

Law, Technology and the Environment in natural resource management: Forestry and illegal logging*

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INTRODUCTION

In an ideal world there would be the combined application of law and technology leading to the fair and sustainable removal of the planet's natural resources. This ideal world is far from the realities of today's uncertain world and there are numerous examples of conflicts involving natural resources: for example, diamonds in Sierra Leone and The People's Republic of Congo, gold in Brazil and timber harvesting in Indonesia. These conflicts lead to a number of outcomes, some of which include social injustices, ecological degradation and economic impacts. The application of law together with the technology transfer, which combines the sharing of expertise and assets, can play a pivotal role in resolving these issues, helping to turn them from conflicts to potential win-win situations.

Illegal logging and associated trade undermines global governance: a topical issue post 11 September 2001 events. It also undermines efforts by the international community to ensure sustainable forest management – why invest in the necessary management changes if a competitor can undercut you by trading illegally or legally but with illegal timber? Illegal logging impacts on some of the world's most vulnerable and threatened forests. Many of these forests provide people with local and global services such as maintenance of local climate, provision of potable water, food and shelter, and biodiversity. For these reasons, amongst others, governments, the private sector and NGOs (representing both environmental and social groups) realize the need to take action. The range and the application of actions are the subject of many debates.

This paper will review the current problems within forestry and explores both public and private sector initiatives to address illegal logging and associated trade. It will consider the role of technology and technology transfer within these initiatives and how engagement and dialogue can liberate knowledge to enable mutual identification of risk leading to action – the pre-requisite for good governance. It concludes by describing Article 13's guide to innovation delivered through corporate social responsibility for European companies engaged in this sector.

The timber industry and international trade – a brief review

Forests provide a wide range of services to humans, including wood products, recreational opportunities and ecosystems services. Consumption of the main forest products has grown by more than 50% since 1970. Approximately half of the wood products harvested for human use worldwide are used for fuelwood, about 90% of which was produced and consumed in developing

countries. The other half is for industrial purposes such as building materials, furniture, or paper products. To meet these growing demands global industrial roundwood production is forecast to grow by 70% between 1998 and 2020 (FAO 2000 and 2001, OECD 2001).

The forestry industry is a major global sector; gross production accounted for \$160 billion worldwide in 1998 (of which \$105 billion was in OECD countries), representing 0.4% of value-added in the economy; this is projected to grow to \$299 billion by 2020 (OECD 2001). The sector has become increasingly globalised, with ownership of forests and processing plants, concession rights, and management contracts (e.g. for harvesting) increasingly held by foreign companies. Southern transnational corporations, mainly based in southeast and east Asia, are increasingly important participants in the market.

Why is there illegal logging?

First, it is useful to define what we mean by illegal logging (see Box 1). Illegal logging occurs like all other forms of crime, as it is profitable. The monetary gains are worth the risks involved. The problems of forest law enforcement and governance are most common in developing countries where resources are limited, international companies which offer investment are proportionately more powerful, and civil society is weaker. Some estimates suggest that the illegal trade may comprise over a tenth of a total global timber trade worth more than \$150 billion a year (OECD 2001).

Box 1: Defining illegal logging:

Illegal logging takes place when timber is harvested, transported, bought or sold in violation of national laws. The harvesting procedure itself may be illegal, including corrupt means to gain access to forests, extraction without permission or from a protected area, cutting of protected species or extraction of timber in excess of agreed limits. Illegalities may also occur during transport, including illegal processing and export, mis-declaration to customs, and avoidance of taxes and other charges. Examples of these illegalities are reviewed by Contreras-Hermosilla (2001)

The very nature of international environmental crime makes the scale and value of the illegal trade in timber difficult to estimate. Crime within the forest sector is widespread with illegal activities been uncovered whenever and wherever authorities have tried to find them. The World Bank's 1999 review of its global forest policy observed, 'countries with tropical moist forest have continued to log on a massive scale, often illegally and unsustainably. In many countries, illegal logging is similar in size to legal production. In others, it exceeds legal logging by a substantial margin ... poor governance, corruption, and political alliances between parts of the private sector

and ruling elites combined with minimal enforcement capacity at local and regional levels, all played a part' (World Bank 1999).

