

2. Nature of Illegal Logging and Trade

This section reviews the information on the nature of illegal logging and trade in countries that are generally claimed to be significant suppliers of illegal wood. This information formed the basis for assessing the extent of illegal logging, and the significance of illegal wood in a country's wood supply. Such an assessment is complicated by differences in policies and institutions that govern forest utilization, and hence establishing the rules to apply in determining whether specific logging activities and wood products trade are legal. To overcome this difficulty some observers use the term 'suspicious' to denote illegal supply, to indicate that what constitutes an illegal activity has not been universally agreed.

Assessments made by non-governmental organisations include consideration of issues such as the process by which logging concessions have been awarded, the degree of corruption, whether forests are managed "sustainably", compliance with a country's laws, policies and procedures, and whether taxes, royalties and fees have been levied at a fair or market rate. Governmental organisations, on the other hand, tend to focus more on wood smuggling and the extent to which wood can be traced to an officially sanctioned logging operation. The point at which activities become illegal tends to be a reflection of the philosophy of the organization concerned (Miller et al. 2006). These differences in approach could explain some of the variation found in assessments of illegal logging.

Seneca Creek (2004) defined 'illegal' harvests as:

- i. harvesting without authority in designated parks or forest reserves,
- ii. harvesting without authorization or in excess of concession permit limits,
- iii. failing to report harvesting activity to avoid royalty payments or taxes, and
- iv. violating international trading rules and agreements.

While this definition does not encompass the full range of issues considered by non-governmental organisations, it does cover the concerns raised by the international community. For the purposes of this study, this definition provides an appropriate perspective with which to evaluate the literature on illegal logging.

The Russia Federation is the most important wood supplier, in terms of both quantity, and its effect on the New Zealand forest sector. Russia's logs directly compete with radiata pine in China, Japan and South Korea. A significant proportion of Russian harvests are also "suspicious". Other suppliers with high levels of suspicious logging, and that affect New Zealand, are Indonesia, Papua New Guinea, the Solomon Islands, and to a much lesser extent Malaysia.

2.1 Russian Federation

Prior to 1991, production of industrial roundwood in what is now the Russian Federation was over 200 million m³ per annum. Following the collapse of the Soviet Union, production declined to a low of 73 million m³ in 1996, before recovering to 140 million m³ by 2005 (FAO 2007). The level of illegal logging during the Soviet

era is unknown, but following the collapse of the old institutions, authorities and rules, illegal logging in Russia emerged as a major national and international issue.

The change in Russia's economic structure saw the decline of the large state owned forestry and logging firms, which were not able to compete in a market economy. The growth of small logging firms reduced control over the industry (Contreras-Hermosilla et al. 2007). It is suspected that most of the illegal logging is carried out by small to medium sized enterprises, and is predominant in the Northwest, Siberia and Far East regions of Russia (Seneca Creek 2004, Pye-Smith 2006).

There are four conditions that induce illegal logging in Russia (USDA 2006a):

- i. criminal activity (encouraged by the highly profitable illegal wood trade and strong demand from domestic and overseas markets)
- ii. economic crimes (poor living conditions in rural areas where people look to forests to help support their basic needs)
- iii. weak enforcement of forestry rules and regulations (use of outdated forest management plans, lack of environmental impact statements, inaccurate estimates of forest resources, and weak control of logging operations), and
- iv. incomplete and inaccurate documentation due to overly complicated administrative and custom requirements and high compliance costs (USDA 2006b).

Lack of co-ordination between Russian authorities that regulate forestry, transport and customs, and weak law enforcement provide significant opportunities for fraud. Russian authorities downplay the importance of criminal activity, but non-governmental organisations believe that criminal activity³, especially in the Far East represents the majority of illegal logging (WWF 2002, Sheingauz 2004).

Illegal traders sell logs at lower prices by avoiding costs associated with established rules and regulations. Lower log prices in turn stimulate demand for illegal logs (Seneca Creek 2004). A study of the Russian Far East timber sector by Sheingauz, et al. (2005) found that in 2005 state and federal taxes totaled US\$9.30/m³ of log. In addition employers were responsible for social payments of US\$3.00/m³. Finally exporters paid an export tax of 6.5 percent on the value of logs (Contreras-Hermosilla et al. 2007). Fees, taxes and other payments are, therefore, a significant cost to operations. Although exporters of illegally sourced logs cannot escape all payments as corrupt officials have to be bribed, they are able to avoid some of the compliance costs and offer logs at significantly reduced prices.

