recently by a United Nations Panel, “*Exploitation of the natural resources of the Democratic Republic of the Congo by foreign armies has become systematic and systemic. Plundering, looting and racketeering and the constitution of criminal cartels are becoming commonplace in occupied territories... The role of the private sector in the exploitation of natural resources and the continuation of the war has been vital*” (UN, 2001).

It must be emphasised that the estimates of illegal activities produced by these various studies cited above likely understate the magnitude of forest crime. In many cases local officials are reluctant to report illegal acts either because of fear of reprisals from criminals or because they are personally involved in the illegal schemes. Companies, using imaginative procedures, can conceal their extractions and through complex methods of documentary fraud and corruption of controlling officials. In all these cases, a proportion of illegal acts probably remains undetected. Because of this, in many countries, the exploitation of forests is an important part of the “shadow” economy with illegal acts remaining either buried and undetected, or even laundered and recorded as legal.

Many other examples of illegalities affecting forest resources in various countries can be mentioned (See Annex 1). All these various pieces of research paint a picture of widespread corruption and crime affecting forest resources worldwide. There can be no doubt that illegal acts are a major threat to global forest resources.

The variety of illegal forest acts

Illegal acts are varied and include, *inter alia*, the unauthorised occupation of public and private lands, illegal logging in protected or environmentally sensitive areas, logging of protected species, woodland arson, illegal transport of wood and other forest products, smuggling, transfer pricing and other fraudulent accounting practices, as well as illegal forest industrial processing. Some of the most notorious ones are listed in Box 2.

Landless peasants in developing countries following logging operations or infrastructure works that increase accessibility of remote forest areas frequently invade forestlands (Mahar and Schneider, 1994). In other cases, local communities and indigenous peoples have traditional rights over forestlands but these are not recognised by the state and thus their use of resources is technically illegal.

Companies or individuals extract timber from public or private forestlands without authorisation, log protected species or in excess of prescribed volumes in timber concessions or log outside concession areas. Since many forest management plans allow for “sanitary” cuts (extracting over mature trees, trees infected by pests or killed by fire, etc.) loggers frequently abuse this option to extract large volumes of valuable healthy trees (Newell et al, 2000). Surreptitious girdling of trees to kill them may take place to force their exploitation. Individuals sponsored by logging interests, enter forests and cut down selected trees that then are brought to the attention of the forest authority which often is compelled to sell confiscated illegal logs to the only local buyers: the perpetrators themselves (See, for example, Roper, 2000).

Box 2. Examples of illegal practices in the forestry and forest industries sector

Illegal occupation of forestlands

- Invasion of public forested lands by either rural families, communities or private corporations to convert them to agriculture or cattle ranching
- Practice of slash and burn agriculture in invaded lands
- Induce landless peasants to illegally occupy forested areas to force governments to grant land ownership rights to them and then buying these lands from peasants.

Illegal logging

- Logging protected species
- Duplication of felling licenses
- Girdling or ring-barking, to kill trees so that they can be legally logged
- Contracting with local entrepreneurs to buy logs from protected areas
- Logging in protected areas
- Logging outside concession boundaries
- Logging in prohibited areas such as steep slopes, riverbanks and water catchments
- Removing under/oversized trees from public forests
- Extracting more timber than authorized
- Reporting high volumes extracted in forest concessions to mask the fact that part of the volume declared is extracted from non-authorized areas outside the concession boundaries
- Logging without authorization
- Obtaining logging concessions through bribes

Woodlands arson

- Setting woodlands on fire to convert it to commercial uses

Illegal timber transport, trade and timber smuggling

- Transporting logs without authorization
- Transporting illegally harvested timber
- Smuggling timber
- Falsifying and/or reusing timber transportation documents
- Exporting and importing tree species banned under international law, such as CITES.
- Exporting and importing timber in contravention of national bans

Transfer pricing and other illegal accounting practices

- Declaring lower values and volumes exported
- Declaring higher purchase prices above the prevailing market prices for inputs such as equipment or services from related companies
- Manipulating debt cash flows to transfer money to subsidiary or parent company, for example by inflating debt repayment to avoid taxes on profits
- Under-grading, under-valuing, under-measuring and misclassification of species exported or for the local market.

Illegal forest processing

- Operating without a processing license
- Ignoring environmental and social and labour laws and regulation
- Using illegally obtained wood in industrial processing.

Source: Based on Contreras-Hermosilla, 1997.

Illegal activities do not stop at the forest. They travel down the line to operations related to transportation, national and international trade of forest products. Individuals and corporations may transport timber without permits or smuggle products across international borders (Global Witness, 1999). Timber smuggling is often induced by restrictions to logging imposed in one the trading countries.

Some corporations inflate the price of imported inputs such as machinery and deflate prices and volumes of their exports to reduce nominal profits and their tax liability with the host country and to illegally transfer funds abroad (See, for example, Barnett, 1992). These illegal practices are facilitated when enterprises are vertically integrated, i.e. when they are exporting to or importing from other branches of the same company thus making it easier to manipulate export-import accounts.

In countries where law enforcement is weak, mobile illegal sawmills operate with impunity often buying illegal logs from local small-scale operators and, of course, evading taxes and environmental and labour laws. In other cases, large industrial installations, such as pulp and paper complexes may not follow water pollution control and other emission control rules (Ottawa House of Commons, 1998).

It is common for companies to carry out operations in ways that obscure economic links thus making it more difficult for law enforcers to trace illegal activities. For example, some transnational companies may operate as subcontractors to various national concessionaire firms created by them. Concessionaires appear as different entities thus circumventing laws—such as those of Ghana or Cameroon—that may limit the extent given as timber concessions to a single company. Companies may incur disproportionate debt, mismanage company operations, and divert funds to private accounts. Some can get away with this because their investments are so large that eventually major creditors or the government itself will come to their rescue. Technically, no laws may have been broken. Financial frauds are disguised as corporate mismanagement.

Forest resources are also vulnerable to illegal activities in other sectors of economic activities. For example, mineral and oil resources often lie under forests and illegal operations to extract these minerals have caused enormous damage to forests in many parts of the world (see for example, IUCN International, WWF International and Netherlands Committee for IUCN, 1999; Miranda et al, 1998).

Synergies may be created involving various actors and occasionally providing unconvincing excuses for illegal acts. For example, some corporations when caught justify their logging of prohibited species because illegal loggers, coming into the concession areas after they are opened for exploitation, would steal those species anyway (Newell et al, 2000).

The special case of corruption

A particular form of illegal forest activity, corruption, has come to the forefront of the international debate on forests and is now being openly discussed in various fora because of the increasing awareness of the immense costs associated with it.

There are many interpretations of what constitutes corruption. Corruption is variously defined as “the sale by government officials of government property for personal gain” (Schleifer, A. and R.W. Vishney, 1993), or “behavior on the part of officials in the public sector, whether politicians or civil servants, in which they improperly and unlawfully enrich themselves, or those close to them, by the misuse of the public power entrusted to them” (Transparency International, 1996). The World Bank defines corruption as “the abuse of public office for private gain” (World Bank, 1997).

In this paper, corrupt deeds are illegal actions that:

- (i) *engage public officials*. A private individual stealing wood from public forests is performing a criminal act but according to this definition, not a corrupt act. While corruption engages civil

servants, most frequently a party from the private sector or the civil society is also implicated. But the participation of public official in illegal actions makes corrupt acts particularly damaging.

(ii) *involve public property and power.* Public property may be tangible (e.g. timber) or intangible (e.g. selling knowledge about government negotiating position on timber concessions).

(iii) *are perpetrated for private gain.* Thus, a public official misusing public forests but not deriving private gain (financial or otherwise) from that action is a negligent and incompetent individual (and not free from prosecution) but not a corrupt one.

(iv) *are intentional acts.* A public official that unknowingly uses public forest resources illegally is also a negligent and incompetent individual but not a corrupt one.

(v) *are surreptitious.*

Practically all the illegal activities listed in Box 2 may be affected by corruption. Bribing government officials to bend the rules to produce, for example, fake certificates that would allow otherwise prohibited harvests to take place or plotting to steal government property are all corrupt acts. Corruption, benefiting unscrupulous concessionaires, and public officials frequently taint the allocation of timber concession contracts. In forest rich countries where the government is a principal owner, timber concession schemes have been used to reward political, ethnic or economic allies or to simply enrich corrupt government officials.

The illegal agreements between foreign companies and high government officials described in the Barnett report on Papua New Guinea are among the best-documented cases of forest corruption. But also, the Global Witness studies in Cambodia revealed instances of forest corruption.

The differentiation between illegal acts in general and corrupt activities may seem inconsequential, but there are a couple of reasons why corruption deserves special attention.

The fundamental rationale for giving special attention to corrupt actions in the forestry sector is that those actions undermine the apparatus of government. This is critical in a sector—such as the forestry sector—that generates many social and environmental impacts that call for a strong and “clean” intervention from the state. If the government is corrupt, there is little hope that illegal operations by other actors in the economy will ever be controlled. One thing is to have a committed government trying to impose the law and perhaps failing because of lack of resources, and another is a government that itself participates in breaking the law. Controlling forest corruption thus goes to the very heart of strategies for improving the forestry sector governance condition of a country.

However, and leaving ethical qualms aside, corrupt activities surely contribute to economic efficiency by allowing investors and entrepreneurs to avoid immensely complex and sometimes absurd bureaucratic regulations? Are corrupt acts not as good as liberalisation processes, bringing up economic efficiency benefits, improving the functioning of the economy by eliminating unnecessary obstacles to the efficient operation of private enterprise? These arguments were often advanced to explain the high rates of economic expansion in some countries of South East Asia, known to be affected by high levels of corruption.

While compelling at first sight, various experts have discredited this line of reasoning. The justifications for corruption in terms of efficiency gains focus on short-term and static effects and on the critical assumption that corruption is “exogenous” to the governance system. However, in the longer term, the opportunity for corruption is likely to lead officials to change the underlying rules of the game (for example by imposing more bureaucratic requirements) to create still greater opportunities for corrupt behaviour. Therefore, corruption far from arising exclusively from exogenous causes, proliferates due to endogenous causes (Bardham, 1997, Kaufmann, 1997, World

Bank 1997). In fact, despite numerous studies, there is yet no empirical evidence to support the argument that corruption is “the grease of the development process” (Kaufman and Wei, 2000). On the contrary, as we will see in the next section, there are compelling arguments and evidence that illegal acts and corruption have deleterious effects on the economy.

What factors contribute to forest crime?

The causes of forest crime are rooted in the culture and governance systems of societies. Underlying causes are complex, vary from country to country, and include structural problems such as economic and political power inequalities. They are always contextual and depend on aspects such as the country’s policies, traditions, and the prevalence of democratic levels. Thus, it is difficult to identify general causes of forest crime.

It is self evident that a sound analysis of the causes of illegal acts is a precondition for organising effective counter actions. However, this aspect of forest governance has yet to be studied in certain detail. Empirical studies are faced with the difficulty of “unbundling” causes, i.e. the separation of factors causing illegal acts from other forms of institutional inefficiency (poor financing, low implementation capacity, low stability of forest staff in their positions, etc). It is also hard to determine the nature of the causality relationships involved (does poverty induce corruption or does corruption reduce economic growth and thus contribute to poverty?).