However, illegal logging is not confined to developing countries. Within Europe there are incidences from Estonia, Latvia, Poland and Scandinavia (Toyne *et al.* 2002). The problem also occurs in Canada and Russia, two of the world's largest producers and exporters (Contreras-Hermosilla 2001, FOE & PERC 200, RIIA 2001, 2002, Toyne *et al.* 2002).

Why is illegal logging allowed to happen?

There are a number of conditions that allow illegal logging and the illegal trade of wood-based products to occur. What follows does not address the underlying causes that may force an individual to steal timber but looks at conditions that allow organised crime in the forest sector. They are best considered by dividing into issues within timber producing countries and within timber consuming countries.

Within timber producing countries:

Lack of legislation

An immediate problem facing any attempt to control the trade in illegal timber and wood products lies in defining what constitutes illegality. If, as is the case of many countries, the forestry legislation is not clear or is inadequate then there is an immediate problem in controlling the illegal trade (see for example White and Case 1999). An overview of Indonesian forest governance revealed inconsistencies between laws and between government department decrees (Suparna 2001).

In many countries there may simply be no clear definition of what is and is not illegal. The definition of what is legal and what is not may depend on the current administration. Many practices may be legal under existing laws but are in-fact detrimental to the environment and local communities, e.g. the allocation of concessions (see governance section below). This highlights the virtual impossibility of implementing any means of controlling the trade in illegal timber without, in most producer countries, simultaneous reform of the legal and regulatory systems. This makes reforms of laws that prohibit sustainability essential. Current laws and the actions of regulators should not under-mine, however laws can be revised and stakeholder dialogue to agree the interim measures of legality prior to legal reform will be necessary.

Lack of law enforcement

Existing forest legislation may be socially fair and just, and so provide the basis by which to produce and trade in legal timber but if those laws are not enforced conditions for illegal acts are created. However, there are examples that if laws are enforced then illegal acts can be reduced and sustainable practices promoted as in Bolivia (Lyll 2002).

Lack of governance

Poor governance can facilitate and in some cases drive illegal acts – indeed the allocation of timber concessions has often been used as a mechanism to provide rewards to allies and engender patronage. Timber companies protected by networks of influential people can evade national regulations with relative impunity. State forestry institutions may be subject to regulatory capture, becoming clients of concession-holding industrial interests of the ruling elite, exercising their powers as a form of private property rather than as a public service.

Governance problems are most common in developing countries where resources are limited, civil society is weaker and international companies relatively rich and powerful.

Lack of technology transfer

The ownership of assets – knowledge, forests, timber and non-timber forest products has become an area of conflict. Ownership and user-ship are often separated and plans for these ‘assets’ made in isolation of considerations about the wider picture: the users, further business and generations, national economies etc. The wide range of stakeholders carry out their activities in isolation of each other or the ultimate supply chain they may be providing for.

Within timber consuming countries:

Lack of legislation

There is a wide array of existing laws and regulations at EU level and within member states that could be effective in controlling the trade in illegal timber such as laws on bribery and corruption, stolen goods (see review by FERN & RIIA 2002). However there is no EU legislation that bans the entry of illegally produced timber into the EU. Enforcement of existing and new laws would be by a range of government agencies. In many cases there is need for better enforcement now, for this to happen investment in improving the capacity of these agencies is required.

Lack of corporate accountability

How many companies buying or selling timber and wood based products have enforceable purchasing policies that ensure the timber they buy is legal? If they do, are they actually being

implemented? Businesses in North America and Europe are becoming increasingly engaged in corporate social responsibility, which is essentially a business response to the sustainable development agenda. However, there is progress to be made as the implementation of policies addressing illegality will require an array of tools such as management information systems, incentives and sanctions. A response to this is the development of code of conducts and in some cases revised procurement policies by trade associations: For example the UK's Timber Trade's Federation Code of Conduct (TTF 2001). Such codes are generally voluntary and are un-tested as to whether companies take any notice.