Forest management and control in Russia is hampered by inadequate funding of the *leskhoz*s; local authorities responsible for the management of forests. This has limited their ability to function and increased their susceptibility to corruption. Mid-level local Forest Service officials earn small wages, yet have considerable authority within their own territories to distribute forest lands for logging. Officials will grant rights or close their eyes to violations if paid to do so, sometimes not just to supplement their own wages, but to get additional funding for the *leskhoz*e (Sheingauz

³ According to Sheingauz (2004) activities that are punishable by Russia's criminal code.

2004). Other agencies having a role in ensuring compliance include customs officials who must combat the illegal timber trade (Hewitt 2006a).

Russian forest exports are predominantly softwood logs and sawnwood, which compete with New Zealand radiata pine. In China, Russian wood is used for temporary construction, as well as for mouldings, doors, and furniture. New Zealand log exporters therefore face significant competition from Russian logs exported into China. In Japan, Russian wood competes with radiata pine in plywood manufacture. In South Korea, Russian wood is used for pallets and wall stringers, while radiata is used mainly for temporary construction and plywood, and a lesser amount for packaging.

Estimated Rates of Illegal Logging in Production and Exports

Russia's vastness and the remoteness of much of its forest make it extremely difficult to identify the extent of illegal logging. A comparison of Russian trade statistics with statistics from importing countries is unhelpful, because of inaccuracies in the data and the estimated quantity of illegal logs that cross the border without being declared and "legalised" by Russia or the importing country.

Russian officials however admit that illegal logging has increased in recent times (Seneca Creek 2004). In 2004 the Russian Federal Forest Agency estimated that illegal logging was 5 percent to 10 percent of the total harvest (Bolshakov 2004). By 2006 the head of the Federal Forest Agency stated that the volume of illegal logging was 10 percent to 15 percent (approximately 19 million m³) (USDA 2006b). The European Union and China are Russia's two most important markets. The World Wildlife Fund estimated that in 2004, 27 percent of Russia's timber exports to the EU were from illegal sources. The percentages to China were thought to be higher (WWF 2005).

Seneca Creek (2004) estimated that 15 percent to 20 percent of the harvest was illegal. They believed that 25 percent of log exports were illegal, in particular from Siberia and the Far East to China where up to 40 percent of logs were believed to be illegally sourced⁴. More recently Contreras-Hermosilla et al (2007) citing an unspecified report by Blaser (ITTO), stated that between 20 percent and 40 percent of Russia's log exports were illegal. Hewitt (2006b) estimated that 30 percent to 60 percent of Russia's log exports to China were from illegal sources. This was equivalent to 5 to 10 million m³, out of the 17 million m³ exported in 2005.

Most of the reports indicate that 10 percent to 40 percent of Russia's harvest is illegal. The weight of evidence points to an actual rate that is closer to the lower end of this range. This study used a national average rate of 18 percent for the "most likely" scenario.

⁴ A rate of 25 percent would imply that in 2006 more than 5.5 million m³ of Russian logs exported to China were illegal, which was more than five times the quantity of radiata pine logs imported by China

Future Trends

Russia is a member of the Europe and North Asia Forest Law Enforcement and Governance Process (ENA FLEG). FLEG's objectives are to develop policies to eliminate illegal logging and illegal timber trade. Some efforts have already been made to curb illegal logging. In 2005, Russia implemented a National Plan against timber poaching, which was expected to reduce the illegal harvests by 20 percent to 30 percent over the first two years (USDA 2006b). So far no report has been published on the plan's success.

Some Russians believe that the issue of illegal logging will not be fully resolved until Russia has dealt with corruption and developed effective co-ordination between authorities responsible for forests and exports (Sheingauz et al. 2005).

Illegal logging has not yet threatened Russia's ability to manage its forests for sustainable timber production. However, over-harvesting of the more desirable species and accessible areas is evident (Nilsson 2002). A reduction of illegal harvests could result in a reduction in the availability of pine and spruce and an increase in larch, which has so far tended to be under utilised. Costs are likely to increase as more effective control forces harvesting out of the more accessible areas into more remote forests with higher roading and transport costs. In addition prices are likely to rise as log exporters pay all the required stumpage and leasing fees, and state and federal taxes. These trends could paradoxically lead to increased demand for illegally sourced, lower cost, logs (Seneca Creek 2004).