Still, there are factors that contribute to make illegal activities in the forestry sector easier:

- Forest activities involve large areas, *take place in remote places*, away from public scrutiny, the press, and the eye of monitoring agencies. Despite advances of modern remote sensing and mapping technology, the capacity of controlling agencies, especially in tropical countries, to monitor and enforce the law over large forest areas is still low.
- In forest rich countries with low levels of economic development, there is seldom a reasonably precise idea of existing volumes, quality of forest resources, the distribution of species, and their geographical location. Forest inventories and forest management plans are either imperfect or non-existent. In these cases, there is *a weak or an absent baseline* and this limits the possibility of imposing forest management practices or measuring progress towards compliance.
- In many countries, the government claims ownership rights to forestlands. However, frequently in these same countries *there is no tradition of proper forest management and accountability*. Time and again forests were viewed as obstacles to development, and deforestation for expanding the agricultural frontier as equivalent to improving the quality of the land. Natural forests were generally considered as with very little value, with the result that the incentives for improving the policy framework and complying with the law were lacking.
- In these countries, *forestland ownership rights are often unclear or inexistent*. In some cases, not even the government knows where the limits of public forestlands are. Or, when clear on paper, limits are not demarcated on the ground. Illegal invaders of public lands may not even know they are on lands owned by the government.
- As forests are away from decision-making centres, most forest public administrations grant *broad discretionary powers* to their field officers. Unsupervised local forest officers may have a great deal of latitude to certify compliance with the law. They may be the only government authority to certify volumes and species extracted from forest concessions or the compliance with sustainable

management regulations. Substantial discretionary powers create a propitious environment for illegalities.

- In most countries, government forest officers are on comparatively *humble salaries* and must control products with a high commercial value. The propensity for malfeasance in these circumstances evidently increases.
- The *proliferation of regulations and permits* that governments, even if with good intentions, issue to achieve a better use of national forest resources generate opportunities for illegal activities. In many cases, laws are passed but their operational regulations are never issued thus giving de facto broad discretionary power to law enforcers.
- It is common for penalties for forest related illegal acts to be minimal in comparison with the rewards of forest crime. Often, *penalties are so light that they do not translate into a significant deterrent*.

Why should be worry about forest crime?

Aside from ethical implications, operating outside the law unfortunately creates a host of negative impacts on various aspects of the economic and political environment of a country, including at least: i) the economy, ii) the poor and the iii) quality of forest management.

Economic impacts

While there are no comprehensive assessments of the effects of illegal acts on the economy of the forest sector, various macro evaluations and analyses in other sectors reveal that illegal practices produce several negative outcomes on the economy. There is no reason to believe that consequences in the forestry sector would be at variance with these findings.

For example, in evaluating developmental success and failure in 94 industrial and developing countries over 30 years, the 1997 World Development Report of the World Bank, concluded that the “determining factor ...is the effectiveness of the State” and that there was a clear correlation between good policies and stable institutions on one hand and economic growth on the other.

The report emphasises that the rule of law and control of corruption are key components of and are correlated with good governance². Illegal acts undermine the effectiveness of the state and therefore it is likely that they will generate undesirable economic impacts. Macro analyses also show that there is a significant simple correlation between governance and various desirable outcomes of development such as lower infant mortality, higher per capita income, literacy, and life expectancy (Thomas et al, 2000).

There are several reasons for illegal activities to undermine economic efficiency. Among these:

² Governance is “the exercise of authority through formal and informal traditions and institutions for the common good. Governance includes three broad categories (a) *voice and accountability*, which includes civil liberties and freedom of the press, and political stability (b) *government effectiveness*, which includes the quality of policy making and public service delivery, and the lack of regulatory burden; and (c) *rule of law*, which includes protection of property rights and independence of the judiciary, and control of corruption” (Thomas et al, 2000)

- Lower propensity to invest in sustainable forest management. A first consideration is that in an environment where the rule of law is weak, investment risks tend to be higher. Higher levels of risk make investors demand higher and faster financial returns and thus discourage investments in long-term options, such as those related to forest management which require extended periods of time to mature (Kaufmann, 1997). In addition, other costs (such as those of paying bribes) can also be very high, thus substantially reducing potential financial profitability (Tanzi, 1998). Understandably, entrepreneurs will be reluctant to invest in forest management practices that will produce returns in an uncertain far future. Second, another reason for reduced investment in sustainable forest practices is that when illegal options are easily accessible, they render a higher profit and therefore preferred by entrepreneurs. For example, it is hardly surprising that concessionaires will be reluctant to invest in sustainable forest management practices if they can steal wood with impunity. In an economic sense, resources in these circumstances become abundant and there is no clear economic rationale on the part of the concessionaire to invest in conserving them or utilize them with a view to their long-term sustainability. In these circumstances, abundant timber is wasted (Southgate, 1998; Newel et al, 2000). Finally, profits from illegal forest operations are likely to be sent abroad thus negating investments in productive operations in the country.
- Misallocation of investments. Not only the level of investment may be low but also whatever is invested may be in less desirable options. For example, responsible foreign investors may shy away from countries where illegalities are common. But this same environment may attract unscrupulous corporations. Similarly, government decisions influenced by bribes will only by chance coincide with those that most benefit the country's priorities. For example, equipment for the forest administration may not be well suited to the conditions of the country but chosen nevertheless because of corrupt deals. Large capital-intensive projects are preferred, independently of their economic impact, because they make it easier to skim off substantial sums.
- Reduced government income. Forestry Administrations in developing countries and in transition economies operate under a perpetual shortage of funds. Tax evasion and unrealistically low stumpage charges diminish government income that could have been used to promote a better management of forest resources³.
- Reduced international technical and financial assistance. Some argue that international donors tend to shy away from forest projects and programmes in countries where law enforcement is weak. If this is so, political support for international aid is put at risk. Some institutions such as the World Bank and the International Monetary Fund have been known to withdraw financial support to countries where forest law enforcement is not adequate.

Poverty impacts

Initially, landless peasants invading public or private lands benefit from poor law enforcement. In some cases, illegal forest operations are their sole means of survival. However, the same environment that allows this to happen also generates a host of other long-term effects that eventually hurt the poor. First, if poor law enforcement is systemic and impairs economic growth, then the poor are likely to suffer the most. It has been noted that when economic expansion is slow, the state may be less inclined to provide public services such as training and extension or subsidized inputs to the poor (Thomas et al, 2000).

³ For example, a survey of more than 1000 enterprise managers operating in Albania, Georgia and Latvia indicates that many would prefer to pay higher taxes rather than deal with bribery in government. Instead, because of corruption, lost government income is considerable in these three countries (World Bank, 1998). Of course the counterargument to this is that if the government is utterly inefficient then it may be better that tax evasion money remains in private pockets.

While the ability to capture parts of the state is within the possibilities of powerful economic interests, it is beyond the reach of the very poor that are unable to negotiate large operations and pay substantial bribes to benefit from corrupt deals. Thus, the capture of the state by economic and political interests is likely to lead to greater inequality and possibly to a deterioration of the condition of the poor. Given their lack of political influence, the poor may be asked to pay proportionally more than the rich to obtain government services in corrupt environments. For example, research shows that poor households in Ecuador proportionately must spend three times more in bribes than the rich to obtain access to public services. In some cases, public officials, abusing their power, are able to extort money from the disadvantaged for getting access to forest goods and services (such as fuelwood or hunting) that are granted to them by law (World Bank, 1997).

Moreover, the proliferation of illegal logging and other illicit activities affects the poor because those activities may take place in areas that are vital for rural subsistence. Illegal activities reduce the quality of forests or result in outright deforestation thus depriving local populations from an important source of agricultural implements, construction materials, medicines, and fuelwood. In addition, food insecurity is certain to increase, as many of the poorest communities depend on the forests for their subsistence. Sources of local income and employment are also bound to be lost (see, for example, Global Witness, 2001).

The quality of forest management

Given that forest laws aim at the sustainable management of forest resources, illegal acts lead to unsustainable practices and to losses of the various environmental, economic and social services of forests.

Forests produce a number of goods and services, such as carbon sequestration, aesthetic and religious values, biodiversity and soil and water protection that are lost when illegal logging and unsustainable cutting take place. Forests are the largest terrestrial ecosystem and therefore are the largest reservoir of plants, animals and biodiversity on land. They protect watersheds and have important effects on agricultural, production and fisheries. As such they have a profound influence on the human habitat, locally and globally.

Many of these environmental services of forests are not transacted in markets. Since they do not have market prices, the private sector will not produce them in sufficient amounts. However, these values of forests are of importance to society. Thus, the government must intervene to establish rules of the game and incentives to prod private initiative in the direction of society's objectives. Accordingly, most countries have laws aimed at sustainable forest management that require operators in the sector to utilize forests in ways that would ensure their renewal. However, while sustainable natural forest management can be profitable in many instances, unsustainable illegal practices are even more profitable (Contreras-Hermosilla, 1999). When governments are unable or unwilling to enforce the law, operators will evade regulations simply because they carry costs that can be avoided.

Illegal logging and trade also depress the market value of forest products. Low market prices lead to wasteful uses of existing forest resources, to a greater propensity to liquidate them or at least to the impairment of their capacity to recuperate from interventions and to produce future harvests. Low prices also reduce market incentives to long-term investments in more sustainable forest management.

Summarizing, the impacts of weak law enforcement on forest governance, economic efficiency, forest management and equity are numerous and mostly negative. Forest crime undermines the state's capacity to impose law and order in the sector. It undercuts economic efficiency because it leads to

the wrong decisions and mistaken allocation of scarce economic resources. It also goes against the quality of forest management because it favours the unsustainable utilization of public forests for private gain rather than for national benefit. Since corruption tends to hurt the poorest, the fabric of society suffers. The poor perceive government as unfair, favouring those that already have much and hurting the destitute.

Combating illegal practices

While situations will vary from country to country, and decision-makers interested in reducing illegal acts must take into account the following linked strategies to combat illegal acts in the forest sector:

First, assess the general governance environment of the country and the probabilities of success in the eventual attempts to improve governance in the forestry sector.

Second, assuming there is reasonable hope that efforts may be met with some degree of success, streamline the forest policy framework to promote sound forest management practices and eliminate undesirable and/or unfeasible or inconsistent policy prescriptions that induce, and in some instances may even force, major actors to deviate from the law.

Third, devise and implement operational systems to strengthen prevention, detection, and suppression of illegal acts.

Governance environment

Government has the unique power to make people do or not do certain things. No other institution in society has this far-reaching ability to shape and, if necessary compel behaviour. Thus, the probability of success in addressing illegal acts in the forestry sector will depend on the governance features of the country. Furthermore, since the forestry sector does not operate in complete isolation from other sectors, enhancing forest law compliance depends on actions by the judiciary, the law enforcement agencies, (police, the army, etc) and so on. Thus, the question arises of whether illegal activities can be combated in the forestry sector when the government apparatus and related sectors are affected by either corruption or by their incapacity to provide effective services.