Lack of legal verification and monitoring systems

Detailed tracking of the production and movement of timber and wood products is necessary if legality of the product is to be guaranteed. There exists some voluntary schemes, including product labelling and certification. Some schemes assure consumers that the products have been produced in accordance with a set of criteria and indicators of sustainable timber production, for example the Forest Stewardship Council. Whilst others, such as the European Eco-Management and Audit Scheme, or ISO 14000, confirm an organisation's or company's ability to manage all aspects of its business in an environmentally sound manner. However, despite these schemes there is poor use and global coverage of them. In Western Europe, where market penetration is highest, certified wood products now account for 5% of the market (Worldforest.com 2001 cited in RIIA 2002 p. 18)

Within both producing and consuming countries:

There are two general areas where a lack of action helps facilitate illegal logging. First the lack of dialogue or engagement mechanisms: Without a forum in which to share and discuss issues, identify risks and opportunities for win-win situations, the unsustainability of an industry is being promoted. Secondly, the use of appropriate technology. There is a range of different technologies available including log tagging with micro-chip implants or DNA chips (World Bank and WWF 2002). When and how to use such technology, and equally important, the source of the necessary investment for the application of technology could be discussed if various forums involving stakeholders in both producing and consumer countries were available.

Underlying this lack of action has been a clear lack of political will in the past. The reasons for this are complicated and involve a combination of issues including bribery and corruption, vested economic interests and political funding systems amongst others.

Approaches to combating illegal logging

This section reviews a selection of initiatives that are currently in operation.

Inter-governmental approaches - regional ministerial conferences

The issues of forest law enforcement and governance (FLEG) are currently being discussed regionally. Participants representing governments, trade and civil society groups meet in plenary and in working groups to share knowledge and address issues around FLEG so as to identify priorities and develop recommendations for ministerial declarations. The first FLEG initiative was the Sept 2001 Asia FLEG Ministerial Conference which resulted in a ministerial declaration (Worldbank 2003A) and the formation of a task force. The declaration covered issues to be addressed at the national level: political and legislative actions; decentralization; institution and capacity building; concession policy; conservation and protected areas; public awareness; and transparency and participation. At the regional and international levels, the proposed actions related to: information and expertise sharing; trade and customs; and research.

An African FLEG Ministerial Conference is provisionally planned for June 2003 in Cameroon. The objective of the meeting is “to galvanise international and multi-stakeholder commitment at high political levels to strengthen capacity for law enforcement in Africa, in particular with regard to illegal logging and associated trade. The conference is supported by the European Commission and the governments of France, Switzerland, UK, and USA (Worldbank 2003B).

In addition to the two FLEG processes, the European Commission launched a similar process and incorporated trade in its discussions held at a workshop in April 2002. The resulting action plan is in review and the main recommendation is new EU legislation to ban the import of illegal produced timber into the EU. An EU policy paper is due out in mid-2003 (A.Roby pers comm.).

Elsewhere, Japan, Indonesia with other partners announced the Asian Forest Partnership at the World Summit for Sustainable Development (see Type II partnerships for forests on www.johannesburgsummit.org).

Government initiatives:

There are several governments of timber importing nations involved in various initiatives. In general, they involve domestic actions such as legislation changes, voluntary procurement policies, as well as assisting actions in timber producing countries through aid and technical support. Some of these actions have been reviewed together with an analysis of options open to governments (RIIA 2002).

The governments of the United Kingdom and the USA have been the most active in pursuing solutions to these problems (see below). Other governments, in particular though of China, Japan, Indonesia and Malaysia have had discussions on how best to improve cooperation on the issue of illegal trade.

UK Government initiatives:

- *Public procurement*

“Illegal logging damages both the environment and society. It reduces Government revenues, destroys the basis of poor people’s livelihoods and in some cases even fuels armed conflict. It is counterproductive to help enforce laws abroad without striving to ensure that illegally produced timber is not consumed at home....the Government are major purchasers of both timber and timber products, and have a responsibility to ensure their own house is in order”.

Rt. Hon Michael Meacher, Minister for the Environment, July 2000.

