

Overview

The international global forest products trade is in excess of \$150 Billion annually (FAO). Domestic markets are harder to calculate, but exceed this figure. **This makes timber one of the largest commodity markets in the world.**

The timber industry has changed dramatically over the last 3 decades, both in the major importer/exporter nations, and in the values associated with timber. It was only in the late 1980's that environmental and social issues associated with forestry and timber production rose to prominence, primarily due to 'rich country' consumers becoming better informed via environmental NGOs. This quickly led to increasing pressure on the global timber industry to start actively changing the way it manages forests, extracts timber, and sources wood. Over the last twenty years significant parts of the timber trade have altered the way they operate, incorporating far more robust and transparent systems of environmental and social management, which has significantly influenced forest governance. However, these changes in forest management have not been universal, and there are still parts of the global timber trade largely unchanged by these shifts in governance.

Significant changes within the forestry sector over the last 25 years have been the rise and widespread adoption of forest and chain of custody certification. Whilst these had dramatic uptake in some producer and processor countries, they had limited application in many lesser developed nations. As such the FLEGT programme was implemented by the EU, with VPAs at the heart of this. Effective VPAs require a legality assurance system, which in turn requires auditing and monitoring. This a new approach, which is just coming on-stream, and is the focus of this primer.

A Brief Introduction to the Forest Trade

Perhaps the first thing to comprehend is the size of the global timber industry. The table below shows the revenue of imported and exported logs in 2016. Total revenue generated by the global forest trade has been calculated at \$150 billion¹. This figure makes it one of the largest

¹ This figure merely represents the magnitude of the industry. The industry is so diverse that it is difficult to draw boundaries – i.e local firewood production, the value added paper industry, and it is difficult to get reliable statistics using globally accepted norms (which, generally, do not exist).

international industrial sectors. This means that some of the largest Multi National Corporations (MNCs) operate in this sector, and the global supply chains are extensive and convoluted.

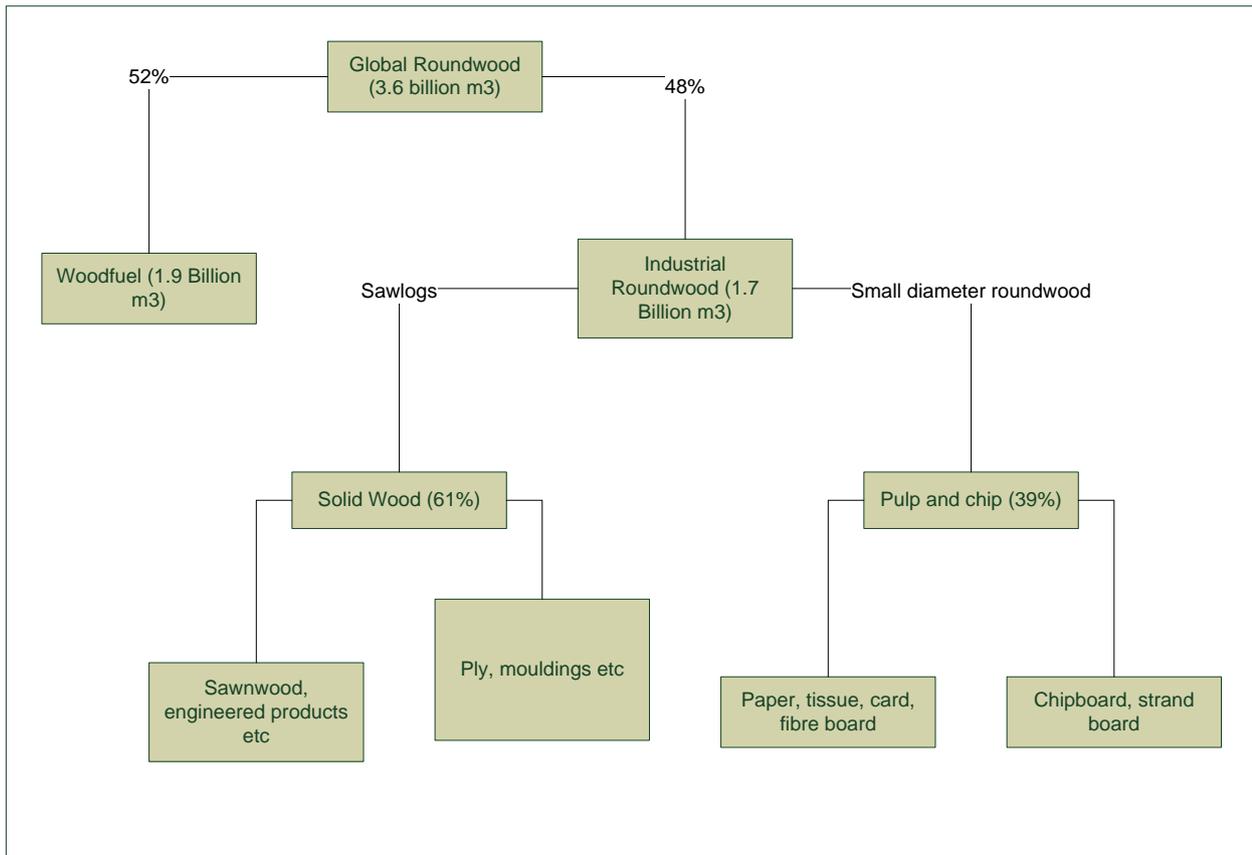
ITTO Summary Statistics (2016, million)												
	Logs			Sawnwood			Veneer			Plywood		
	All	Tropical	%	All	Tropical	%	All	Tropical	%	All	Tropical	%
Production (m³)	1881.0	286.1	15.2	453.0	44.2	9.8	13.3	5.7	42.5	145.5	18.4	12.6
Imports (m³)	129.0	16.4	12.7	139.0	12.2	8.8	4.1	1.9	46	26.1	6.5	24.8
Imports (\$)	16391.7	5110.6	31.2	36229.5	5680.2	15.7	3144.3	965.4	30.7	13862.5	3937.0	28.4
Exports (m³)	123.6	16.7	13.5	137.7	12.3	8.9	3.6	1.6	44.6	31.9	6.6	20.8
Exports (\$)	14522.8	5244.0	36.1	35400.2	5521.6	15.6	2827.2	754.9	26.7	15641.1	4293.0	27.4