2.2 Indonesia

Until recently Indonesia dominated the world trade in plywood and the harvesting of tropical lowland rainforest. It remains significant in the Asia-Pacific wood products trade. Indonesia's competitive advantage was built on the quality of its forest resource, which consisted of some of the world's most extensive forests; accounting for 10 percent of the world's tropical forests, including complex tropical ecosystems (ITTO 2001) of significant importance to global climate and biodiversity. Forest degradation and deforestation, however, has been rapid; 1.3 million ha to 2.0 million ha per annum (Seneca Creek 2004; Tacconi et al 2004).

Illegal logging is considered a major contributor to deforestation, with Indonesia having one of the highest rates of illegal logging amongst ITTO producer countries. For this reason, Indonesia has received significant international attention on illegal logging and destructive forest practices (Seneca Creek 2004, WWF 2005, Tacconi et al 2004). The direct causes of illegal logging in Indonesia are identified as:

- i. wood processing capacity exceeds log supply
- ii. insufficient and poorly performing timber plantations
- iii. high profitability of illegal logging operations
- iv. institutional problems
- v. ineffective monitoring and law enforcement, and
- vi. rural poverty, unemployment and corruption.

Enforcement of timber concession obligations has been poor, with concession holders commonly over-cutting their concession areas, selling cutting rights to third parties in violation of the rules, and failing to reforest natural forests as required by the concession (Seneca Creek 2004).

Seneca Creek (2004) state that the main contributors to illegal logging are (i) local people and log brokers, often under protection of local security officials (police and army), (ii) district government officials who hand out felling licenses that are illegal under national law; and (iii) national forest management units, which log illegally. For such illicit activities to take place a pervasive complicity and apathy exists among many in the Indonesian wood products sector. Corruption is a continuing problem, and has worsened with decentralisation following the end of the Suharto government (Seneca Creek 2004). Indonesia scores consistently poorly on the Transparency International's Corruption Perception Index. In 2006 it scored 2.6 out of 10 points (Transparency International 2006).

The Indonesian government controls all logging activity through timber concessions in the Production Forests of Indonesia (HPH). Concessions are subject to a variety of regulations including; establishment of wood processing, submission of harvest plans, payment of reforestation fees and royalties, and ensuring that the harvested area is reforested. These regulations have been poorly enforced.

The Indonesian plywood industry suffers from overcapacity and low productivity (Fenton 1996, WWF 2005, Seneca Creek 2004, World Bank 2005). The annual allowable cut for the native forests is too high considering the downgraded condition of the forest. Formal arrangements for wood supply only cater to the export oriented wood processing industry, so that domestic needs are met by illegal logging. Despite the wood supply problems, pulp mill capacity has been expanding in recent years, possibly utilizing illegal wood from national parks and other areas without official licenses (Seneca Creek 2004).

An ITTO mission to Indonesia in 2001 (ITTO 2001) described a range of illegal logging activities; practices of cutting outside the prescribed intensity and size classes, cutting protected species, cutting in protected areas, cutting outside concession boundaries, unlicensed logging by small scale operators, under-declaration of harvest volumes (in terms of species classes and size classes), transfer pricing, and other means of royalty avoidance. Two types of illegal logging are described; (i) conversion of forests to oil palm plantations, disregarding land conversion licenses, and (ii) direct timber theft for commercial purposes including uncontrolled over-logging inside logging concessions, re-logging in expired concessions, and logging outside concession areas.

Assessments of illegal logging are extremely difficult given inadequacies in the statistical base for the Indonesian forests and wood processing industries (Fenton 1996, Seneca Creek 2004), official data being incomplete and inconsistent. Issues with official data include:

- i. roundwood production figures are for HPH or concession areas, not for all Indonesian forests (particularly the conversion clearing of forested land to other uses)

- ii. no reliable national statistics on the felling of HPH timber or other timber sources. As a consequence the Government of Indonesia does not provide official statistics on the level of the approved national harvest (Seneca Creek 2004)
- iii. only 40 percent to 60 percent of companies required to return national forestry statistics forms actually do so, with no penalty on companies that do not submit data (FAO 2002), and
- iv. there are large discrepancies between volumes officially exported from Indonesia and volumes reported by destination countries (GTIS 2007). There are also inconsistencies in statistical information produced by the different agencies/sources (ITTO 2001).