The above statement was the precursor to the announcement of the UK Government’s public timber procurement policy, which stated that the UK government would actively seek to buy from sustainable and legal sources. However, two years later the UK Government were criticised by the House of Commons Environmental Audit Committee (EAC) for their apparent lack of action in turning these fine words into action (EAC 2002). Greenpeace in April 2002 exposed this lack of application of policy when they occupied Cabinet Offices in Whitehall when it was suspected, quite rightly that some of the timber used did not meet the specification of the contract (EAC 2002).

- *MOU between Indonesia and UK*

In April 2002 the Government of Indonesia and the Government of the U.K. announced a voluntary bi-lateral agreement whereby both countries commit reforming legislation and developing systems to prevent the harvesting, export and trade in illegally timber. The UK has undertaken to provide technical and financial assistance to design and implement these systems in Indonesia.

Guiding principles include:

- identification of reform of forest legislation covering harvesting, trade and export
- multi-stakeholder dialogue involving civil society from planning to allocation and management of concessions

- both countries should support verification of legal compliance based on independently verified chain of custody
- joint development of systems for exchange and collection of data between both countries – to include prior notification of shipments and harmonization of means of identification of shipments
- develop effective collaboration between enforcement agencies of both customs
- application of procurement policies by UK
- both governments should encourage action by private industry to reduce the volume of illegal timber traded between the two countries.

- *UK Forest Partnership for Action*

This was a new partnership within the UK between government, business and environmental groups to promote sustainable development in the forest sector, both at home and internationally. It was launched at the World Summit in Johannesburg 2002 and covers five general areas; forest certification, illegal logging, timber procurement, promotion and forest restoration and protection (Sustainable Development 2003).

Box 2: Government of USA initiatives

The President's Initiative against Illegal Logging

The Government of the USA announced the President's initiative in 2002. It comprises of actions in four areas.

- Harnessing technologies – help develop integrated monitoring systems and build in-country capacity to monitor forest activity and forest law compliance by improved mapping/monitoring, information sharing and training/knowledge transfer
- Empowering communities – foster conditions and incentives for local communities to reduce illegal logging and conserve forests and wildlife
- Energizing market forces – promote good business practice, transparent markets and legal trade
- Strengthening the rule of law - aimed at addressing concerns of transparency, corruption and legal/institutional barriers to strengthen rule of law

Congo Basin Forest Partnership

This partnership was announced at the World Summit for Sustainable Development in September 2002 by Colin Powell, US secretary of State: "The partnership aims to combat illegal logging and other unsustainable practices, through implementing programmes to improve forest management and give people a stake in the preservation of the forest, by providing them with sustainable forest based livelihoods". The partnership will work in eleven key landscapes in six central African countries: Cameroon, Central African Republic, the Democratic Republic of the Congo, Equatorial Guinea, Gabon and the Republic of Congo.

The partnership is with a range of stakeholders including governments, the private sector, the scientific community, conservation groups and the organisations of civil society. The first meeting to start the process of implementation was in Paris in January 2003. Prior to that the US announced it intends to invest \$53 million over 2002 – 2005 to realise the partnership. Funding is also available from the International Timber Trade Organisation, the European Union and the government of France.

Private sector initiatives:

In general the forest sector has been waiting for governments to take the lead and then respond accordingly. Governments in response have noted the need for public – private partnerships recognising that this problem can not be solved by actions from just one group of decision-makers. Some companies in the forest sector, notably the larger companies with more public profile have reacted to the issues of illegal logging and associated trade. Some of them did so in the mid 1990s due to concerns that they did not know where they were sourcing their timber from and the last thing they wanted was an environmental pressure group revealing that fact. Listed below is a selection of approaches taken by retailers or by trade associations.

Retailers

IKEA are a company that uses wood in a wide range of the products that they sell. IKEA have a wide range of policies in place to reduce their impact on natural resources (IKEA 2003). To ensure that the wood raw materials used in their products originate from independently verified well-managed forests they have entered into a partnership with WWF (WWF and IKEA 2002). One aspect of the partnership involves funding the development of “producer groups” which are co-operatives of timber companies that all commit to harvesting timber legally and to a series of actions that will lead to improvements in forest management leading to certification. These producer groups are in key areas of countries that supply IKEA such as China and Russia. See EAC Vol 2 page 86 for an overview of producers groups.