Experience shows that when illegal activities are common and corruption permeates the government apparatus, it is difficult to change the situation in a single sector. In these cases, government-wide reforms may be needed and perhaps sweeping political changes as well. Otherwise, reforms in the forestry sector will probably be short-lived: unfortunately actions in the absence of an integrated reform program have shown a tendency to reversal (Johnston and Doig, 1999, World Bank, 1997).

But because country situations are so diverse, difficulty does not always mean impossibility. There are countries affected in the past by widespread abuse of the law that are making good progress in combating illegal practices in the forestry sector. And if the forestry sector is large, such as is in Cambodia, combating forest illegal operations may produce a pull for the rest of the government to fall into line. On the other hand, if the forest sector is small and the government is corrupt, the probabilities of success dim.

Furthermore, not all situations are extreme and there are degrees of pervasiveness of illegal acts in the forestry sector. When illegal acts are less prevalent, reforms may render desirable results.

Various other factors of the governance situation are relevant. For example, since there is correlation between the existence of effective democratic institutions and law enforcement, the question is to

what extent would political forces allow for participation and consultation in decisions related to the forestry sector. Or is the government dominated by an authoritarian regime that does not tolerate dissent? To what extent is the press free to report instances of illegal acts? Is the judiciary sufficiently independent? Are the policy and the army free from corruption?

In practice, the measurement of illegal acts and corruption are difficult undertakings. In many cases, it is not clear what one would want to measure as proxies for illegalities particularly considering that in some cases there are flaws in the law that may make those acts unavoidable or even legitimate.

Since corruption is widely perceived as the most serious of illegal acts, several institutions have devoted efforts to measure indirectly its prevalence and effects. The Internet has become a valuable source of information. Also, countrywide surveys are available. The Transparency International index, for example, records the perceptions of corruption in various countries.

The policy and legal framework

The policy framework governing the management of the forestry sector must be reasonable and adhering to national objectives. It must be feasible and supported by the public. Furthermore, laws must be consistent with related norms in other linked sectors.

While the reform of the policy framework will vary from country to country, a basic principle is that it should aim at reducing the need for law enforcement as much as possible. This is achieved by concentrating government action on those areas of activity where it has either a clear comparative advantage or exclusive responsibility, and by minimizing the potential benefits of illegal actions while maximizing their costs. Furthermore, a lesson of experience is that effective law enforcement depends on the involvement of the civil society and the private sector.

The following strategic principles are in order.

Identify core functions of government and share other functions with the private sector and the civil society.

Frequently governments lay claims to the management of forest resources that are in stark contrast with their limited capacity to implement them. But government should not be the sole responsible for the management of national forest resources. All sectors have a responsibility for following the law and public forest administrations sometimes have an opportunity for government for divesting certain functions and transfer responsibility for forest management to the private sector or to key actors of the civil society that may have a comparative advantage in carrying them. For example, government institutions are not necessarily the best managers of forest resources but governments can clearly set the fundamental rules of the game to be followed by private forest administrators. Forest administrations should only do those things that are not done effectively by other groups in society.

Streamline the forestry policy, legislative and regulatory framework.

This involves two principles. First, policies should be realistic. Commendable forest policy objectives are irrelevant if they cannot be implemented, and unrealistic policy prescription will force actors to operate illegally. The capacity of the government and actors of the private sector and civil society to pursue them must match the objectives of forest policy and the law. While this concept is rather obvious, it is often overlooked (FAO, 2000). Second, fewer and simpler government rules reduce opportunities for arbitrary interpretation and malfeasance. For example, government procurement based on standardized products (logging trucks, all-terrain vehicles, etc.) provides a benchmark for

judging decisions, so that violations to the law can be spotted more easily. Or, if subsidy policies are cancelled, then some opportunities for malfeasance disappear (Rose-Ackerman, 1996). The rule of thumb is ‘keep it simple’. Laws that are too complex and difficult to understand, require complicated and expensive procedures or abrupt reorientation of institutional or social behaviour, run the risk of becoming unenforceable, irrelevant, and open opportunities for corruption and other illegal activities.

Establish clear property rights; carry out delimitation and demarcation of forestlands.

Vague property rights obviously are not easy to enforce. Indisputable forestland ownership rights are a necessary condition for effective enforcement. In some cases, if a comparative advantage exists in the private sector or in institutions of the civil society, the government may consider privatisation schemes of selected areas. Areas where there is prevalence of global or national non-market values such as biodiversity, water, and soil protection, and conservation of the natural heritage, will tend to remain as the main responsibility of the state. In these cases, policies may give preferential attention to those areas located in inaccessible places, as these are easier to protect.

Reformed policies may also focus on obtaining a better coincidence between the traditional rights of local and indigenous populations and the “formal” legal system of forestland ownership and access. This goes back to the need to establish a better and more realistic agreement between informal, traditional, rights and those of the formal legislation.

When governments ignore traditional rights, this creates not only intense conflicts between claims by indigenous populations and those by the state and loggers, but also great incentives for illegal “cut and run” schemes. Uncertain property rights do not encourage long-term investments in sustainable management. Thus, policy reforms should recognize traditional rights and attempt to devolve responsibility for the management of forestlands to indigenous communities, with the state concentrating its attention on imposing the various rules that are needed to ensure that the interests of the national society are protected (such as sustainability conditions).

The establishment of clear property rights is not an easy task and it does not come cheap. While new technologies now make it easier to determine the physical parameters of a property on the ground, the legal process to take care of conflicting claims is generally quite complex and time consuming. However, it is hard to see how illegal activities in an environment of land ownership disputes, of weak or non-existing formal property rights.

Involve the media, NGOs, local communities and the public in combating forest crime

This is a variation of the principle above: the government alone should not attempt the monumental task of doing everything to ensure compliance with the law. Various independent environmental NGOs can act as “watchdogs”, often in close collaboration with the press, and be instrumental in uncovering illegal activities and in forcing corrective actions. Systems can be established for “whistle blowers” to report illegal activities and for governments to provide attractive rewards for reporting forest crime. Increasing government openness to sectors of the civil society and the private sector can be an effective tool in reducing the influence of vested interests and improving law enforcement (Stiglitz, 1998).

Enhanced public awareness of the values of forest resources and of the way in which they are utilized helps in creating pressure for better law enforcement. In contrast, government secrecy and exclusivity creates opportunities for those that possess essential information to exploit illegal options for personal gain.

Effective involvement of the media, NGOs, local communities and the public in law enforcement can only be accomplished if the government policy (and, indeed, the government itself) is perceived as “legitimate”, i.e. supported by the private sector and civil society stakeholder groups. Given the magnitude of forestlands in some countries and the number of people involved in their management, it may be desirable to establish a broad process of public consultation in the design and implementation of the law. While this is normally costly in terms of time and effort involved, long-term endorsement of the basic policy principles that emerge may be well worth the effort. Without broad involvement and participation, there is little chance that the law will be realistic or be respected.

Integrate interactions with other sectors in the design of forest policies

Developments in other sectors create conditions for the proliferation of illegal activities in the forestry sector. For example, new roads, mining ventures, or agricultural expansion can improve access to forestlands and create a favourable environment for illegal activities that damage forests. The implications of promoting activities that improve forestlands accessibility and thus the possible proliferation of illegal activities should be considered in forest policy and law design.

Strive to keep a balance between industrial demands and the level of sustainable harvest

Industrial forest based development—often fostered by official policy and in some cases by corrupt officials—has in some cases vastly exceeded the possibility of forests to provide raw materials. This creates a much greater pressure to satisfy the deficit through illegal means. Given the magnitude of some industrial investments, which can reach billions of dollars, normally there is a strong pressure to keep them alive even if this results in obtaining illegal forest raw material supplies.

When appropriate, increase the use of market mechanisms.

In many cases, markets can be used to reduce the discretionary power of government officials, improve transparency, and reduce corruption. For example, if markets are competitive, open and transparent bidding mechanisms can replace administratively determined forest products prices in timber concession contracts.

Consider the potential to violate the future law

Laws that are designed to eliminate opportunities for *current* forest crimes may inadvertently create incentives for a new breed of future illegalities. Some of these may be more critical than those suppressed by the new law. For example, imposing timber transit controls to suppress illegal harvests create new opportunities for corrupt controllers. As a related theme, it is necessary to analyse how new policies and laws will affect stakeholder groups. In some laws may create new strong vested interests that pursue their objectives through illegal means and which, once entrenched, are difficult to eliminate.

Prevention, detection and suppression

Regardless of the level of perfection of the law, there will be attempts to circumvent it. Therefore, governments must create operational conditions for effective law enforcement.

Operational enforcement is rooted on three sets of actions: prevention, detection, and suppression (PDS).

These three actions are inter related and operate as mutually reinforcing. Thus, for example the knowledge of the existence of an effective detection system may act as an effective deterrent for illegal actions. Similarly, suppression of a criminal activity and the arrest of key actors may produce information leading to the detection of related crime.

Further, as shown below, effective PDS is closely linked to the quality of the forest policy and law. Thus, for example, a good law will contain elements contributing to the prevention of illegal activities.

Prevention

These activities are geared to reduce the opportunities for illegal acts. They can be applied to actors of the civil society, of the public and private sectors.

Reduce discretionary power. Reducing the discretionary power of the public forestry administration staff can prevent illegal acts. This can be done in several ways. Thus, for example, simplification of operational norms reduces the possibility for arbitrary interpretation. Transferring decisions from the public administration to the market also replaces obscure bureaucratic decisions by objective and easily observable criteria.

Increase transparency and accountability in decisions. Greater transparency of decisions by the Public Forest Administration can be achieved through several means, for example, by requiring the administration to hold public hearings on its operations, where interested parties can freely demand information. Independent audits can also force the application of transparent budgetary and expenditure processes. The new in depth governance and corruption surveys of public officials, corporations and citizens provide a tool to identify concrete cases of illegal activities and therefore to increase deterrence (see box next page).

Promote public education and awareness. The civil society and NGOs can effectively contribute to prevent illegalities. Public education and awareness about the value of forests, the manner in which they are utilised and about the incidence of illegal acts can generate enough political pressure to contribute to prevent forest crimes. Moreover, illegal acts sometimes occur simply because of the ignorance of the provisions of the law and the rationale behind them. Better knowledge thus contributes to prevention of illegal acts.

Consider privatisation of some responsibilities. Some operations can be completely privatised or contracted to private firms. Thus, some countries have entrusted independent agencies of the private sector to control the movement of wood and its export.⁴

Provide for increased administrative checks and balances. In some cases, it may be advisable to purposely generate overlaps between agencies thus reducing the discretionary power on one single agency. For example, forest guards may control the transport of forest products but this could also be done by the regular police force. Collusion in these circumstances is less likely (although, unfortunately, not impossible: operators may have to pay bribes twice). Also, the probability of illegal acts going undetected diminishes. This may act as a deterrent for public administration officers inclined to engage in corrupt acts.

⁴ Some companies such as Société Générale de Surveillance S.A. (SGS) provide independent monitoring services related to the national movement and trade of forest products.

De-politicise the Public Forest Administration. Because in many cases forest authorities are political appointees that are susceptible to higher-level pressure to circumvent the law, some countries have designed procedures to increase the autonomy of forest authorities⁵.