The official estimated harvest for production land (natural forests and plantations) for 2004 (the latest data available) was 13.5 million m³, with a declining national harvest (MOF 2004). WWF (2005) gave a range of industrial roundwood production estimates of 17 million m³ to 82 million m³ for the timber sector and 6 million m³ to 27 million m³ for the paper sector. Seneca Creek (2004) stated that “*accurate harvest statistics for Indonesia are non-existent*” and estimated industrial roundwood production in Indonesia at 51 million m³ in 2002, based on domestic industry production data, log import data from trading partners, and from other sources.

Unofficial estimates of “realistic” sustainable harvest volumes are in the order of 20 million m³ to 25 million m³ per annum (Seneca Creek 2004), which highlights the issues faced by the forestry sector and wood using industries of Indonesia. Clearly curbing illegal logging is key to the achievement of a more sustainable future for Indonesian forestry.

Estimated Rates of Illegal Logging in Production and Exports

The consensus among forest analysts is that the rate of illegal logging is very high and this has been acknowledged by the Government of Indonesia. The large discrepancy between domestic wood processing capacity and official estimates of roundwood supply (MOF 2004) suggests that roundwood harvest is well beyond permitted levels (Seneca Creek 2004, Tacconi et al 2004, Obdizinski et al. 2006). There is some variation in estimates of the magnitude of Indonesian illegal logging. ITTO (2001) estimated the quantity of illegal log production as 25 million m³ to 57 million m³ per annum; 52 percent to 70 percent of total log production. Seneca Creek (2004), using 2002 data based on wood fibre flow analysis and allowable cut estimates, estimated 40 percent to 80 percent of total wood supply to be illegal. At the high end of estimates non-governmental organisations report a rate of approximately 80 percent (WWF 2005, EIA/Telepak 2005, Tacconi et al 2004, House of Commons Environmental Audit Committee 2006). Given this range of estimates, the present study adopted a rate of 60 percent of harvests for its ‘most likely’ scenario.

Log exports are prohibited in Indonesia, but smuggling occurs, particularly to neighbouring Malaysia where it is mixed with domestic Malaysian supply. In the past some of this was shipped, but Malaysia claims that this trade has been stopped. Smuggling is now restricted to overland routes in Borneo where Indonesia shares a border with Malaysia.

Cross border timber smuggling is reported to have peaked in the early 2000s. In 2003 it reached up to 10 million m³, of which 6 million m³ to 7 million m³ was from Papua and 3 million m³ to 4 million m³ from Kalimantan and Sumatra (Obidzinski et al. 2006). Following an extensive crackdown on timber smuggling from Indonesia over the last two to three years, this has declined to 3 million m³ per annum (Obidzinski et al. 2006). Despite this decline in timber smuggling, illegal extraction remains essentially unchanged at around 40 million m³ per annum (Obidzinski et al. 2006 citing *Bisnis Indonesia* 6 July 2006).

Listing Ramin (*Gonystylus spp.*) as a CITES species in 2001 is claimed by EIA/Telepak (2006) as having had a major effect in reducing the illegal trade and logging of the species. In Singapore and China, for example, the only seizures of illegally sourced timber and wood products that have taken place have been of Ramin without CITES documentation (EIA/Telepak 2005).

Illegal logs are generally higher quality and therefore tend to flow to both higher valued processes, where better prices can be realized, and smaller processes where the logs are less likely to be scrutinized. This often means logs are processed in sawmills into high quality sawnwood. Sawnwood can, therefore, be assumed to contain a higher rate of suspicious wood, thought to be in the range from 65 percent to 80 percent of total exports. We assumed a “most likely” rate of 65 percent for this study.

Future Trends

Japan, China and South Korea are major consumers of Indonesia’s wood exports, and each has signed a Memorandum of Understanding with Indonesia. WWF (2005) noted that this has not yet led to any significant improvement in trade. In 2002, Indonesia signed a MoU with the United Kingdom to address the need to combat the trade in illegal timber between the two countries. The United States and European Union have recently agreed to work with Indonesia to combat illegal trade in wood products, particularly products imported from China that have been manufactured from illegally sourced Indonesian timber (CIFOR 2007).