B & Q, the chain of do-it-yourself stores in the UK owned by Kingfishers plc, were one of the first to recognise the dangers in not have adequate verification of where their timber came from (B&Q 2000). That was in the early 1990s. It was not just the legality issue but the issue of sustainability that was important and led them to being one of the founder members of the WWF 95+ Group. This is a group of companies that are committed to purchasing ever-increasing volumes of their wood from well-managed forests. The 95 + Group launched in 1991 was the first of now many buyers groups whose network comprises over 800 companies.

Trade Associations

All members of the UK's Timber Trade Federation (TFF) – the UK's timber trade association - are required to adopt and comply with the TFF's Code of Conduct, written in 2001 and launched in 2002 (TFF 2001). The code is set up to provide a generic set of steps to ensure companies are taking all possible actions to minimize their impact on the environment and source their timber

and timber products responsibly. There is an environmental component to the code commits members to working with suppliers and other stakeholders towards the elimination of illegal logging practices. There is a procedure to deal with complaints arising from the code, but it is too early to say how well the code is working.

The Interafrican Forest Industries Association (IFIA) have developed a code of conduct for its members in a response to the recognition that despite large amounts of investments from government aid agencies to the forestry sector within the central African region illegal logging, illegal trade and unsustainable harvesting of timber is rife. The code is directed at forest operators in humid west Africa and the Congo Basin forests. The IFIA code of conduct covers four parts: forest concession planning, regional practices for valuing production forests, local timber processing and lastly, cooperation with all operators and improvement of the standards of living of local communities (IFIA 2001). Under each part the signatory to the code commits to a series of actions aimed at improving forest management.

Discussion

The majority of governments regard illegal logging and the trade in illegal timber products as an issue of law enforcement. However, some governments, notably the Government of the UK, also recognise that the problem is more complex and involves political and social issues such as land tenure rights as well as forestry issues such as sustainable harvesting and the role of certification. This is the primary motivation for a suite of actions that includes voluntary public procurement policies, MOU bi-lateral agreements which include financial aid and technical support to address some of these issues, and support to the regional FLEG processes.

In general, governments have the opportunity to provide the legal framework and enforcement mechanism so that timber production is legal. They can also provide the enabling conditions so as the application of law allows the private sector to provide the type of product required by the market. These requirements are changing.

The implications of change are that more governments will need to ensure that their purchasing of timber is not illegal and that the products they buy have been sourced and produced in a responsible manner. Within Europe, the UK is set to implement its procurement policy at the end of the year and other EU countries such as Denmark, France and Germany are considering similar policies. This policy will only be implemented if the private sector – who are the delivery mechanism – can provide the goods that meet their specifications. The private sector, that is, the logging companies, the sawmills, the transporters, the manufacturers and the retailers will need

to respond to the new legislation, and new voluntary public procurement policies. If not, they will lose market access, and be vulnerable to reputation damaging campaigns. An example of this is the change in policies of banks in Holland who were found to be investing in forest clearance for the unsustainable production of palm oil. As result of national campaigns they now have in place policies (ABN AMRO 2001).

To respond to the risk of reputation and market loss the private sector will need to invest in supply chain technology and management systems. This investment makes good business sense as it ensures that they can supply the specified product to satisfy a government or retailers contract. If done well it should improve efficiency in the business and help build long-term relationships with suppliers, and generate other spin-offs such as staff retention and motivation. It will help create a sustainable business and have the added value of stimulating other forest operators to improve their practices to compete.

The role of dialogue and engagement plays an important part in delivering the solutions. In the context of good governance only by sharing the agenda can governments and industry truly understand the risks in the industry and to the long-term sustainability of the industry. By building an agenda for action and change requirements for win-win actions can be identified.

The way in which these reforms will occur is crucial. The engagement of all stakeholders and the process of transfer of technology, backed up by political will is key. Article 13 experience in setting up and enabling the dialogue between governments, growers, fair-trade organizations, processors, retailers and consumers through a commercial branded product, demonstrates a new way of doing business that can occur if parties 'share the agenda'. These dialogues may not be easy but they focus on action and a way of making these issues practical. They provide the way to balance the differing needs of the various stakeholders. They do that by enabling technology transfer: access to markets and commercial expertise to disadvantaged growers and communities and access to new consumer opportunities for the fair-trade movement and commercial partners. Those companies that respond through innovation to address these issues will undoubtedly have a more long-term future than those will that continue to deny the problem exists.