Increase salaries of the Public Forest Administration staff? This theme is introduced with a question mark because while there is a generalized belief that public sector servants commit illegal acts pushed by meagre salaries, there is little evidence that this is fact the case. It is probably true that poor salaries make the costs of losing a job rather low and that in these circumstances the propensity to accept bribes increases. However, while higher salaries may be a necessary condition to reduce illegal acts by public officials, it is not a sufficient one. The best-paid officials are sometimes the most corrupt: an official with a good salary may demand higher bribes to offset the risk of losing the job, if caught. While, no doubt, in certain countries higher salaries for forestry staff may be warranted, this alone is unlikely to lead to a reduction of illegal acts by officers of the public administration. In addition, higher salaries for public officials clash with the prescriptions of most adjustment programs. Higher salaries, while advisable, are only part of a much more complex response to fighting illegal acts.

Require forest management plans for all operations involving forest interventions. A main instrument for prevention (as well as detection and suppression) is the forest management plan. Forest management plans require inventories of forest resources, clear property boundaries and a schedule of interventions that can be controlled by using well-established indicators of progress towards economic, equity and sustainability objectives. Thus, the presence of forest management plans serving as objective frames of reference to control compliance provides incentives to keep away from illegal practices.

Promote voluntary, private certification. Some private entrepreneurs operating either in public, private or community lands have opted for independent certification of the forest operations under their responsibility. Independent certification, including the chain of custody, contributes to obtain access to markets or to acquire a larger market share and is therefore desirable for many entrepreneurs. Certification is also sought because often the government recognizes it as a mechanism of compliance with legally required sustainable forest management plans. Many entrepreneurs prefer to deal with private and independent certifiers rather than with the government bureaucracy. Since re-certification must be obtained periodically, it provides a deterrent to deviate from the legal requirements of the forest management plan. Resource managers may also include assessments of the probability of illegal operations that may take place in the management unit and contemplate adequate preventative measures in their forest management plans (see Box below).

⁵ For example, the new Bolivian forestry law prescribes that the head of the forest public administration, the Superintendente, must be designated by the President who in turn can only choose from a list of three names provided by the Congress. The Superintendente is appointed for a period of 6 years thus straddling the presidential period, which is 5 years. This procedure is followed to avoid undesirable interference from political groups that in the past made the position a very unstable one and subject to pressure from narrow political interests.

Forest Certification

Some large forest products markets, responding to concerns about deforestation and misuse of global forest resources, are requiring that forest products be certified as originating in sustainably managed forests.

Certification assesses various activities in the forest production chain and corroborates compliance at each stage with certain rules. At present most of the attention is focused on forest management. However, forest products made from raw materials from certified forests are also being certified. Certified products guarantee that sound forest management practices are being employed in the production.

Depending on circumstances, certification may include aspects such as compliance with the law. In other cases, compliance is implicit, as sustainable forest management is frequently a declared forest policy and legislative objective; forests that are certified as being sustainably managed can be safely assumed to be in compliance with the law.

While forest certification is still in its infancy, certified forests may be as much as 90 million hectares world-wide (Bourke, 2001). There are many certification schemes including those of the Forest Stewardship Council, the Pan European Forest Certification Scheme, the ISO 14001 Environmental Management System standard, the Canadian Standards Association and those of the American Forests and Paper's Association Sustainable Forestry Initiative.

Overwhelmingly, the area of certified forests is still in industrialised countries, obeying to the location of demand for certified products, concentrated in Western Europe and to a less extent in the United States. In major developing markets, such as those of Indonesia and Brazil, internal demand for certified products is much more limited but these countries are also main producers and exporters to Europe and the United States and are thus interested in having their products for the international markets distinguished by certification.

While certification does not appear to guarantee higher export prices, it is of interest to exporters because in many cases it does constitute a growing requisite for international market access. For example, Indonesia developed criteria and indicators for auditing the operations of forest concessionaires and Malaysia formed a National Certification Council which is also establishing a set of criteria and indicators that will facilitate monitoring and evaluation of forest operations in that country (FAO, 2001). At the time of this writing Bolivia had about a million hectares of certified forests, starting practically from zero in 1996 (Contreras and Vargas, 2001). Certification is a promising "soft" policy instrument to promote compliance with the principles of sustainable forest management required in most forest laws around the world.

Foster voluntary adoption by private industry of standards of environmentally and socially acceptable forest management practices and codes of conduct. Several of the world's leading forest corporations have voluntarily taken actions to define and adopt minimum acceptable standards of sustainable forest management and codes of conduct that include provisions for strictly following the laws of the country. Calls for action are growing that on the one hand will foster and encourage those corporations that are voluntarily moving towards codes of conducts, and that on the other will severely penalise companies that are not prepared to do so.

Foster the development of buyers groups. Buyer groups, formed by retailers and major users of wood are proliferating around the world. These buyer groups pledge to buy certified products. . For example recently the WWF joined forces with Friends of the Earth Amazonia to form an alliance of 42 timber companies in Brazil, "Compradores de Madeira Certificada", committed to certification

and to ensuring that their wood is not the product of illegal harvest (WWF, 2000). National forest policies should support these groups.

Promote the use of market mechanisms rather than command and control options. This could include the greater use instruments such as performance bonds that facilitate administration of the law (Karsenty, 2000).

Provide easy mechanisms for whistle blowers. In some countries, governments and international assistance institutions such as the World Bank provide facilities for “whistle blowers” to report fraudulent activities. Governments may also consider protection of staff against reprisals for denouncing forest crime. The simple knowledge of the existence of these mechanisms may contribute to prevent forest illegal activities.

Detection

Again, as in the case of prevention, different actors in society can be engaged in detection activities. Successful detection of illegal acts depends closely on the existence of proper baseline data that will give a clear idea of the state of forests and of how they change over time. Disseminated knowledge about forests and clear understanding of the forces that are introducing change as well as of associated consequences on the environment, economy and equity, are key elements in implementing effective detection schemes.

Generate baseline information. Detection includes actions to determine whether illegal actions occur. It involves the comparison of events that are prescribed by law with their actual occurrence. Thus, baseline data are needed for a detection system to operate effectively and to provide the foundations for eventual prosecution.

Engage NGOs and environmental groups concerned with law enforcement. Many NGOs and environmental groups provide useful monitoring services that contribute to detect forest crime. For example, the activities of Global Witness in Cambodia helped to detect and make forest crimes public in that country. A forest crime-monitoring unit was created in 1999, composed of two separated government offices and Global Witness to detect illegal forest activities. Friend of the Earth, the Environmental Investigation Agency, and Greenpeace routinely monitor developments in the forestry sector of various countries and unearth valuable information on forest illegal activities. The World Resources Institute launched the Global Forest Watch Initiative, which monitors forest developments in several key countries. Many of these international entities have national counterparts. Thus, for example, Forest Watch of British Columbia, a project of the Sierra Legal Defence Fund, documents the state of British Columbia’s forests and the environmental and social impacts of forest developments on the sustainability of forests and the well being of forest communities. Global Forest Watch, Friends of the Earth and Greenpeace all have national chapters as also does Transparency International, an international NGO committed to fighting corruption in government and business.

Establish monitoring systems. Few governments have adequate monitoring systems in place. Advanced and relatively inexpensive technologies exist for determining land use changes, the construction of penetration roads, and other changes of the features of forests. While many

⁶. For example recently the WWF joined forces with Friends of the Earth Amazonia to form an alliance of 42 timber companies in Brazil, “Compradores de Madeira Certificada”, committed to certification and to ensuring that their wood is not the product of illegal harvest (WWF, 2000). National forest policies should support these groups

developing country governments lack the necessary personnel and hardware, some are beginning to train personnel and adopt modern sector surveillance methods.

Expand the use of surprise controls, certification and various methods of verifying consistency of information. At the micro level, unannounced inspections to verify compliance with forest management plans can be used. As mentioned, in certain cases, certification by independent entities can substitute for or complement government controls. The examination of tax declarations often can render insights into the operations of private sector entities. And the comparison of declared exports with registered imports in trading countries is a relatively easy way to uncover discrepancies and produce evidence of timber smuggling or fraudulent export declarations.

Facilitate independent reporting. As mentioned, in some countries the law allows private citizens to monitor activities and report apparent deviations from the law (“whistle blowers”). Producing evidence of forest crime can be rewarded with a proportion of the fines collected by government but equally, these schemes must provide for the punishment of those that simply abuse the system and accuse others motivated by hidden personal reasons rather than a desire to facilitate the enforcement of the law. These schemes assume an adequate capacity on the part of the law enforcement agency to investigate a large number of allegations.

Suppression

Suppression of illegal forest acts involves the use of force and physical (arrest and imprisonment) and/or financial (fines) penalties to impose the law. Suppression is a dangerous operation. In the Philippines, the Department of Environment and Natural resources stepped up efforts to reduce illegal logging. The difficulty and risk of combating entrenched logging syndicates is illustrated by the fact that the enforcement efforts of the Department generated violent reaction, with five DENR staff investigating illegal acts killed during year 2000 (Republic of the Philippines, 2000). Examples of enforcement violence abound in other countries.

Engage law enforcement agencies and the army. Forest service officers are seldom trained in law enforcement operations and the help of specialized agencies of the government may be needed. Particularly so, because enforcement of the forest law requires deployment of force over vast geographical areas. In some countries, the forest authority has the legal option to call the regular police force and in some cases even the armed forces to impose the law. Because many of these operations will take place in remote areas, and human rights may be abused, there must be adequate regulations in place to ensure accountability and use of force that is commensurate with the gravity of the situation. Also, in some cases the police or the army may be as corrupt as the criminals they are supposed to stop. Thus, suppression by these forces may need to be independently verified in a transparent manner and in any case, it is generally advisable to separate institutions in charge of suppression activities from those having the responsibility for detection.

Increase the penalties committing illegal acts. In many cases, the reform of forest fines merits consideration. As mentioned, forest fines are often obsolete and with values eroded by inflation. Penalties can act as a deterrent if they are high enough and commensurate with the economic value of the offence. Governments may ponder the cancellation of all contracts with private firms or civil society groups involved in illegal activities and blacklisting them from government contracts.

Enlist the help from international organizations. International organizations can also help committed governments to enforce the law. For example, Cambodia’s cash-strapped administration has been told by international lenders that it must crack down on illegal logging and trade. Both the

IMF and the World Bank require Cambodia to make progress in this respect as a condition for their financial disbursements. In fact, the IMF suspended lending to Phnom Penh in 1997 in large part because of lack of government progress in controlling illegal logging. Transparency International is in the process of developing an operational framework for combating illegal activities in the forestry sector. International bodies can put a great deal of pressure on governments to prod them to enforce the law. The judgement of international assistance organizations and NGOs may, in many cases, help committed governments to generate enough domestic support to impose procedures to enforce the law. In many cases, international organizations may be instrumental in raising awareness of forest crime and its consequences thus contributing to increased political pressure for better law enforcement.

The organization of a comprehensive operational PDS requires a critical mass of institutional organization and associated financial and human resources to make it work. In many cases, financial resources can originate in the greater government revenues that are likely to flow from more efficient law enforcement as many of the leakages from lax policing disappear in, for example, timber concessions. The human resources required to improve forest law enforcement may be more difficult to obtain in many countries, particularly those in earlier stages of development. There is an important role for the international assistance community to support activities such as the streamlining of the policy and legal framework, increasing awareness about the economic, environmental and social costs of poor law enforcement and the provision of modern PDS technologies in countries where the right government conditions exist.