The animosity between Malaysia and Indonesia regarding illegal logging is well documented, each country blaming the other for the problem. There are claims that much of the timber smuggling from Indonesia to Malaysia is motivated by Malaysia’s self interest in protecting its own Ramin processing industry, financed by Malaysian traders who possess legitimate import licenses, and there is limited cooperation between law enforcement agencies in the two countries (CIFOR 2006). EIA/Telepak (2006) reports specific cases of laundering of stolen Ramin through Malaysia, where CITES certificates are issued, and onto China for manufacture into finished products.

Seneca Creek (2004) estimates that hardwood plywood exports from Indonesia would decline by over 4.6 million m³ if the country only exported wood products manufactured from legally harvested logs. Similarly, between 3.5 million m³ and 4 million m³ of hardwood lumber would disappear from global trade.

A trend of declining wood product availability is already apparent. In 2006, Japan imported US\$865 million by value of Indonesian plywood/veneer, representing 36 percent of Japan’s imports of that product (GTIS 2007), down from US\$1,619 million

and 62 percent, respectively, a decade ago. As a result, Malaysia surpassed Indonesia as the largest exporter of plywood to Japan, and China has emerged as a major supplier of plywood to Japan (manufactured mostly from African hardwood logs).

The increase in production of softwood plywood in Japan, mainly from Russian logs, in response to the declining availability of hardwood plywood is well documented in the Japan Lumber Journal. As Japan is also the major destination for New Zealand exports of softwood plywood the declining availability of plywood from Indonesia represents an opportunity for New Zealand exporters. In addition, substitution by other reconstituted wood-based panel products is occurring as Japan's share of plywood in its panel consumption is relatively high compared with other developed markets.

In recent years there has also been some substitution of hardwood sawnwood with softwoods, particularly in Japan and in China, although New Zealand sawnwood does not compete directly with Indonesian or Malaysian tropical sawnwood exports.

2.3 Malaysia

The forestry sector is important to Malaysia's economy with US\$4,661 million in exports in 2006 (GTIS 2007). Despite declining log exports over time, Malaysia remains the largest exporter of tropical hardwood logs and sawnwood in the world, with 5.8 million m³ and 3.2 million m³ respectively in 2005 (FAO 2007). Malaysia accounts for approximately 35 percent of world tropical hardwood trade (Seneca Creek 2004).

Malaysia maintains tight control on forest activities and even encourages the public to notify any suspicious harvesting. As a result it is acknowledged to have one of the lowest rates of illegal logging in Asia. Most reports of illegal activity involve trade abuses between Indonesia, and Sarawak or Sabah (Seneca Creek 2004). The states of Sabah and Sarawak are heavily forested and share a long and remote land border with Indonesia, making trade with Indonesia difficult to monitor and control.

Malaysia banned log imports from Indonesia in June 2002 and this was extended in May 2003 to include imports of squared logs larger than 60 square inches in section. Unauthorised imports of logs from Indonesia are, however, a recognised problem and Seneca Creek (2004) estimated that 1.8 million m³ of logs are illegally imported from Indonesia to Malaysia, mostly to Peninsular Malaysia and Sabah. Non-governmental organizations have accused Malaysia of illegally importing Ramin logs from Indonesia, despite a ban on such trade.

EIA/Telapak (2004) claim that traders and officials in Malaysia still profit from illegally sourced Indonesian Ramin logs and fraudulently sell Ramin processed wood products onto the international market as "origin Malaysia". The Malaysian government's position is that Ramin from Malaysia is legally sourced domestically and that all trucks entering Sarawak from Indonesia are checked both by customs officers and officers from the forest department to ensure that no Ramin is passing across the border (Seneca Creek 2004). Seneca Creek (2004) offers two challenges to the Malaysian government's claims. The first is non-governmental organisation allegations that two-thirds of the 8 000 m³ of Ramin dowels, mouldings, and other

items shipped from Malaysia to the United States over a several month period in 2001 to 2002 were illegal because they were not accompanied by CITES permits. The second is the seizure in 2003 by United States authorities of 120 000 pieces of Ramin exported from China that was believed to have been smuggled through Singapore and Malaysia.