Finally, there is also a bigger question that needs to be answered. Will addressing the issue of illegal logging and associated trade lead to a more responsible use of forest resources leading ultimately to well-managed forests and ecological justice? Article 13 would agree that it is a step in the right direction but would challenge governments and the private sector to recognise that

sustainability should be the end goal. Therefore measures developed now should provide the flexibility to allow progressive governments and companies to achieve that end goal, whilst not penalizing those that are making genuine improvements and for whom sustainability is still a long way off.

Article 13's recommendations

Governments in timber producing countries

Legislative reforms including; the creation of clear definitions of illegal activities; addressing corrupt or improper allocation of concessions; establishing significant deterrent sanctions, specifying enforcement responsibilities at every stage in the timber commodity chain, and accredit auditors.

Governments in consumer countries

Governments should learn from the experiences of the UK Government and develop procurement policies that will address their issues. To underpin procurement policies it is recommended that governments should continue to explore voluntary bi-lateral agreements, and provide technical aid and support for their implementation, this would include investment in independent verification of the chain of custody. There also needs to be better communication of policies amongst government departments so procurement officers and all stakeholders are aware of the new policies.

Private sector

Retailers need to invest in independent third party verification of the supply chain. Purchasing from buyers groups that are independently monitored would provide this assurance. The buyers and importers need the same assurances as retailers they should invest in improving the various mechanisms available for tracing the movement of logs and wood-based products. For purchasing policies to be effective businesses need to take more responsibility and embed it within the culture of the company. For this to happen there needs to be good management from the top of the company i.e. board members through to executive officers.

With this in mind Article 13 offers 10 steps for action for stakeholders in Europe (see box below). This process has been developed from our experiences gained through planning and facilitating multi-stakeholder dialogue processes.

Article13' s ten point plan:

1. Map the stakeholders of the industry
2. Map all their known and likely objectives (use proxy's if necessary)
3. Pull together a core group to represent these stakeholders
4. Enable that group to confirm the issues, the risks to the industry and all stakeholders
5. Ask that group to help build a process and agenda for action (areas for action could include; capacity building, education, finance, law, application and harnessing of technology)
6. Set objectives for the group relating to the agenda for action and the promotion of legal and sustainable trade
7. Build measures of success
8. Industry thought leaders to pilot the resultant actions to deliver innovation
9. Build a framework for governance in the industry (see also Roby 2002)
10. Communicate the framework and initial successes

The ten-point plan outlines a process that starts with first identifying the stakeholders – who are the key people that need to be involved and what are the issues? From this larger consultation a smaller group of representative stakeholders (a core group) are selected – they are usually self-selecting. The core group meets to confirm the issues e.g. what barriers do they face? What are the opportunities? What would success “look” like to them and others? The process looks simple but the reality is very different – achieving the widest possible participation can be difficult. However, it is very interesting as some surprising results are usually revealed as more often than not, people are not usually asked to contribute, nor are they used to talking to the other stakeholders.

The core group then confirms and contributes to the process, the agenda and identifies who else should be involved. They have ownership of the process and can decide where and how best to focus their attentions e.g. concentrating on capacity building, finance, the application of law and the harnessing of technology. They agree what the group can do and set targets with indicators to measure progress.

The resulting action plans are then championed and piloted by key members of the core group either by themselves or they promote them to others such as market leaders, champions of industry and key government personnel. Communications needs to occur throughout the whole process. It is really important to convey success especially after some actions have been piloted

as this builds confidence and stimulates more buy-in. It promotes a “yes we can do and you could too” attitude.

Article 13 have used this process to bring together a wide array of stakeholders to resolve issues in other sectors such as agriculture and pharmaceuticals and believe it could work to great effect in the forestry sector in Europe or elsewhere.