The sector demonstrates some of the most modern capitalist and free-trading approaches, and employs some of the most demanding technology. For our purposes there are three salient issues regarding the size of the sector that we will return to:

- The largest MNCs are involved in the trade, and they can and do exert great influence on economies, industrial organisations and governments;
- The scale of the industry attracts attention from organised crime;
- It is widely accepted and understood by stakeholders in the timber trade that ‘poor’ or illegal forestry causes significant and unacceptable environmental, social and economic damage. The large MNCs cannot (generally) afford to have their brands contaminated by poor practices.

Firstly, it is useful to identify what we mean by the ‘Forest Trade’. It is commonly called the ‘timber’ trade: however we deliberately avoid using this term as much as possible, as a lot of the trade is not in what we think of as ‘timber’. i.e. solid wood, but in some form of wood particle or fibre.

Globally traded wood products



Adapted from Dauvergne and Lister, 2011, using FAO statistics

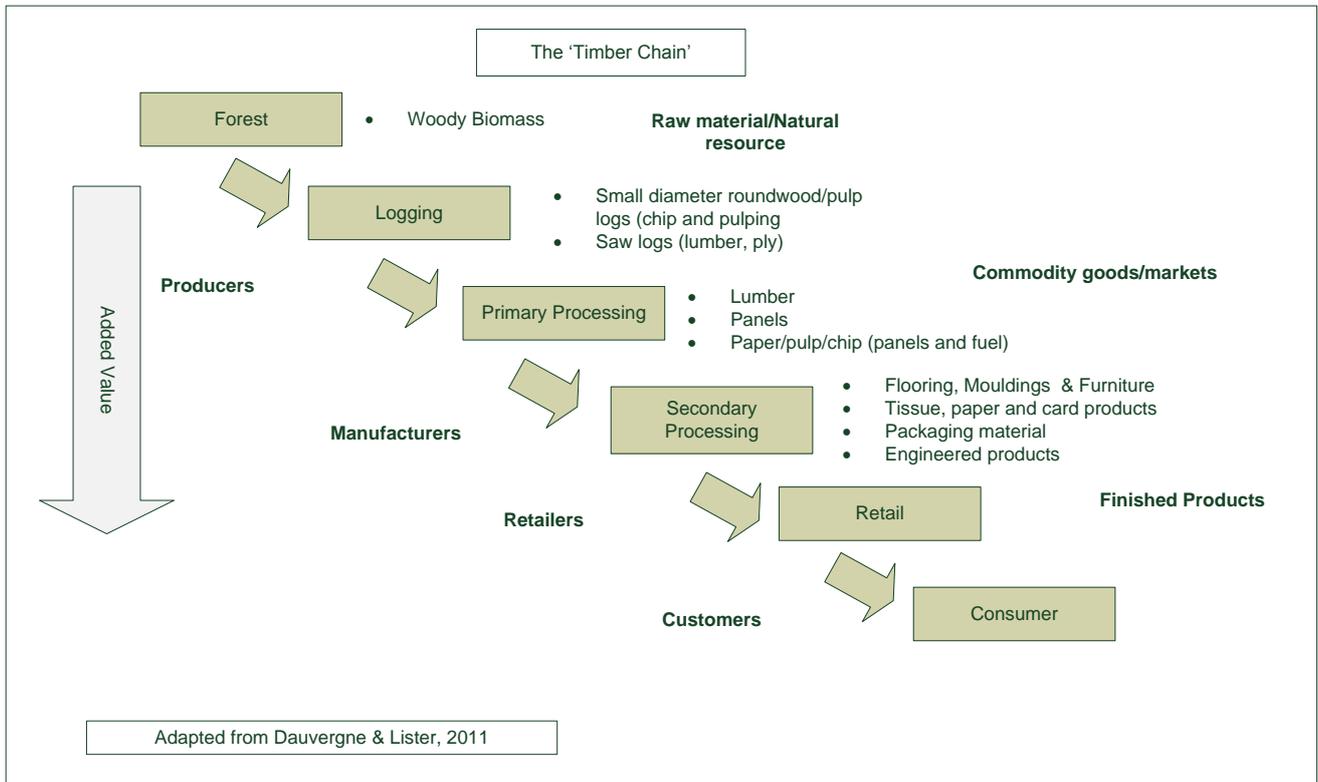
Wood fuel is, by volume, the largest use of timber. The volume is almost certainly higher than in the diagram above, as so much wood fuel is not officially 'counted': outside permit or taxation systems and part of the 'grey' (hidden, unrecorded) economy. Wood fuel is increasingly becoming commoditised, as bio-energy production increases.

Industrial round wood is the main feature of this handout and the accompanying session. This is still the raw material of the national or international 'timber' or forest trade; though biofuels are increasing in importance year by year. The diagram above splits the trade into its key component parts: saw logs and small diameter round wood: saw logs are typically higher value per volume, and form solid wood products (planks, ply – thin wood sheets, engineered wood products). Saw logs traditionally form higher value wood products while small diameter round wood is used for pulping and chipping. Chips are formed by mechanically breaking up the wood into specifically sized chips or particles, and then reforming them with a resin adhesive to form products of different dimensions, strengths and stability to the original wood. Chips are the raw material for various panel products (chipboard, oriented strand board). Pulp is formed by mechanically and chemically treating wood to form wood fibres: the individual cells are separated from one another. Fibres are used for a wide range of paper and card products, as

well as hardboard and Medium Density Fibreboard (MDF), which glues the fibres together to form a smoother and more machine-able option to chipboard.