Following allegations about the Malaysian processing industry using illegal logs from Indonesia, Sabah exporters to the European Union are required to certify that the wood is sourced legally, otherwise it will be banned from the EU market. Increasing volumes of Malaysia's timber exports are credibly certified as legal under the Malaysian Timber Certification Council (MTCC) scheme. Recently it was reported that an independent body would be appointed to assess legal sourcing of timber exports from Malaysia to the European Union as part of attempts to seek guaranteed access to the EU for Malaysia's timber products under the Forest Law Enforcement, Governance and Trade (FLEGT). Malaysia is the first country to enter FLEGT talks with the EU (TTJ 2007).

Estimated Rates of Illegal Logging in Production and Exports

Non-governmental organisations allege that as much as 35 percent to 40 percent of Malaysia's harvests and/or exports are illegal (Greenpeace 2004, EIA/Telapak 2004). Malaysian government officials, however, are confident that the volumes are less than 5 percent of the harvest. Seneca Creek (2004) also suggests that non-governmental organisation claims are exaggerated, and that although illegal harvesting does occur in remote areas of Sabah and Sarawak with low risk of detection, Malaysia's relatively stable and effective legal and enforcement system has eliminated most of the illegal logging. Therefore a rate of 5 percent of production was adopted here for the "most likely" scenario.

2.4 China

China has rapidly become the largest importer of forest products in Asia. China accounts for over 40 percent of Russia's log exports, 75 percent of Papua New Guinea's and the Solomon Island's exports, and over half of Myanmar's (Forest Trends 2006). China is also a significant buyer of high quality hardwood logs from Africa.

Over the last decade China reduced its harvest levels closer to what it believes to be sustainable. At the same time the country has been experiencing strong demand from both domestic and foreign markets for its manufactured wood products. To meet this growing demand Chinese log buyers have been active in Russia, Africa, and Asia-Pacific; often offering cash for logs. This has allowed them to buy directly from small logging companies, which often operate outside concessions. Logs can be 'laundered' relatively easily as without proper tracking mechanisms their source becomes almost impossible to determine, especially once mixed with logs from other sources. Following such practices, China has now become one of the main destinations for illegal logs (Greenpeace 2006), accounting for 19 percent of the consumption of wood from 'high risk' countries (Contreras-Hermosilla et al. 2007), more than any other single country.

For this study the proportion of illegal wood in China was calculated from the volume weighted rates assumed for each of the exporting countries and from domestic sources. Most of the domestic wood is consumed internally. We assumed that domestic wood supply contained about 30 percent wood from suspicious origins (down from 50 percent in the late 1980's), and less than 20 percent found its way into exported products. Some recognition was also given to China accounting for a higher proportion of the illegally exported wood due to its sourcing practices and lack of scrutiny of imports. Taking these factors into consideration it was estimated that 32 percent of its sawnwood, and 25 percent of plywood exports were illegally derived under the "most likely" scenario.

2.5 Other Asia-Pacific

Other Asia-Pacific countries supplying suspicious wood, include Papua New Guinea (PNG), the Solomon Islands, Myanmar, Laos, Viet Nam, and Thailand. Only export quantities from the first three are of any significance.

PNG is a smaller but still significant supplier of tropical hardwood logs, exporting 2.5 million m³ of logs in 2006, of which 75 percent was to China. PNG is the second largest log supplier to China.

Forests in PNG are managed according to the Forestry Act of 1991, with the PNG Forest Authority (PNGFA) responsible for implementing the Act. In addition SGS, a global Swiss based company, independently monitors all exports. SGS verifies the quantities, values and species of all log exports. Logs are tagged so that they can be tracked to their logging concessions, and hence minimize smuggling (Asumadu 2007). A recent review by the ITTO analysed the discrepancies in Chinese import and PNG export data, and found the discrepancy of trade quantities was 2 percent, (40 000 m³). Other commentators have also defended PNG's record on the administration of its forests (Curtin 2007, Asumadu 2007).

According to Greenpeace (2006), the supply of illegal logs from PNG comes about by:

- i. not obtaining full consent from customary landowners
- ii. not meeting the requirements of the Forestry Act and forest sustainability
- iii. not meeting national environmental laws, including health and safety and basic worker's rights
- iv. engaging in fraudulent activities such as tax evasion and transfer pricing, and
- v. the government departing from due process when awarding concession and logging rights, and anomalies in timber permits and agreements

On this basis, Greenpeace and other non-governmental organisations claim that approximately 90 percent of PNG's logs are illegally harvested. The huge difference between these and the previously mentioned findings can be attributed in large part to differences in the definition of "illegal".