With respect to PDS technologies, advances in the last few years open a great number of interesting opportunities to improve forest law enforcement even in relatively poor countries (See Annex 3).

Implementing forest law enforcement strategies

The multiplicity of policy and operational strategies reviewed above reflects the complexity of the initiatives to improve forest law enforcement. Questions that immediately come to mind are, where do we start? What strategic elements should receive priority attention for action? Who should do what?

Where do we start? What strategic elements should receive priority attention?

Since situations in different countries are varied, it is not possible to establish a unique path for combating illegal activities. Absolute priorities for action for better law enforcement have limited relevance.

The task of establishing priority reforms and their sequencing according to the particular circumstances dominating in a given country is a daunting challenge because of the wide variation in circumstances. For instance, a country with a developed forest industrial base such as Indonesia may require radically different reforms than another such as Bolivia, where the forest-based industries are not well developed. In a few countries, powerful logging elites may have “captured” the government decision-making machinery, while in others the government may be relatively immune to such pressures. In other countries, illegal logging may be of paramount importance while in still others illegal trade may dominate the scene instead. In some situations, monopolies wielding substantial political influence may engage public officials in corrupt acts while in others illegal activities may be the result of the operations on hundreds of even thousands of small-scale enterprises. These different scenarios require different responses to improve law enforcement and the challenge is to adequately

prioritise strategic measures according to the country's reality and how to establish a proper sequence and linkages in implementation.

Kaufmann et al (Thomas, 2000) propose surveys to diagnose the governance condition in a given country committed to improve law enforcement (see Box 3 below).

Box 3. Survey Diagnostic Tools

“The design and implementation of agency-specific, in-depth diagnostic surveys for public officials, household or users and enterprises constitute an innovation that provides tangible inputs for countries committed to implementing capacity building and institutional change programmes.... Challenging conventional wisdom, the new surveys of public officials, enterprises and citizens find respondents willing to provide detailed information on misgovernance that they have observed and experienced (as opposed to merely indicating their vague perceptions about countrywide corruption, for instance)”.

“Survey respondents report on embezzlement of public funds, theft of state property, bribery to shorten processing time, bribery to obtain monopoly power and bribery in procurement. In these diagnostic surveys, detailed statistics are collected on the frequency and cost of bribes paid by enterprises to regulators in different agencies as well as the shortcomings of public service delivery and other performance and effectiveness indicators. A multiplicity of governance dimensions is included in these diagnostics, permitting an in-depth analysis of issues such as meritocracy, discretionality, budgetary transparency, and poverty alleviation focus and impact. The analysis of these statistics then serves as a vital input for prioritising in the formulation of a governance improvement reform program....”

“When data were presented to members of the business community, major civil society, and the executive and legislative branches, the policy debate abruptly changed from vague, unsubstantiated, and often personalized accusations to one focused on empirical evidence and systemic weaknesses that needed to be addressed”

Source: *The Quality of Growth*, Chapter 6 (Thomas et al, 2000)

Survey diagnostics are effective instruments to determine what illegal actions are most important. They provide a starting point for designing remedial actions in countries that are committed to policy reforms. Surveys can be aimed at government officials, local communities, NGOs, or private corporations to obtain a reasonable clear picture of the main law enforcement problems. Contrary to initial fears, experience shows that respondents normally are quite honest and informative in their responses (after all, and until recently some illegal acts, such as paying bribes to foreign officials were tax deductible in many countries). While some methodological challenges remain, particularly those related to the transition from diagnostic to remedial action and the ways in which main stakeholder groups can be effectively involved in combating illegal activities, survey diagnostics have proven to be an effective tool in providing a more objective focus to the policy reform dialogue⁷. Data collected in surveys and disseminated in workshops have contributed to mobilizing support for consensus building and collective priority action against illegal activities in various countries (Thomas et al, 2000).

⁷ Other problems include the fact that surveys invariably contain some subjective elements, but still, in most cases data thus collected is relevant because these are the only available. Hard data (quantitative) has been almost impossible to collect.

Who should do what?

Survey diagnostic tools are also useful to determine the main actors in the forestry sector, the roles that they may play in improving law enforcement, the potential conflicts that may arise among stakeholders and ways to resolve them. It should be stressed that concerted action is much more important than uncoordinated individual stakeholder initiatives. Normally, it is not the action of a particular stakeholder group but rather the harmonized initiatives of various sectors of society working towards common objectives that will provide workable solutions for the control of illegal acts. Thus, government policy reforms are unlikely to take place unless there is political pressure of some sort. This political pressure is more likely to materialize if NGOs, a free press and other concerned groups of the civil society and the private sector organize campaigns to educate the public on the nature, magnitude, and consequences of illegal forest activities. Similarly, private sector corporations would be willing to renounce to illegal activities when the government establishes a level playing field for all enterprises.

Despite the above, there are certain activities by various stakeholder groups that in most countries should receive priority. These are discussed below.

Governments. Governments have the main responsibility for ensuring a closer degree of coincidence between society's priorities and their own actions and those of the private and civil society. Assuming a government commitment to control illegal acts, the following areas of action have a generalized validity, especially in developing economies:

- Actively promote political and institutional reforms that will involve all segments of society in transparent decision-making processes.
- Ensure the establishment of clear forestland property rights, including the recognition of traditional rights. Divest functions that other sectors of society can discharge in a better way. This may include the privatisation of several activities.
- Increase penalties for illegal acts.

NGOs. A wide range of nongovernmental organizations can play an active role in urging national and local governments to move towards better law enforcement in the forestry sector, in detecting illegal acts and educating the public. NGOs may consider paying an increasingly proactive role in:

- Promoting more transparent and democratic political and institutional arrangements for forest policy reform dialogues aimed at reducing the impact of illegal activities.
- Continuing and expanding their role exposing illegal logging, trade and other criminal acts.
- Pursuing campaigns to publicise detected illegal acts and their consequences.
- Taking a lead role in fostering wider adoption of responsible forest stewardship standards.
- Promoting coalition building to legalize traditional rights of indigenous peoples and forest dependent communities

Private logging and trading enterprises. Some private enterprises could take the lead in supporting clear standards of forest harvesting and management that exclude illegal acts. They could contribute to the law enforcement process by:

- Adopting transparent and verifiable codes of corporate conduct that make explicit provision for excluding illegal acts such as bribery, tax evasion and transfer pricing.

Attempts to curb illegal activities

Several countries are undertaking serious efforts to curb illegal acts and corruption. Initiatives are few and recent and have met with mixed success.

In Bolivia, a law approved in 1996 contained a number of innovative provisions to ensure law enforcement and reduce the impact of forest crime and corruption. The use of independent agents in controlling law compliance was encouraged. Now any party, public or private can denounce an illicit act. The new legislation introduced an innovative procedure by which private citizens could contribute to law enforcement by utilizing a special authorization or warrant, granted by the Superintendence, to inspect forest field operations (*libramiento de visita*). The law also makes professional foresters involved in the implementation of forest management plans liable via civil or criminal processes. Further, as the determination of forest fees in timber concessions was an important source of corruption, the new law decreed a flat fee per hectare and per year of timber concession. This procedure can be criticised from the point of view of its poor economic efficiency but it had the great advantage of being transparent, not subject to interpretation. New procedures also force the Superintendence to hold public hearings to explain work carried out, and provide an opportunity for the public to raise questions about performance. Any citizen can freely request copies of official documents. Since the Office of the Superintendent was open to political manipulation, the new legal system mandates that the Superintendent be selected by the President of the Republic from a list of three names submitted by the Congress. The Period of the Superintendent appointment is six years, thus straddling the presidential period, which is 5 years. The agency also has financial independence as the law entitles it to keep 30 percent of the forest concession fees (Contreras and Vargas, 2001).

In Cambodia corruption in the forest sector was rampant, to the point that the international community became very concerned and offered substantial support to government efforts to reduce forest crime. A Forest Crime Monitoring and Reporting Unit was installed involving several ministries and the Office of the Council of Ministers. The Government also appointed Global Witness, an international non-governmental organisation, as an independent monitor and a national log tracking system was also established. According to the terms of the contract, Global Witness is empowered to carry out independent field inspections in concessions, review production and export records and other data. A forest law is being drafted with specific elements dealing with forest crimes and penalties (Global Witness, 2001).

In some cases, local communities have taken the initiative, without waiting for government action. For example, in 1994, villagers in Papua New Guinea successfully sued an Australian multinational for illegal discharges that polluted a river that was important for their wellbeing (WCFSD, 1999). In 1999 the Maisin tribe challenged the legality of a foreign company that planned to clear forests in customary tribal lands for oil palm plantations (FAO, 2001). Indigenous groups have organised action against multinational oil companies that allegedly have illegally invaded their ancestral territories in Ecuador (WRM, November 1998). Similar initiatives have taken place in other countries (See, for example, WRM, July 2000)

- Promoting partnerships with NGOs to lobby governments to establish a level playing field for all enterprises in the forest sector
- Accepting certification and independent assessment of their logging and trading operations.
- Fostering links with consuming countries to exclude from business those enterprises that do not follow codes of corporate conduct.

Recent developments suggest that there is a growing number of companies that are willing to adopt voluntary codes of conduct and other schemes that imply, among other things, stricter compliance with the law (FAO, 2001). This may also make financial sense: a US survey shows that companies with strong ethical operational principles remain in business much longer than those that do not bother about moral and considerations (WCFSD, 1999).

The international community. Various initiatives that contribute to improve forest law enforcement, organized by international NGOs and Government International Organizations are under way (See Annex 2 for a description of the main initiatives). International NGOs, UN Organizations and other international bodies can play a useful role in detecting illegal activities and in designing systems for more transparent data exchange and dissemination. They could give priority to:

- Activities to increase awareness of the costs of forest management unsustainable practices to the country and the global environment as well as the role of illegal and corrupt actions. The international community can do much to change the world of ideas not only in government but also in the public.
- Policy advise. Institutions such as the World Bank and FAO have a long experience in lending expert advise in reforming policies and laws. Future advise may continue to concentrate on ways to achieve an improved management of forest resources but with an eye to introducing measures that would reduce the opportunity for illegal acts, and that would contribute to improve their detection and suppression.
- Increase focus. Future international assistance will probably need to focus much more on improving the efficiency and effectiveness of the public forest administration so that more can be done with less. For example, agencies need to promote “meritocracy” in government appointments and promotions, as opposed to uncontrollable political patronage. Or, personnel will need to be trained in modern technologies for observing and interpreting developments affecting national forest resources.
- Sustain and coordinate effort. The international community must consider that support to better governance in the forestry sector, including combating illegal acts, will probably require long-term support and concessional financing. Given the dearth of concessional funds, international donors would do well in organizing more collaborative efforts to avoid dispersion of resources and sometimes even conflicting aims.