The diagram below illustrates key components in the timber chain, often called the 'chain of custody'.

The timber chain



Logs have primarily been sourced from the great boreal forests of Northern countries (Canada, North America, Scandinavian and Baltic countries and Russia), and the tropical forests (South America, Africa and South East Asia). Until fairly recently most timber came from Native or 'old-growth' forests: the natural or semi-natural forest of the biosphere. The majority of the global timber trade was controlled by a relatively small number of large MNCs based in Northern countries (predominantly US, Canada and Europe), who during the 19th and 20th centuries bought forests or concessions (right to harvest and extract timber from Government owned natural forests) in boreal and tropical forests. As pressure grew on the native forest resources due to deforestation and environmental concerns, attention increasingly focused on plantation forestry. Fifty years ago there were relatively little plantation forestry (except, paradoxically in heavily deforested countries like the UK), and they supplied only small quantities of timber. Plantations now provide more than a third of global industrial wood and this is increasing. More than half the world's plantations are in China, the US and Russia, with growth in plantation

establishment in South America also being high. The expansion of plantations in China and the South is likely to be rapid and large, perhaps at the expense of degraded natural forest².

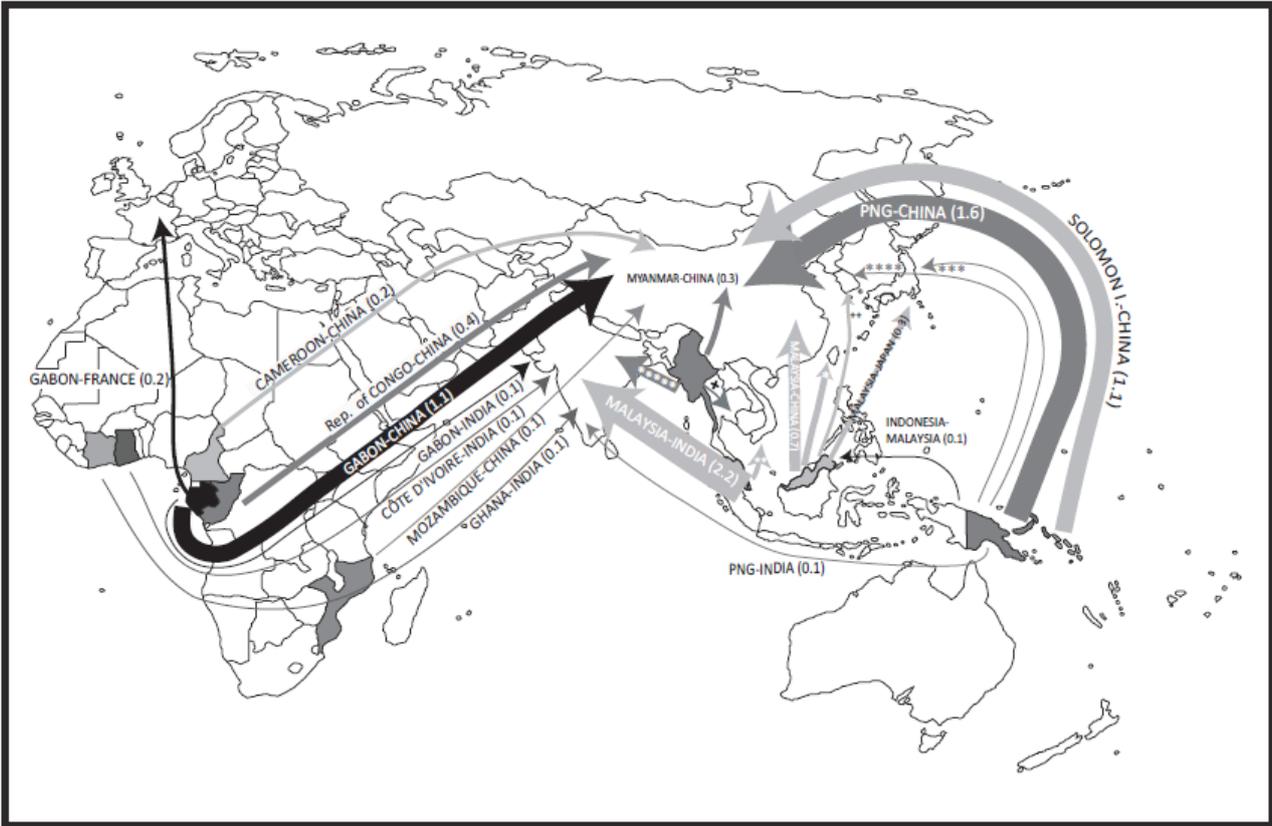
Plantations more closely resemble agriculture in many cases. The traditional plantation is a mono-culture or based on a small number of species, typically selected for growth potential, timber value and resilience to drought or disease. Often, non-native species, called exotics, are planted (for example Eucalypts, which are widely planted in tropical and sub-tropical countries, but are only native to Australia).

The final introductory note about the forest trade is its international nature. From its colonial origins, the timber trade has always been international: but in no previous period has it been as international as it now, with streams of timber, pulp, semi-finished and finished goods moving within and between continents. Additionally, capital flows just as freely, with Northern MNCs purchasing significant assets in Southern Nations, and now the rise of Southern Nation MNCs in their own right.