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References

ABN AMRO, 2001. ABN AMRO Risk Policies: Forestry and tree plantations. ABN AMRO, Holland.

B&Q, 2000. Revised timber buying policy for B&Q: Beyond 2000. August 2000. B&Q, Eastleigh, U.K.

Contreras-Hermosilla, A. 2001. *Forest law enforcement: an overview* (Paper for FLEG East Asia ministerial. Conference. Bali, Indonesia, September 2001).

Dykstra, D.P., Kuru, G., Taylor, R., Nussbaum, R., Magarth, W.B. and Story, J. 2002. Technologies for wood tracking: Verifying and monitoring the chain of custody and legal compliance in the timber industry. Environment and social Development East Asia and Pacific Region Discussion Paper. World Bank, Washington, DC, USA.

Bureau for Regional Oriental Campaigns, Friends of the Earth and Pacific Environment & Resources Centre, 2000. *Plundering Russia's Far Eastern Taiga: Illegal Logging, Corruption and Trade*. Friends of the Earth - Japan, Tokyo, Japan.

Environmental Audit Committee of the House of Commons, 2002. *Buying time for forests: timber trade and public procurement*. Sixth Report of Session 2001-02. Vol. 1 and 2. HMSO. Norwich, UK.

FERN & RIIA, 2002. *Controlling imports of illegal timber: options for Europe*. Brussels and London.

FAO, 2000. *Trade restrictions and their impacts on international trade in forest products*. FAO, Rome, Italy.

FAO, 2001. *State of the world's forests 2001*. FAO, Rome, Italy.

IFIA, 2001. Code of conduct for the sustainable management of forest concessions in Africa as proposed by IFIA to concession holders. IFIA, Paris, France.

IKEA, 2002. Environment (online). Available from:
http://www.ikea.co.uk/z_old_stuff/about_ikea_old/ethics/ethics.asp (Accessed: 06 January 2003)

Lyll, T. 2002. *Bolivia becomes world leader in FSC-certified tropical forest* (online). Available from: <http://www.panda.org/nes/prss/news.cfm?id=2814> (Accessed: 03 May 2002)

Suparna, N. 2001. *Forest governance and forest law enforcement in Indonesia*. (Paper for FLEG East Asia ministerial conference. Bali, Indonesia, September 2001).

RIIA, 2001. *Intergovernmental actions on illegal logging*. RIIA, London, UK.

RIIA, 2002. *Controlling the international trade in illegally logged timber and wood products*. RIIA, London, UK.

Roby, A. 2002. CSR in the UK Timber Trade, a project joint funded by DFID's Illegal Logging and Associated Trade Programme and the UK Timber Trade Federation.

Sustainable Development 2003. World Summit on Sustainable Development (WSSD) (online). Available from: <http://www.sustainable-development.gov.uk/wssd/wssd6.htm> (Accessed: 06 January 2003).

Timber Trade Federation. 2001. *Code of Conduct: the timber Trade federation Conduct Assurance Scheme*. TTF, London, UK.

Toyne, E.P., O'Brien, C. and Nelson, R. 2002. *The Timber footprint of the G8 and China: Making the Case for green procurement by government*. WWF, Godalming, UK.

World Bank. 1999. *Forest sector review*. World Bank, New York, USA.

World Bank 2003A. Website for Asian FLEG. East Asia Forest Law Enforcement and Governance Ministerial Conference (online) Available from:
<http://lnweb18.worldbank.org/ESSD/essdext.nsf/14DocByUnid/962B305C44866A7985256BF700556307?Opendocument> (Accessed: 06 January 2003).

World Bank 2003B. Africa Forest Law Enforcement and Governance Process (online) Available from:

<http://inweb18.worldbank.org/ESSD/essdext.nsf/14DocByUnid/56BBBD15FF947FE385256BF700553EF8?Opendocument> (Accessed: 06 January 2003)

White and Case. 1999. Report to senior officials of Royal Government of Cambodia and international donors. *Cited* in RIIA 2001.

WWF and IKEA. 2002. WWF and IKEA Co-operation on forests projects: A partnership to promote responsible forestry. WWF and Ikea, Gland, Switzerland and Helsingborg, Sweden.