Consumer countries. Importing countries can introduce several measures to improve forest law enforcement in exporting countries. However, some of these measures can be interpreted as non-tariff barriers to trade of forest products. Some may be challenged at WTO. A main problem of importing countries is to identify illegal forest products produced in exporting countries. Thus, some form of identification of legal products must be agreed between importing and exporting countries. Priority measures to be considered are:

- Stop buying forest products from illegal sources. While there are no international schemes to identify illegally produced forest products, certification schemes that include the chain of custody generally imply legal production. As long as these schemes are private and voluntary, no WTO issues arise. Recently, following a G8 agreement, the UK government started to implement a series of measures to prevent government agencies from buying from illegal sources. It is uncertain whether exporting countries in the WTO will challenge these measures.
- Blacklist corporations that engage in illegal acts. The OECD rules against corruption include provisions to punish corporations that engage in bribery of foreign public officials with their exclusion from government procurement contracts.
- Improve customs inspections. Customs personnel have little possibility of identifying and stopping the importation of illegal forest products unless there is a bilateral or multilateral treaty that translates in some form of identification of wood produced according to domestic legislation.
- Promote codes of conduct and ethical investment. A relatively small number of companies hold the key to success in improving forest law enforcement. The top 50 companies produce almost half of the world’s harvest and the largest, International Paper processes more than 100 million

cubic meters of wood per year, just about the entire production of industrial wood of Sweden and Finland combined. If a few of the largest corporations follow voluntary codes of conduct and independent certification, this may create a hostile environment for those that have a tendency to break the law.

The above is a formidable set of activities and many countries would find it difficult to implement them. In most cases, progress to improving law compliance probably will be incremental rather than sweeping with laws suffering from some imperfections that would force some actors to operate outside the law and some levels of corruption that would be too difficult or too costly to eradicate completely. But the point that needs to be emphasised is that even a marginal increment in law compliance can result in rather dramatic changes in the way forest resources are managed simply because illegal acts are so pervasive. If a country such as Indonesia could reduce illegal acts, not entirely, but by only 50%, this could represent improved management in about 25% of all forests that today are being harvested in the country. Thus, the improvement of the policy and legislative framework and the proper enforcement of the law may be the most important issue in the future management of forest resources worldwide.

Conclusion

Illegal activities are main threat to global resources. A wide variety of illegal acts, including, among others, illegal logging, illegal trade, arson and unauthorized occupation of forestlands, take place in all kinds of forests, in developing and industrialized economies. Often illegal activities are associated with corruption, involving the willing participation of government officers, usually in complicity with parties of the private sector, in schemes to abuse public property. Illegal acts generate a number of undesirable economic impacts, harm the environment and the most vulnerable sectors of society. The forestry sector as such has some inherent vulnerability derived from some of its unique features such as the large geographical extensions that need to be monitored and controlled, the heterogeneous nature of forest products and services and the remoteness of many forest areas. The text suggests approaches for enhancing forest law enforcement that rely on a three-pronged strategy including an assessment of the probabilities of success, specific forestry sector policy strategic initiatives and operational implementation of prevention, detection and suppression actions. The mixture and sequencing of policy reforms will largely depend on the specific circumstances faced in each country, although there are some reforms that seem to have a generalized validity. The success of these approaches depends largely on the adequate involvement of key sectors of society including national and local governments, NGOs and the private sector. Also of the private sector and governments in consuming countries, international financial and technical assistance agencies and initiatives by groups of countries such as the G8 the OECD and the European Union.

Annex 1. Evidence of the importance of illegal activities in the forestry and forest industries sector		
Region/Country	Assessment	Source
ASIA		
Malaysia	<p>One third or more of forest exports were illegal in the early nineties.</p> <p>Forest products exports to Japan were undeclared by 40 percent in the early nineties</p>	<p>Dudley et al, 1995</p> <p>Environmental Investigation Agency, 1996; Sizer, 1997.</p>
Cambodia	<p>A recent survey revealed that households and enterprises perceive corruption in the country as the leading problems for citizens and enterprises.</p> <p>Substantial problems with illegal exports through the Thai border.</p> <p>In 1997 a minimum of US\$ 184 million worth of timber was felled in Cambodia, much of it received by corrupt officials</p> <p>In 1997, 10 percent of logging was legal.</p>	<p>World Bank, 2000</p> <p>Callister, 1992</p> <p>Global Witness, 1998</p> <p>World Rainforest Movement and Forest Monitor, 1998</p>
Laos, Cambodia, Thailand and the Philippines	<p>Almost all timber exports in the early nineties were illegal</p>	<p>Dudley et al, 1995</p>
Cambodia and Vietnam	<p>Substantial illegal log trade between these two countries</p>	<p>Global Witness, 1999</p>
Indonesia	<p>95 percent of exports were not legal in the early nineties.</p> <p>Malaysian companies have been accused of logging illegally and smuggling logs to Malaysia</p> <p>Illegal logging supplies 52 percent of logs. In the mid 1990s, 84 percent of timber concession holders failed to obey the law.</p> <p>Losses due to illegal logging estimated to be \$3.5 per year in the mid nineties</p> <p>84 percent of timber concessionaires do not follow the law. Illegal logging is taking place in national parks</p> <p>As much as 40 percent of the pulp and paper wood supplies come from undocumented sources</p>	<p>Dudley et al, 1995</p> <p>SKEPHI, 1993</p> <p>Environmental Investigation Agency, 2000; Scotland, 2000</p> <p>World Commission on Forests and Sustainable Development, 1999</p> <p>Environmental Investigation Agency, 2000; World Resources Institute, 2000a</p> <p>Barr, 2000</p>
Myanmar	<p>In 1995, some 276,000 cubic meters valued at \$86 million or almost half of the country's forest exports were undeclared.</p>	<p>World Resources Institute, 1998</p>
Papua New Guinea	<p>Foreign companies bribed politicians and leaders and illegally logged and exported timber. They transferred funds abroad illegally</p> <p>Senior officials awarded logging rights in exchange of bribes.</p> <p>Fraudulent activities in the forestry sector led to an estimated losses in national income equivalent to the annual aid the country receives from Australia: more than 300 million Australian dollars in 1998, or \$180 million.</p> <p>In 1994 Forest Minister Tim Neville estimated that \$1 million a day were being lost to illegal practices</p> <p>Bribes were given by foreign corporations to local leaders and national ministers or members of the parliament and at least to one secretary of the Department of Forests</p>	<p>Marshall, 1990, quoting the Barnett Report.</p> <p>Sizer and Plouvier, 2000</p> <p>Glastra, 1999</p> <p>World Rainforest Movement and Forest Monitor, 1998.</p> <p>Barnett, 1992; Filer, 1996</p>
Philippines	<p>16 million hectares of forest have shrunk to 70,000 today, mainly because of illegal logging.</p> <p>During the eighties the country lost \$ 1.8 billion a year because of illegal logging. This figure was close to the country's GNP.</p> <p>A large ADB-financed Afforestation project was reported to be affected by widespread corruption with money being diverted to finance the agenda of local politicians</p>	<p>ENS, October 11, 1999.</p> <p>Environmental Investigation Agency, 1996</p> <p>Bengwayan, 1999</p>
Solomon Islands	<p>Several Malaysian companies have been involved in a number of corruption controversies</p>	<p>Sizer and Plouvier, 2000</p>

LATIN AMERICA		
Bolivia	Illegal deforestation is at least 4 times and it may be as high as 8 times legal deforestation	Contreras-Hermosilla and Vargas (2001)
Brazil	A presidential commission found out that fully 71 percent of the management plans in concessions did not comply with the law. As much as 90 percent of the timber was exported illegally in the early nineties 80 percent of logging in the Amazon is illegal	FoEI, 1997 Dudley et al, 1995; Greenpeace, 1999 Viana, 1998
Chile	Alerce is listed under Appendix 1 of the CITES, but illegal trade continues.	WWF undated
Colombia	42 percent of logging is illegal	Plan Estratégico, 1996
NORTH AMERICA		
Canada	20 paper mills in Quebec illegally discharged toxic effluents in 1996 Violations to logging laws have been detected in 55 percent of areas designated for protection as areas of concern and riparian reserves The Algonquin Forestry Authority violated 35 percent of the areas of concern in the Algonquin Park Since 1998, west coast logging companies have avoided paying as much as \$149 million by "grade setting"	Ottawa House of Commons, 1998 World Resources Institute, 2000b Sierra Legal Defence Fund and Wildlands League, 2000 Anderson and Werring, 2001
FORMER SOVIET UNION		
Russia	The deputy head of the Federal Forestry Service, Dmitry Odintsov recently complained about the rise in illegal operations noting that there were "some timber procurement offices controlled by organized criminal groups engaged in illegal timber exports". Poachers cut down about 20 percent of the official harvest in Russia's far east. Corruption in the countries of the Commonwealth of Independent States including Russia is higher than in any other region of the world. Public corruption and arbitrary government behavior continue to be major impediments to private sector development. About 20 percent of timber logged in Russia violates the law. As much as 50 percent of logging in the Primorsky and Khabarovsk regions may be illegal There is a substantial export trade from Siberia to China	Medetsky, 2000 EBRD, 1997; Solberg and Rykowski, 2000 Greenpeace, 2000 Newell et al, 2000 Shulyakovskaya, N., 2000
Georgia	In 1998, the Parliament adopted a resolution forbidding commercial logging. However, this directive is largely unenforced and illegal logging continues.	ENS, May 8, 1999
AFRICA		
Tanzania	As much as 500,000 ha of the country's forests are lost annually through illegal timber trade. Illegal exploitation occurs almost all over the country both in forest reserves and in unreserved forest areas. Illegal trade in forest products is especially intense in border areas. The Permanent Secretary in the Ministry of Natural Resources and Tourism admitted that some of the forestry staff are guilty of engaging in illicit timber trade.	Glastra, 1999 ENS, August 22, 1999
Kenya	In the nineties logging of native forests was prohibited but, because of the lack of enforcement, native timber trade continued unabated.	Marshall and Jenkins, 1994
Cameroon	During 1997-1998, over half of the operating licenses failed to comply with the law. The risk of being caught and punished for illegal operations is slight. During the period 1993-1994, only 4 percent of the citations for illegal activities in the Central and East provinces were brought to trial. A review of 63 citations for illegal activities revealed that 20% of the citations were dropped after the intervention of an influential person. In 1996 a Malaysian firm was reportedly illegally exporting some 30,000 cubic meters of logs. Working in collusion with provincial governors, corporations have circumvented the law. This has resulted in harvesting almost unlimited amounts of wood, despite legal restrictions. About one-third of logs harvested for the local market are illegal. One third of the timber output of Cameroon-Est was undeclared in 1992-1993 French politicians have intervened to persuade the government to weaken the law and favour	World Resources Institute, 2000 Martin, 1996 Seymour and Dubash, 2000; The World Bank, 1999. Eba'a-Atyi, 1998 Glastra, 1999.