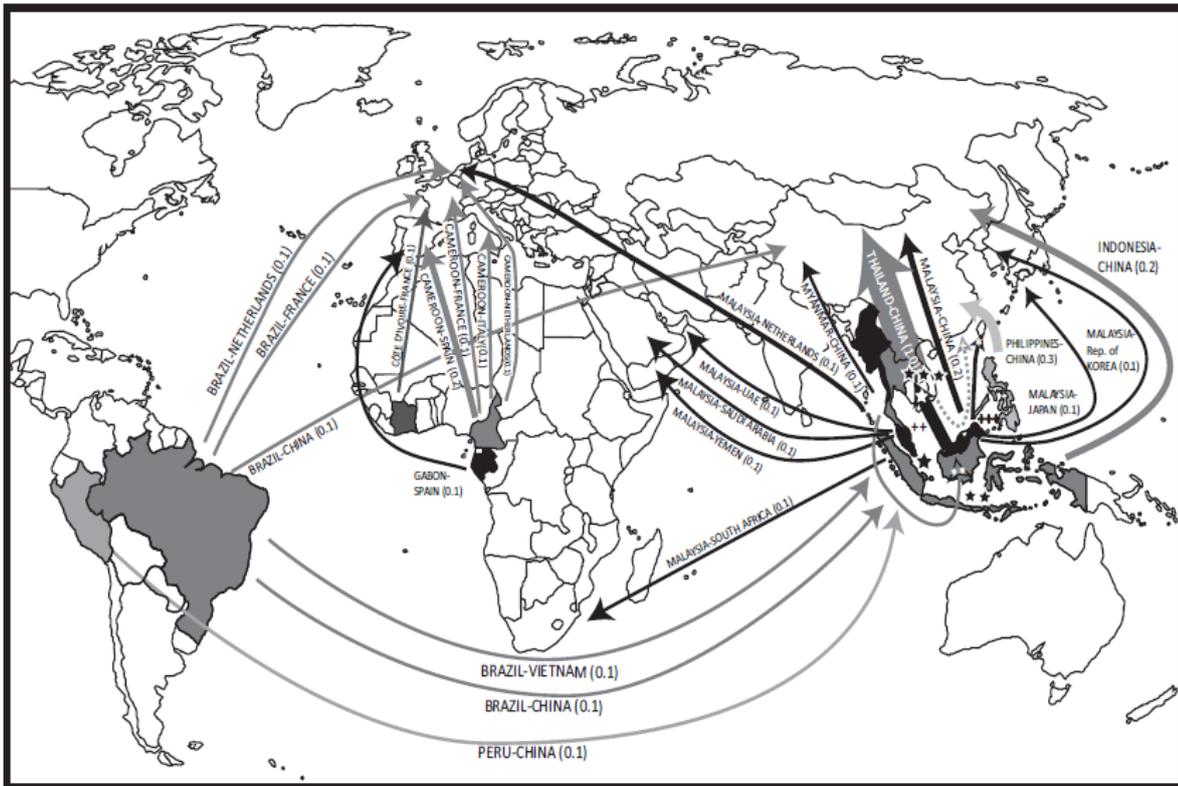
Today it is almost true to say that all forest product roads lead either to or from (and often both) China.

The two following maps illustrate this well, for industrial round wood and tropical sawn wood:

² It is interesting to note that as forest governance, environmental understanding and ecological knowledge increase, countries actively convert plantations back to a more natural woodland type: in the UK an FSC requirement is to remove plantations from ancient woodland sites and allow natural vegetation to return.



Major Trade flows in Tropical Industrial Roundwood 2009, million m³ (ITTO, 2011)



Major Trade flows in Tropical Sawnwood, million m³ 2009 (ITTO)

The rise of China as the hub of global forest production has been meteoric. Over half the global growth in paper production in the last twenty years has been in China. Timber and pulp imports into China were negligible in the 1980s. By 2005 China was importing 140 million m³ of timber products and by 2016 that figure had risen to nearly 300 million m³. Many, if not most, global timber and pulp supply chains now centre on China. Growth in exports have been even more rapid: in 1997 China's forest and paper exports were worth about \$0.5 billion; by 2007 they were worth \$8 billion and by 2016 they had risen to \$35 billion. However, this increased globalization has created problems for legal and sustainable forest products trading: supply chains are long and convoluted, making the tracing of materials difficult; and pricing pressures from Northern retailers and sellers increases pressure to 'cut corners' further up the supply chain. These issues will be explored in more detail below.

Some other key trends and statistics relating to the timber trade from the most recent ITTO review are detailed below.

Key Findings from the ITTO Biennial review of the World Timber Situation 2015 - 2016

The Review's key findings on primary wood products include the following:

- There was a slowdown in global trade in tropical wood products in 2015 and 2016 in response to supply constraints in major producer countries, particularly Myanmar and Malaysia, and slowing demand in China.
- Imports of tropical hardwood logs by all **ITTO members** totalled 16.9 million m³ in 2015, down by 13% from a peak in 2014, when demand accelerated in China. Log import volumes continued to decline (by 3%) in 2016, to 16.3 million m³, with most of the drop attributed to a sharp decline in imports by India and Viet Nam from Myanmar, which imposed severe log export restrictions in 2014.
- China continues to dominate tropical log imports, accounting for 59% of total ITTO imports in 2015 and 63% in 2016.
- The major log trade flows in 2015 were from Papua New Guinea and the Solomon Islands to China and from Malaysia to India.
- Many significant producer countries in Asia and the Pacific have some form of log export ban in place—notably Cambodia, Indonesia, Lao PDR, the Philippines and Thailand.
- ITTO producer countries exported 12.3 million m³ of tropical logs in 2015, which was three-quarters of global exports. Shipments from Papua New Guinea, the largest exporter, totalled 3.6 million m³ in 2015, mostly (87%) to China.
- The Asian region continues to dominate the tropical sawnwood trade, with China and, to a lesser extent, Thailand and Viet Nam the major importers. Cameroon, Malaysia and Thailand are the major exporters.
- ITTO producers exported 9.5 million m³ of tropical sawnwood in 2015, accounting for 88% of global exports of tropical sawnwood. China's imports grew quickly, from 5.1 million m³ in 2015 to 6.6 million m³ in 2016, as more producer countries imposed restrictions on log exports and as manufacturing costs rose in China.
- Thailand remained the top-ranking exporter of tropical sawnwood (mostly plantation rubberwood) in 2015, 99% of which went to China.
- The global trade of tropical plywood has trended downwards in the last decade, with imports declining to 5.1 million m³ in 2015. Although Japan continues to dominate imports, accounting for 30% of total ITTO imports in 2015, import volumes have plunged in recent years in response to substitution by Japanese plywood manufactured from domestic species, upward price pressures on imported tropical plywood, exchange-rate fluctuations, and weaker domestic demand.
- Indonesia and Malaysia continue to dominate exports of tropical plywood, although Malaysia's exports dropped by 19% in 2015, to 2.5 million m³, in response to the limited availability of raw materials and depressed demand and prices in Japan.

The Review's key findings on secondary processed wood products include the following:

- Total ITTO member country imports of SPWPs—nearly two-thirds of which were wooden furniture and parts—were worth about US\$91.3 billion in 2015, which was 89% of global imports of SPWPs.
- ITTO consumer countries accounted for about 94% of ITTO imports of SPWPs in 2015; most (82% of export value) of the trade was between consumer countries.
- Import demand is dominated by advanced economies—predominantly the United States of America, European Union countries, and Japan. Australia, Canada, Hong Kong SAR and the Republic of Korea are also important markets.
- Exports of SPWPs have undergone considerable change by supply source, with substantial growth in exports from China, the Philippines and Viet Nam in recent years more than compensating for relatively subdued export growth in developed economies.
- SPWP exports were valued at \$33.4 billion in 2015. China has been the world's largest exporter since 2003, accounting for 33% of all exports by ITTO consumers in 2015.
- ITTO producers accounted for 18% of SPWP exports by ITTO member countries in 2015, with the share increasing slightly.
- Asia-Pacific was the dominant ITTO producer region for SPWPs in 2015, accounting for more than 82% of exports by ITTO producers. Latin America accounted for 17%, and African exports made up less than 1% of the total.
- Viet Nam accounted for 35% of SPWP exports by ITTO producers in 2015, up by 10% over 2014, to US\$6.2 billion.
- Indonesian and Malaysian SPWP exports both declined by 4% in 2015, to US\$3.5 billion and US\$2.5 billion, respectively.
- Other major exporters of SPWPs among ITTO producer countries in 2015 were Brazil, India, Mexico, the Philippines and Thailand.

Problems with the Forest Trade

A number of criticisms are levelled at the international timber industry:

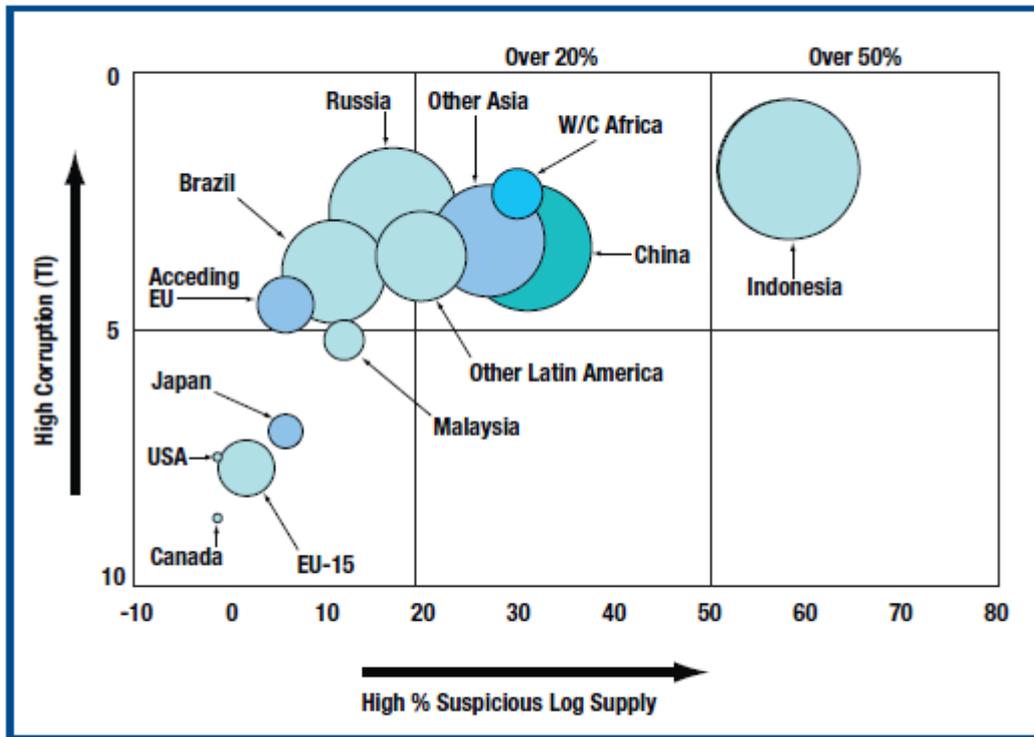
- Significant environmental degradation occurs through poor forest/logging practices;
- A short-term view of logging for immediate profit rather than long term stewardship;
- A lack of benefit sharing or consultation with local people (including exclusion, aggression or physical relocation);
- A lack of transparency;
- Providing the first stage in a cycle of degradation or land use change that results in farming of forest land (settlements, soy bean, palm oil, ranching etc);
- Converting old-growth natural/semi-natural forest into plantations which are less contentious source of forest products;