A recent forest sector study (ODI 2007) reviewed the institutional framework and governance of PNG's forests, citing findings from five reviews commissioned by the

PNG government. The 2002 review identified issues around transfer pricing which have implications for royalties and fees collected by PNG. The 2003 review identified corruption and disregard for due process, with sections of the Forestry Act being ignored in the administration of Timber Permit extensions and Timber Authorities.

The 2004 review identified a range of areas of non compliance within the forest industry, such as environmental standards, inadequate monitoring and control, and unsustainable timber production. In particular it cites a decline in capability within the Forest Authority and ineffectiveness of the Department of Environment and Conservation, and in its ability to undertake effective monitoring and control. The 2005 audits identified major failings with compliance with applicable laws for new Timber Permits and Permit Extensions, with the Permits being in breach of the 1991 Forestry Act. The authors of the forest sector study concluded that *'reform within the sector was nothing but difficult and slow. It may also reflect a general malaise in PNG society that tolerates such behaviour.'*

Nearly half of PNG's logs exports are handled by a single Malaysian company, Rimbunan Hijau, which has been cited by Greenpeace (2004) as being one of the most destructive companies operating in PNG. The company enjoys an almost monopolistic position, which provides for undue influence with local administration, PNGFA and national government, and in view of the comments on PNG tolerating such behaviour, significant opportunities to extract preferential treatments and super profits.

There is considerable variation in estimates of the magnitude of illegal logging in PNG. Government estimates based on export and import data suggest only 2 percent of export logs may be illegal. Greenpeace (2006) claimed more than 90 percent of PNG's harvested logs are illegal. Hewitt (2006b) also stated that as much as 90 percent of all logs produced in PNG could be illegal with the main reasons being illegal awarding of concessions, transfer pricing issues, and operational irregularities. ODI (2007) cited major issues with regards to the administration and management of timber harvest areas, and avoidance of taxes and fees. Seneca Creek (2004) took a more conservative estimate of 75 percent of production and exports. The weight of evidence seems to point to major shortcomings in the administration of the forests and logging concessions. In view of this it is plausible that as much as 75 percent of logs have suspicious origins.

The Solomon Islands exported approximately 1 million m³ of logs in 2006, of which 800 000 m³ were to China. As in PNG, logging is controlled by a small number of companies; including Rimbunan Hijau. The same issues have been identified as in PNG; the concentration of economic activity with a few players requires strong institutions and control to ensure logging concessions are properly administered. Unfortunately this is not the case. Illegalities have arisen out of illegal logging, illegal exports, corruption and violating national laws, such as the destruction of water supplies. In addition the Solomon Islands face serious rates of over harvesting, but despite these issues the government continues to issue new concessions (Central Bank of the Solomon Islands 2005).

An audit of the Forestry Department by the Solomon Island Department of Natural Resources in 2005 (cited by Masalai i Tokeaut 2006) found that large amounts of tax

were not being paid by logging companies as they routinely bribed politicians to obtain ‘unlawful’ exemptions. The same report, quoting the Auditor General report from November 2005, stated that “*In 2004 there was an estimated \$29,930,324 in foregone revenue to Government in the granting of timber duty exemptions.*” This amounted to around \$30/m³ of logs exported. In addition the report, quoting a 2003 AusAID report, estimated the rate of sustainable harvest at 250,000 m³ and compared this with the current harvest of 1.2 million m³. Illegal logging, therefore, is viewed as a significant problem in the Solomon Islands.

No specific estimates of illegal logging in Solomon Islands were available but because the issues for the Solomon Islands are similar to PNG, the same rate of 75 percent was applied for the “most likely” scenario.

There is very little information on logging practices in Myanmar, where harvesting is tightly controlled by the military government. The issue of illegal logging is closely associated with claims of widespread corruption and unsustainable harvesting, though there is little specific evidence to support these claims. The main problems stem from illegal log exports from Myanmar’s northern regions to China (Global Witness 2003, Reuters, 2007).