	French companies	Ekoko, 1997
Liberia	In 1989, recorded log exports to Europe were \$ 80 million, but the value declared at ports of entry was \$ 200 million.	Sizer and Plouvier, 2000
Ghana	<p>Financial assistance granted as part of a Structural Adjustment Programme led to illegal practices on a massive scale. Several (at least 11) companies receiving British aid were implicated in fraud. 15 other companies receiving loans from the World Bank, were implicated in illegal acts.</p> <p>As much as one third of the volume harvested in the mid nineties may have been illegal.</p> <p>The Technical Director of the Ministry of Lands and Forestry complained bitterly: "Much of the felling was illegal and speculative, undertaken by unauthorized contractors....All too often the logs went to waste, huge sums of revenue were being lost and the resource was heading for oblivion with little gain"</p>	<p>Dudley et al, 1995</p> <p>FoEI, 1997</p> <p>Smith, 1996</p>

Annex 2. Initiatives by the international community

Various initiatives to combat illegal activities organized by international NGOs and Government International Organizations are under way.

International NGOs have been at the vanguard. Many environmental NGOs include combating illegal forest acts in their agenda. The role of Global Witness in focusing international attention on illegal forest operation in Cambodia has been noted. Largely because of its involvement, Global Witness contributed to motivate international assistance agencies such as the Asian Development Bank, the World Bank, and the International Monetary Fund, as well as several bilateral agencies to support actions to combat illegal acts in that country. Friends of the Earth International, a federation of autonomous environmental organizations from all over the world, operating in 68 countries and with over a million activists, have been instrumental in organizing campaigns to combat forest illegal actions in many countries. Greenpeace has carried out numerous studies and organized highly publicized campaigns that focus world attention on forest use issues. It promotes boycotting forest products that originate in forest that are not managed in sustainable manner. Transparency International, an international NGO dedicated to fighting corruption produces the now famous Corruption Perceptions Index, has increased global awareness, and helps interested countries in devising strategies to combat corruption. The Environmental Investigation Agency exposes and campaigns against illegal logging and illegal trade. It has carried out substantial work in exposing operations of unscrupulous transnational corporations in several parts of the world.

The Forest Stewardship Council is not directly concerned with fighting illegal acts but its certification schemes help adherence to certain standards of forest management plans and therefore exclude illegal acts.

In early 2000, the World Resources Institute launched the Global Forest Watch an initiative that uses satellite imagery and ground checks to track developments that may threaten forests, including illegal operations. It is working in seven countries but it aims to cover 21 countries containing some 80 percent of the remaining undisturbed forests ecosystems by 2005. Global Forest Watch reports have already uncovered cases of illegal forest activities.

Governmental international organizations and regional groups have recently started a number of programs. The OECD launched its Convention on Combating Bribery of Foreign Public Officials in 1999. The Convention commits 34 countries, the world's biggest economies, to adopt common rules against bribery (OECD, June 27, 1999).

The United Nations Intergovernmental Panel on Forests as well as its successor the Intergovernmental Forum on Forests, issued calls to governments to combat illegal logging and trade of forest products. The Libreville Action Plan of the International Tropical Timber Organization contains a number of references to undocumented trade and irregular forest activities (ITTO, 1998). In 1997, the Inter American Convention Against Corruption of the Organization of American States entered into force. In Africa, the Yaoundé Summit in 1999 recognized problems related to illegal poaching and logging. The extension of the Lomé Convention also provisions to support certification and indirectly to reduce illegal operations.

The G8 countries at their meeting in Birmingham in 1998 approved an Action Programme on Forests that included actions against illegal logging and trade. They confirmed their commitment to fight illegal forest acts at their Okinawa meeting in 2000. The same year and as part of this initiative, the

United Kingdom started implementing a series of measures to improve timber purchasing procedures by government agencies, reduce consumption of illegal wood in the UK and work with other countries to improve governance in the forest sector⁸.

In 1997, the World Bank launched a major initiative to fight corruption in Bank-financed projects, help countries and international efforts to reduce corruption. In 1998, the World Bank-World Wide Fund for Nature Alliance was launched. The Alliance seeks the protection of 50 million hectares of forest areas under threat and 200 million hectares under certification by 2005. Although the Alliance does not aim at fighting corruption, achieving its targets implies such action.

These initiatives suggest that international concern with illegal activities in general and with those affecting global forests in particular has grown quite quickly in the last five years or so. It is recognized that improvements in policies and institutions and the capacity of countries to enforce the law are key to securing more sustainable forest management.

⁸ We define governance as “the exercise of authority through formal and informal traditions and institutions for the common good”. Thus, governance is a much broader concept than illegal acts or corruption. Governance includes the process of electing, monitoring and replacing governments, the capacity to formulate sound policies and the respect of the public and the state for the institutions that govern economic, political and social interactions among them (Thomas et al, 2000).

Annex 3. Progress in Prevention, detection and suppression technologies

Various technological advances provide easier and more effective ways to facilitate prevention, detection, and suppression activities. As technologies continue to develop at a fast pace, their cost continues to fall, making them more accessible to poorer forest administrations.

For example, optical bar coding allows the identification and continuous tracking of valuable logs. Computerised records can be easily kept including information on volumes and species and to follow movements of the log. In addition to providing a way to track logs as it moves from forests to markets (chain of custody), this system has the advantage of providing information on the progress of implementation of harvesting and forest management plans and facilitates certification.

Another innovative system of tracking relies on microscopic particles composed of sequences of colours that can easily and inexpensively identify origin and trace the chain of custody of products from logs to equipment. Millions of colour codes can be arranged. These colour codes can be easily read using a pocket microscope. By mixing this tracing product with raw materials entering a factory, it is possible to identify the source of logs and other links in the production chain such as forest industrial effluents.

Satellite imagery allows adequate tracking of large illegal logging operations. While satellite imagery is too costly to use it on a continuing basis, it is effective in tracing the development of major disturbances such as roads, large clear-cut operations in prohibited areas and arson.

Geographic Positioning Systems is a worldwide radio-navigation system formed by a group of 24 satellites and their ground stations. GPS measures locations on earth by using a satellite triangulation system that is accurate to better than one centimetre. GPS receivers are small and very economical making this technology accessible to almost any forest service. Receivers operate under forest canopy. GPS enormously facilitates the identification of property limits, demarcation and legalization of forestlands as well as detection of illegal operations taking place in those lands.

These and other technological advances make it easier and cheaper to observe and measure key parameters thus substantially facilitating detection of illegal acts.

References

- Acosta, R.T., E.S. Guiang, L.A. Paat and W.S. Pollisco, 2000. *The Control of Illegal Logging: The Philippine Experience*. Paper for the Seminar on Control of Illegal Logging in East Asia, Jakarta, Indonesia, August 28-29.
- Anderson, M and J. Werring, 2001. *Stumpage Sellout. How Forest Company Abuse of the Stumpage System is Costing B.C. Taxpayers Millions*. Sierra Legal Defence Fund, Vancouver, Canada.
- Bardhan, P. 1997. *Corruption and Development. A Review of the Issues*. Journal of Economic Literature Vol. XXXV, September.
- Barnett, T. 1992. *Legal and Administrative Problems of Forestry in Papua New Guinea*. In S. Henningham and R.J. May (editors) "Resources, Development and Politics in the Pacific Islands" Crawford House Press, Bathurst.
- Barr, C, 2000. *Profits on Paper: The Political Economy of Fiber, Finance and Debt in Indonesia's Pulp and Paper Industries*. CIFOR, Bogor, Indonesia.
- Bengwayan, M., 1999. *Illegal Logging Wipes Out Philippine Forests*. ENS, October 11
- Bouderbala, N. 2000. *La Corruption dans le Secteur Forestier en Afrique*. Report to FAO, Rome, Italy.
- Bourke, J. 2001. *Forest Certification. Current Status and Recent Developments*. FAO Advisory Committee on Paper and Wood Products, 42nd Session, Rome, Italy.
- Callister, D.. 1992. *Illegal Tropical Timber Trade: Asia Pacific*. WWF, Gland, Switzerland
- Contreras-Hermosilla, A, 1997. *The "Cut and Run" Course of Corruption in the Forestry Sector*. Journal of Forestry Vol. 95, No. 12.
- Contreras-Hermosilla, A. 1999. *Towards Sustainable Forest Management. An Examination of the Technical, Economic and Institutional Feasibility of Improving Management of the Global Forest Estate*. Working Paper FAO/FPIRS/01, FAO, Rome, Italy.
<http://www.fao.org/forestry/fon/fons/wbfpir/fpirswp1.pdf>
- Contreras-Hermosilla, a. and M.T. Vargas. *Social, Environmental and Economic Impacts of Forest Policy Reforms in Bolivia*. *Forest Trends and CIFOR, forthcoming*.
- De'Ath, C., 1980. *The Throwaway People: Social Impact of the Gogol Timber Project, Madang Province*. Boroko: Institute of Applied Social and Economic Research (Monograph 13).
- Dudley, N., J.P. Jeanrenaud, and F. Sullivan, 1995. *Bad harvest? The Timber Trade and the Degradation of the World's Forests*. London, Earthscan.
- Eba'a Atyi, 1998. *Cameroon Logging Industry: Structure, Economic Importance and Effects of Devaluation*. Occasional Paper 14, CIFOR, Bogor, Indonesia.
- EBRD, 1997. *Transition Report*. European Bank for Reconstruction and Development, London, UK.

Ekoko, F. 1997 *the Political Economy of the 1994 Cameroon Forestry Law*. Paper presented and the Africa Publi Hearing of the World Commission on Forests and Sustainable Development.

Environmental Investigation Agency, 1996. *Corporate Power, Corruption and the Destruction of the World's Forests*. London, UK.

Environmental Investigation Agency, 2000. *Illegal Logging and Trade*. www.eia-international.org/Campaigns/Forests/Regulation/Illegal/Index.html

Environmental Investigation Agency, 1999. *The Final Cut: Illegal Logging in Indonesia's Orangutan Parks*.

www.eia-international.org/Campaigns/Forests/Indonesia/FinalCut/Forests01.htm

ENS, May 8, 1999. *Illegal Logging Damages Caucasus Mountain Forests*.

ENS, August 22, 1999. *Illegal Logging Rips up Tanzanian Forests*.

ENS January 11, 2001. *This Land is Our Land, Brazil Tells Squatters*.

FAO, 2000. *Notes on Forestry Legislation and Enforcement*.

[http://wbln0018.worldbank.org/essd/forestpole.nsf/a084cb073737b7e385256621005b2179/1a59bc2d3590c04e8525687b007c22c5/\\$FILE/Notes+on+enforcement+FAO.rtf](http://wbln0018.worldbank.org/essd/forestpole.nsf/a084cb073737b7e385256621005b2179/1a59bc2d3590c04e8525687b007c22c5/$FILE/Notes+on+enforcement+FAO.rtf)

FAO, 2001. *State of the World's Forests 2001*. Food and Agricultural Organization of the United Nations, Rome, Italy (in press).

Filer, C. 1996. *The Social Context of Renewable Resource Depletion in Papua New Guinea*.

Friends of the Earth International (FoEI), 1997. *FoE Report Exposes Illega Logging*. <http://forests.org/ric/wrr36/foe.htm>

Glastra, R. (editor) 1999. *Cut and Run: Illegal Logging and Timber Trade in the Tropics*. International Development Research Center, IDRC, Ottawa, Canada.