A strong argument can be made that the international forest trade is a driver of a lot of these problems. Although the majority of forest products are sold to the richest members of the global community (western consumers), most products are highly price competitive, driving the unit cost down to very low levels. The so-called 'Big Box' retailers sell timber (eg B&Q, Homebase), furniture (e.g. Ikea) and paper products (e.g. Tesco and Walmart -Asda) at highly competitive prices. One way they manage to keep their prices low (apart from through incredibly efficient supply chain management) is by driving down the price paid for products. This driving down prices to very low margins gets passed down the supply chain, ultimately to the logging or forestry organisation. There may be insufficient financial margin to pay for the 'niceties' of environmentally, socially or economically sustainable forest management, resulting in many of the criticisms highlighted above. There may not even be sufficient financial margins to allow timber or fibre to be produced without overcutting, avoiding paying taxes or stumpage fees, bribing for concessions, or operating without permits – i.e. illegal forestry. **This is a paradox we will return to: the western retail outlets almost all purchase certified forest products either preferentially or solely, yet their bargain basement prices do not allow for responsible forest management.**

Irrespective of the specific causes, what is indisputable is that a considerable amount of illegal timber and fibre still enters the global supply chain today. It has been estimated that the annual revenue from the illegal timber trade is around \$50-\$150 billion annually (Interpol 2018), primarily sourced from Central Africa, South America and Southeast Asia, and destined mainly for the United States and Western Europe. The Seneca Creek and Wood Resources International report calculates that between 5% and 10% of all timber-based global production comes from illegally harvested trees. A GFI report details that most of the illegally harvested and sold timber in the world comes from Southeast Asia, the Congo basin in Central Africa, Siberia, and the rainforests of the Amazon. The timber typically moves to China and ends up, in processed form, in the United States and Europe³. Not surprisingly, the countries where illegal forestry/forest products are a significant problem correlate strongly with Government corruption and governance issues (see figure below).

³ Read more: [The 12 Most Profitable International Crimes](#) - 24/7 Wall St. provides interesting reading on major global international crime and links to further reading on illegal logging and global trade.

Chart 1. Correlation Between High Levels of Government Corruption and Suspicious Log Supply



Source: "Illegal' Logging and Global Wood Markets: The Competitive Impacts on the U.S. Wood Products Industry," 2004: p. 8. <http://www.illegal-logging.info/uploads/afandpa.pdf>
 Note: Bubble size reflects volume of suspicious roundwood, including imports.

It should be noted that there is an element of serious crime involved in the forest products industry. Interpol have a specific unit to deal with 'eco-crime', a \$10 billion illegal industry in which timber plays a key role. The trade is run by criminal organisations, where profits are similar to those made from guns and drugs, but the penalties are much less severe. These criminal organisations are not concerned with multi-stakeholder processes or good governance, except where these can be used as a diversionary mechanism.

Within the forest products trade there is a paradox at play. On the one hand, the large processors and retailers want logs, chips, fibre and other primary products as cheaply as possible. This reduces margins to such an extent at the start of the supply chain (the forest) that illegal and unsustainable forestry is promoted out of necessity. Sustainable (and even legal) forestry requires investment. Long-term management plans have to be developed, with substantial investment in surveying, assessment, planning and consultation. Felled areas require restocking and beating up (the replacement of failed seedlings), or the management of natural regeneration (which can be more costly than restocking). Sticking to sustainable forest management means felling according to a management plan and concession/permit licence, rather than reflecting market conditions and felling when prices are high. This in itself is a

significant cost of legal and sustainable forestry. Non sustainable, and even more so illegal, forest logging reduces these costs. There are far fewer management costs, and no need for management planning and consultation processes. Concession and permit prices will generally be lower, as they may be obtained illegally, or overcutting occurs against permitted volumes. Additionally, revenue is obtained in the short term, rather than being 'discounted' as future earnings. And, loggers can take advantage of short-term market fluctuations, logging when timber or fibre prices are high. This means that in an uncontrolled, unregulated market with little external governance or control illegal and/or unsustainable logging makes sense economically: it is a rational act (the environmental, social and economic costs are externalities not transmitted through prices).

But on the other hand, the large processors and retailers, particularly the 'household brands', are desperate to avoid purchasing and using products that are illegal or unsustainable. They are concerned to be seen to be demonstrating 'Corporate Social Responsibility' (CSR). Apart from their internal ethics, they are vulnerable to criticism and campaigning by environmental NGOs and similar, which can tarnish their brand (for example B&Q, Wickes, APP have all been campaigned against). Public opinion in western countries, as well as corporate financing, are influenced by environmental NGOs (ie. Friends of the Earth, Greenpeace) who in richer consumer countries lobby and publicise very effectively and directly influence corporate governance and decision making. It is also worth noting that companies who make the 'right' environmental decisions get praised in public by environmental NGOs, providing good PR (for example: ('Illegal Timber Supplies Axed by B&Q⁴)).

Therefore the international forest trade is in an unusual position of acting as a driver for illegal and unsustainable forest management/logging, but also segments of the retail trade being major interested parties in ensuring and promoting legal and sustainable production. The forest trade (or at least parts of the trade) have been at the forefront in developments in forest certification (a voluntary and market led initiative) and in government to government initiatives. There is certainly truth in saying that some of the traders in western consuming countries would like there to be *no* option for illegal and unsustainable logging, which would then level the playing field and mean that margin squeezes down the supply chain result in greater efficiencies and business practices rather than bad practice.