The above mentioned countries represent the worst perpetrators in ‘Other Asia’ of supplying illegal logs to world markets. Following the Seneca Creek (2004) study, an average rate of 25 percent was used for the region.

2.6 Other Regions

The West Coast of Africa is also a major supplier of tropical hardwood logs, and as a region is experiencing significant illegal activity. Most of the reports on illegal harvesting are from non-governmental organizations, which estimate that in countries such as Gabon as much as 80 percent of their wood supply is suspicious. Controversy surrounds the methods governments use in awarding concessions, the level of corruption, and the sustainability of harvests. As in other regions, Chinese traders are heavily implicated in the illegal wood trade (Sunday Vision 2007). For the “most likely” scenario we agreed with the more conservative view of Seneca Creek (2004) of 30 percent of West Coast Africa’s production and exports to be of suspicious origins.

The forest resources of Brazil, particularly native forest in the Amazon basin, have long been acknowledged as experiencing significant loss and degradation. Some reports have claimed that as much as 90 percent of the volume harvested in Amazonia is illegal, with much of this associated with illegal clearing of land for agriculture. Seneca Creek (2004) assumed that 15 percent of total hardwood production (including plantations) is illegal. Given the importance of Amazonia in the national wood supply, a rate of 19 percent was used for the “most likely” scenario in this study. The rate of suspicious wood in hardwood log exports was assumed to be higher as most is supplied from native forests, rather than plantations.

The remaining regions in this study include “acceding EU” and “other Latin America”, which are not known to be significant suppliers of illegal wood. Estimated rates of 10 percent and 8 percent respectively, for these regions (Seneca Creek 2004) were adopted for this study.

2.7 Summary of Rates of Illegal Logging by Region

Most of the assessments of illegal logging have been derived without the benefits of field research, instead relying on anecdotal or circumstantial evidence (Curtin 2007). There are practical difficulties involved with identifying the origin of traded wood and the degree to which logging activities comply with a country's laws. Many of the published reports are by NGOs with specific conservation objectives. The most comprehensive, and widely quoted, review on illegal logging and trade is Seneca Creek (2004), which derived estimates that generally fell between the extremes of the NGO and governmental sources. The present study relied on a range of assessments to derive "low", "most likely", and "high" estimates recognising the potential limitations of each source. The Seneca Creek (2004) study was influential in our derivation of the "most likely" scenario due to its scope and its widespread recognition. The final rates estimated for this study are in Table 2.1.

Table 2.1. Estimates of 2005 rates of production and trade of suspicious wood

Country	Product	Estimates of Percent Suspicious		
		Low	Most Likely	High
Russian Federation	Roundwood production	10	18	40
	Roundwood exports	10	25	40
	Sawnwood exports	10	16	40
	Plywood exports	10	16	40
Indonesia	Roundwood production	50	60	80
	Roundwood exports	100	100	100
	Sawnwood exports	55	65	86
	Plywood exports	37	55	85
Malaysia	Roundwood production	3	5	35
	Roundwood exports	7	10	35
	Sawnwood exports	3	5	35
	Plywood exports	3	5	35
China	Roundwood production	20	30	40
	Roundwood imports	21	32	39
	Sawnwood imports	12	18	31
	Plywood imports	37	56	74
	Roundwood exports	21	32	39
	Sawnwood exports	21	32	39
	Plywood exports	17	25	39
Brazil	Roundwood production	13	19	25
	Roundwood exports	13	29	25
	Sawnwood exports	13	19	25
	Plywood exports	13	19	25
Africa WC ¹	Roundwood production	20	30	40
	Roundwood exports	20	30	40
	Sawnwood exports	20	30	40
	Plywood exports	20	30	40
Other Latin America ²	Roundwood production	6	8	11
	Roundwood exports	6	8	11
	Sawnwood exports	6	8	11
	Plywood exports	6	8	11
Other Asia ³	Roundwood production	17	25	33
	Roundwood exports	17	25	33
	Sawnwood exports	17	25	33
	Plywood exports	17	25	33
Acceding EU ⁴	Roundwood production	7	10	13
	Roundwood exports	7	10	13
	Sawnwood exports	7	10	13
	Plywood exports	7	10	13

¹ Gabon, Cameroon, Ghana and Liberia, ² excluding Brazil, ³ excluding Indonesia, Malaysia, China and Japan, ⁴ Latvia and Estonia.

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