Global Witness, 1999. *Made in Vietnam – Cut in Cambodia*. Briefing Document, London, UK. <http://www.oneworld.org/globalwitness/reports/vietnam/cover.htm>

Global Witness, 1999a. *The Untouchables. Forest Crimes and the Concessionaires. Can Cambodia Afford to Keep Them?*. Briefing Document. London, UK. <http://www.oneworld.org/globalwitness/reports/untouchables/untouch.pdf>

Global Witness, 1998. *Going Places.... Cambodia's Future on the Move*. URL: <http://www.oneworld.org/globalwitness/reports/GoingPlaces.htm>

Global Witness, 2001. *The Credibility Gap - And the Need to Bridge It*. Global Witness Ltd., London, UK.

Greenpeace 1999, *Buying Destruction*. www.greenpeace.org.

Greenpeace, 2000. *Illegal Logging in Russia- Summary of Report "Illegal Forest Felling Activities in Russia"*. July. www.greenpeace.org/~forests/resources/forestRussia_july00.htm

Greenpeace, April 2000. *Against the Law: The G-8 and the Illegal Timber Trade*.

Greenpeace, July 2000. *As G-8 Foreign Ministers Talk, Greenpeace Continues to Take Action*. <http://www.greenpeace.org/pressreleases/forests/2000jul12.html>

IUCN International, WWF International, and Netherlands Committee for IUCN, 1999. *Metals from the Forests. Mining and Forest Degradation*. Report for the Intergovernmental panel on Forests Intersessional Meeting on Underlying Causes of Forest Loss and Degradation.

Johnston, M. and A Doig, 1999. *Different Views on Good Government and Sustainable Anticorruption Strategies*. In: *Curbing Corruption. Towards a Model for Building National Integrity* by R. Stapenhurst and S.J. Kpundeh (editors) EDI Development Studies, World Bank, Washington DC, USA.

Judd, N. 2001. *Stumpage System Betrays B.C. Forest's True Worth*. ENS January 30.

Karsenty, Alain. 2000. *Economic Instruments for Tropical Forests - The Congo Basin Case*", IIED/CIRAD/CIFOR, 2000. A volume in the "Instruments for sustainable private sector forestry" series, managed by the IIED (London).

Kaufmann, D. 1997. *Corruption: the Facts*. Foreign Policy, No. 107, Summer.

Kaufmann, D., A. Kraay and P. Zoido-Lobaton, 1999. *Governance Matters*. Policy Research Working Paper 2196, The World Bank, Washington DC. USA.

Kaufmann, D. and S-J.Wei, 2000. *Does "Grease Money" Speed up the Wheels of Commerce?* IMF Working Paper, WP/00/64. Washington DC, USA

Latynina, Y. 2001 *The Complex Battle Against Corruption*. The Moscow Times, Jan 24.

Mabel, M., 2000. *The Flexible Domestic State: Transformation and Political Economic Control in the Khabarovsk Krai Forest Sector*. Interim Report IR-00-037, International Institute for Applied Systems Analysis, Laxenburg, Austria.

Mahar, D. and R. Schneider, 1994. *Incentives for Tropical Deforestation. Some Examples from Latin America*. In: Brown, K. and D. Pearce (eds) *The Causes of Tropical Deforestation*, m159-171. UCL Press, London, UK.

Magrath, W. and R. Grandalski, 2000. *Forest Law Enforcement. Policies Strategies and Technologies*.

Marshall, G. 1990. *The Barnett Report, A Summary of the Report of the Commission of Inquiry into Aspects of the Timber Industry in Papua New Guinea*, The Asia Pacific Action Group, Hobart, Tasmania.

Marshall, N.T. and M. Jenkins, 1994. *Hard Times for Hardwoods: Indigenous Timber and the Timber Trade in Kenya*. TRAFFIC East/Southern Africa, Cambridge, UK.

- Martin, C. 1996. *Transnational Loggers Threaten Africa's Forests*. *Arborvitae*, 4:12.
- Medetsky, A. 2000. *Illegal Logging Biz Grows in Russia* AP, Vladivostok, Russia, 5th July.
- Miranda, M. et al. 1998. *All that Glitters is not Gold*. Forest Frontier Initiative, World Resources Institute, Washington DC
- Newell, J. A. Lebedev, D. Gordon. 2000. *Plundering Russia's Far Eastern Taiga. Illegal Logging, Corruption and Trade*. Friends of the Earth Japan. www.foejapan.org
- OECD, 2000. *21 Country Reports on the Implementation of the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions and the 1997 Revised Recommendations*. Press release, OECD 27 June.
- Ottawa House of Commons, 1998. *Enforcing Canada's Pollution Laws: The Public Must Come First* www.parl.gc.ca/InfocomDoc/36/1/ENSU/Sutudies/Reports/ensurp03-e.htm
- Plan Estratégico, 1996. Instituto de Investigación de Recursos Alexander von Humboldt, quoted in Departamento de Planeación, Política Nacional de Biodiversidad, undated.
- Republic of the Philippines, 2000. *3.017 Million pesos worth of illegal logs seized in DENR's sustained anti-illegal logging drive*. Press release. Manila Philippines.
- Roper, J.M., 2000. *Whose Territory is it? Resource Contestation and Organizational Chaos in Bolivia Multiethnic Indigenous Territory*. Paper prepared for the 2000 Meeting of the Latin American Studies Association, March 1-18, Miami, USA.
- Rose-Ackerman, S. 1996. *Redesigning the State to Fight Corruption: Transparency, Competition, and Privatization*. Viewpoint 75 (April).
- Savet, E. 2000. *Country Paper on Forest Law Enforcement in Cambodia*. Paper for the Seminar on Control of Illegal Logging in East Asia, Jakarta, Indonesia, August 28-29.
- Schneider, R. 1995. *Government and the Economy on the Amazon Frontier*. World Bank, Washington DC, USA
- Scotland, N., 2000 *Indonesia Country Paper on Illegal Logging*. Paper Prepared for the World Bank-WWF Workshop on Control of Illegal Logging in East Asia, 28 August, Jakarta, Indonesia.
- Seymour, F. and N. Dubash, 2000. *The Right Conditions. The World Bank, Structural Adjustment and Forest Policy Reform*. World Resources Institute, Washington DC, USA.
- Shleifer, A. and R.W. Vishney, 1993. *Corruption*. *Quarterly Journal of Economics* CVIII (3).
- Shulyakovskaya, N., 2000. *Wood Wars: Corruption Threatens Welfare of Siberia*. St. Petersburg Times, Feb. 16.

Sierra Legal Defence Fund and Wildlands League, 2000. *Grounds for Concern. An Audit of Compliance with Ontario Forest protection Rules Algonquin Park and the Magpie Forests*. Toronto, Canada.

Sizer, N. 1997. *Practical Measures for Promoting Integrity and Curbing Corruption in the Forest Sector*. Paper prepared for the World Commission on Forests and Sustainable Development

Sizer, N. and D. Plouvier, 2000. *Increased Investment and Trade by Transnational Logging Companies in Africa, the Caribbean and the Pacific*. A joint report by the WWF-Belgium, the World Resources Institute and the WWF-International.

SKEPHI, 1993. *Timber Stealing in Protected Forests*. Setiakawan, Vol 11, 30-34.

Smith, K. 1996. *The Evolution of Policy Into Practices. A Case Study of Ghana's Forest Policy: the Interim Measures to Control Illegal Timber Harvesting Outside Forest Reserves*. African Forestry Policy Forum, Nairobi, August 29th-30th.

Solberg, B. and K. Rykowski, 2000. *Institutional and Legal Framework for Forest Policies in ECA Region and Selected OECD Countries. A Comparative Analysis*. The World Bank. Forest Policy Review and Strategy Development. Analytical Studies, Issues Paper. Washington DC. USA.

Southgate, D, 1998. *Tropical Forest Conservation: an Economic Assessment of the Alternatives in Latin America*. Oxford University Press, New York, USA.

Stiglitz, J. 1998. *Redefining the Role of the State: What Should it Do? And How Should These Decisions be Made?* Paper for the Tenth Anniversary of the MITI Research Institute, Tokio, Japan.

Superintendencia Forestal, 2000. *VII Audiencia Pública Nacional. Informe Annual 1999*. Santa Cruz, Bolivia.

Tanzi, V. 1998. *Corruption Around the World: Causes, Consequences, Scope and Cures*. International Monetary Fund, Staff Papers, Vol. 45:4. December. Washington DC, USA.

The Economist, 2000. *Asia: the Fight Against Illegal Loggers*. London, UK. April 3.

Thomas, V. et al. 2000. *The Quality of Growth*. Oxford University Press, New York, USA.

Transparency International, 1996. *National Integrity Systems: The TI Sourcebook*. Berlin.

UN, 2001. *Report of the Panel of Experts on the Illegal Exploitation of Natural Resources and Other Forms of Wealth of the Democratic Republic of the Congo*. United Nations, Report to the Security Council, S/2001/357, New York, USA.

UNDP, 1999. *Monitoring Cambodian Forestry to Improve Forest Management*. Project of the Royal Government of Cambodia. United Nations Development Programme.

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*. August 12. Brasilia, Brazil.

WGNRM, 2001. *Working Group on Natural resources Management. Meeting Minutes*. Cambodia.

World Bank, 1997. *Helping Countries to Combat Corruption. The Role of the World Bank*. Washington DC, USA.

World Bank, 1997a. *The State in a Changing World*. World Development Report. Washington DC, USA. <http://www.worldbank.org/html/extpb/wdr97pa.htm>

World Bank, 1998. *New Frontiers in Diagnosing and Combating Corruption*. PREM Notes, Public Sector, Number 7, October. Washington DC, USA.

World Bank 1999. *Cambodia Public Expenditure Review: Enhancing the Effectiveness of Public Expenditure*. Washington DC, USA.

World Bank, 2000. *Cambodia Governance and Corruption Diagnostic: Evidence from Citizen, Enterprise and Public Official Surveys*. Washington DC. USA.

World Bank, 2000a. *A Review of the World Bank's 1991 Forest Strategy and its Implementation*. Washington DC, USA.

World Commission on Forests and Sustainable Development, 1999. *Our Forests Our Future*. Cambridge University Press, Cambridge, UK.

World Rainforest Movement and Forest Monitor, 1998. *High Stakes. The Need to Control Transnational Logging Companies: A Malaysian Case Study*. www.forestmonitor.org/reports/highstakes/title.htm

World Resources Institute, 1998. *Logging Burma's Frontier Forests*. Washington DC, USA.

World Resources Institute, 2000. *An Overview of Logging in Cameroon*. Global Forest Watch, Washington DC, USA.

World Resources Institute, 2000a. *Trial by Fire; Forest Fires and Forestry Policy in Indonesia's Era of Crisis and Reform*. Washington DC, USA.

World Resources Institute, 2000b. *Canada's Forests and a Crossroads; An Assessment in the Year 2000*. www.wri.org/gfw/canada.html.

WRM, July 2000. *Guatemala: Actions to Defend Natural Reserves Against Oil Exploitation*. World Rainforest Movement, Bulletin 36.

WWF, 1999. *Cameroon Forest Summit. Briefing Report on the Results of the Yaoundé Summit*. www.panda.org/forestsummit/briefsumm.html

WWF undated. *Forest for Life Campaign*. Gland, Switzerland.

WWF, April 2000. *New Hope for the Amazon* WWF Press Release, 11 April 2000

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