⁴ <http://www.greenpeace.org/international/en/press/releases/Beijing-B-and-Q/>

Improving Forest Governance: Trade-Based mechanisms

Governments and International bodies can drive and set policies, but **they cannot implement them without adherence and cooperation from private sector organisations**. In the current globalised economy, apart from a few State run regimes, throughout the world **private sector trade**, in all products not just forest products, **is the engine for employment and economic growth**. In China and India private sector growth, rather than state controlled programmes, are pulling millions of people out of poverty by offering income and work opportunities. From the food we buy to the internet we surf, private sector entrepreneurs deliver goods and technology we consume far more efficiently than Governments.

FLEG recognises this by including the “T” to make the phrase FLEGT (Forest Law Enforcement Governance & **Trade**). The FLEGT process perceives the ‘private sector timber trade’ to be a part of the solution to reduce illegal logging rather than the problem – a stakeholder who **must** have a representative at the decision making table. So the European FLEGT process has explored how to incentivise good practice in the timber trade and punish, bar and exclude bad practice. This of course has then required very careful definition of what is ‘good’ practice and what falls short of ‘good practice’. In forestry this is where Certification with its standards and criteria can play a part. In fact it has taken much debate and research throughout the last 20 years just to agree what the term ‘legality’ actually means in reference to the international timber trade as it threw up the question ‘whose legality?’.

It is not that easy to define illegal timber. Illegal timber comes from wood material that is obtained from an illegal source, generally through logging activities that are in breach of a country’s forest-related laws. Illegal trade in timber occurs when forest products are harvested, bought or sold in violation of national laws relating to:

- Harvesting
- Transportation
- Processing (including deliberate mis-grading).

The WWF used the term “illegal logging and forest crime” to include:

- Large- and small-scale timber theft;
- Breaching of tax rules;
- Illegal aspects of timber sourcing (e.g. bribery or deception and fraud of official documents).

Even legal wood may be described as 'controversial' if it is logged in countries identified by the United Nations as not addressing:

- The systematic violation of universal human rights & torture;
- Extrajudicial killing and forms of sexual violence by members of the armed forces;
- Political arrests and detentions, denial of the freedoms of expression and movement;
- Timber trade used directly to finance violent conflict;
- Forced relocation, the destruction of livelihoods and forced labour;
- Discrimination on the basis of religious or ethnic background;.
- Trade in wood products from such controversial sources.

VPAs and Legality Assurance⁵

FLEGT Voluntary Partnership Agreements (VPAs) are bilateral agreements between the European Union and timber exporting countries, which aim to guarantee that the wood exported to the EU is from legal sources and to support partner countries in improving their own regulation and governance of the sector.

In a nutshell, a Voluntary Partnership Agreement (VPA) is a legally binding agreement between the European Union (EU) and an individual timber exporting country, which aims to ensure trade only in legal timber and to improve forest governance.

The objectives in detail are:

- VPAs define what legal timber is, ensuring that forest law requirements are applicable, consistent, understandable, and enforceable AND reflect a combination of social, economic and environmental objectives of the partner country. The negotiation of the agreements is also an opportunity to foster law reforms in timber exporting countries.
- VPAs provide the opportunity and structure for forest stakeholders to dialogue and reach consensus on forest rights. The text of the agreements reflects in-country consensus and involvement, e.g. of the private sector and civil society. This can result in broad support for VPA objectives among stakeholders.

⁵ This section has been adapted from <http://www.euflegt.efi.int/> and a presentation by Jussi Viitanen & Thomas Pichet of the European Forest institute. For more information, contact jussi.viitanen@efi.int or thomas.pichet@efi.int

- VPAs ensure through Legality Assurance Systems (LAS) that timber being exported to the EU is legally produced. The legal source and production of wood will be verified by the partner country, which will award a “FLEGT” license to each consignment that is verified as legal. Once the LAS is in place and has successfully passed an independent evaluation, the EU will only accept FLEGT licensed timber from that country. The European Commission and EU Member States provide support to help implement such systems.
- VPAs can address development objectives of partner countries, e.g. alleviating poverty, securing employment and competitiveness, increasing government revenues, improving government and private sector capacities, strengthening the rule of law and securing the rights of forest dependent people. VPAs can also reinforce law enforcement and promote sustainable forest management including benefits for forest communities.

As the name suggests, these agreements are voluntary for exporting countries. However, once entered into force they become legally binding on both parties. To date only Indonesia has exported FLEGT licensed wood to the EU.

At the centre of each VPA is a Legality Assurance System (LAS). Its function is to identify, monitor and license legally-produced timber, and ensure that only legal timber is exported to the European Union. (However, the partner countries may also choose to establish a system that ensures legality of timber to all markets, rather than just be confined to exports to the EU).

Each VPA partner country designs its own system during negotiations, based on existing control mechanisms to be reinforced and the country’s legislative framework. The technicalities of the LAS are detailed in the Agreement.

An effective system ensuring timber legality includes verification of forest operations as well as the control of timber transport and processing through different owners, from harvesting to the points of export – a chain of custody.

A robust LAS consists of five key elements:

- (1) A clear definition of legal timber;
- (2) Mechanism to control the timber supply chains;
- (3) Verification of compliance to the Legality Definition and controlled timber supply chains;
- (4) Licensing of legally produced timber and timber products for exports (FLEGT Licence);
- (5) Independent audit of the LAS to ensure the system is fully implemented

1. Legality Definition

The national legality definition outlines the legislative and regulatory requirements to be systematically fulfilled and verified to ensure legal compliance of timber products before a FLEGT license can be issued in a VPA partner country. The development of the Legality Definition involves stakeholders so that there is a wide consensus supporting the defined requirements. This set of legal requirements should include laws responding to economic, environmental and social aspects of forest management and timber processing. The resulting standard consists of criteria and indicators with references to national law and includes verifiers to be used for checking compliance.

A Legality Definition should:

- Be based on existing regulations/legislation
- Make clear and visible what is legal timber
- Identify what will be routinely verified to demonstrate timber is legal
- Focus attention where current legislative enforcement challenges exist
- Be based on a consultative process including stakeholder preparation of LD dialogue to define priorities.

A definition of legality should cover laws relating to:

- Rights to harvest : Harvesting timber within legally defined boundaries by the legal holder of rights to harvest.
- Forest operations/processing: Compliance with laws regarding forest management/processing including relevant legislation covering environment, labor and community welfare.
- Fees and taxes: Compliance with laws concerning taxes, importation, royalties and fees directly related to timber harvesting and harvest rights.
- Other users: Respect for other parties' legal tenure or use rights to land and other resources that may be affected by timber harvest rights.
- Trade and customs: Compliance with legal requirements for trade and customs procedures.

2. Control of the supply chain

The LAS ensures that timber entering the supply chain originates from legal sources and that the timber flows are controlled throughout the supply chain, from the forest where the timber is

harvested through transport, storage facilities and processing until the point of export. Timber tracking systems help demonstrate the legal origin so that each stage of the supply chain is duly controlled and no unverified, illegal, timber has entered the supply chain.

The supply chain control system routinely ensures the integrity of timber product flows from the **stump/source** or the **point of import** to the **point of export** using traceability technologies, preventing unverified timber products from entering the supply chain.

Key controls include:

- for timber producing countries: mapping of the forest resource (back to stump traceability)
- for processing and transit countries: documented imported timber. Origin of each log/bundle of timber products identified
- Border controls - including physical and documentary verifications
- Verification at different steps of the supply (including verification of transport and change of ownership)
- Preventing mixing with unverified timber
- Collection and reconciliation of information at different steps of the supply chain through an information system
- Monitoring of recovery rates at mill sites (input/output)
- Unique timber product marking and numbering systems
- A third-party monitoring body

3. Verifying compliance

The governments of VPA partner countries assign governmental or non-governmental bodies that are tasked to systematically verify the legality of timber for the EU market. The verification body shall ensure that timber has been produced and/or processed in compliance with the Legality Definition and its supply chain has been controlled as defined in the LAS. A verification body must have adequate resources and procedures to carry out documentary and field verifications.

The verification system ensures the enforcement of the supply chain control system and the compliance of operators with each element of the Legality Definition. Verification at different steps of the chain is based on documented procedures and involved different people/administrations for cross-checking.

Compliance verification is carried out by one or several organisations which have adequate resources, management systems and skilled and trained personnel. Verification addresses legality and the robustness and functioning of supply chain controls. This requires a clear scope of what has to be verified (where, when, and how) covering the entire supply chain from harvesting or import to export.

There must be an effective and functioning mechanism based on the national law enforcement systems for requiring and enforcing appropriate corrective actions where non-compliances are identified. Certification standards must be compliant with TLAS standards.

TLAS verification functions are typically through government or private sector. They should be through Government when there are well-resourced government inspection services and other monitoring in place or where the private sector has not largely invested in certified control systems. Verification by the private sector is appropriate where Government agencies face resources mobilisation challenges or where the private sector operators have third-party certified control systems.

4. Issuance of FLEGT licenses

National Licensing Authorities, assigned by the VPA partner country's government, are tasked to issue FLEGT licenses to individual export consignments that have passed the verification tests as of the definitions of the LAS. The licensing authority can obtain necessary verification evidence from government bodies or internal control systems of the private sector operators. If the latter option is applied, the LAS shall describe how to assess, approve and monitor (e.g. by third party certifiers) the internal controls of the operators.

5. Independent Audit

The purpose of an independent audit is to ensure the reliability of the LAS by monitoring that all system components have been implemented as prescribed. The Government appoints an Independent Auditor, who as a third party possesses necessary skills and methods to ensure its independence and objectivity for checking the LAS implementation, identification of non-compliances and system failures, and reporting of its findings. A summary of each audit report is made publicly available.

Third-party organization appointed by Governments monitor the implementation of the TLAS, identifying possible system weaknesses, and suggest improvements. They report the monitoring

results to the Ministry in charge of forests, and make available to the general public a report on its findings. A third-party monitoring organisation should be a non-political, national or international conformity assessment body that monitors full implementation of the Timber Legality Assurance System according to specific terms of references.

The Third Party Monitor assesses harvesting operations, processing of timber, transport of timber and timber products and export activities and verification activities carried out by the government agencies and/or through certified control systems of the private sector. There needs to be clear independence from organisations and individuals involved in the management or regulation of the forest resource and the forest industry. There must also be a transparent mechanism for appointment of the Third Party Monitor and clear opportunity for civil society involvement.

Independent Monitoring can be under the responsibility of NGOs, ensuring legal compliance of private third-party verification bodies issuing legality certificates to timber companies, and ensuring that the regulation is adequately supporting SFM. This can be backed up by periodic evaluations take (about once a year) involving both the Government and the EU (this is the approach taken by Indonesia).

Mandatory Implementation Bodies:

The Joint Implementation Committee (JIC) is a committee established for each FLEGT Voluntary Partnership Agreement (VPA) made up of representatives of the Partner Country, the European Commission and Member States. Its role is to facilitate and monitor the implementation of the VPA, and to mediate and resolve any conflicts and disputes that may arise. This Committee meets regularly and at least twice a year. The independent auditor described above reports to the Joint Implementation Committee.

Optional Implementation Bodies

In addition to the independent audit, independent observation can be undertaken by a body as part of a national control system. It is contracted independently of the VPA by governments and focuses on the monitoring of law enforcement by the Ministry in charge of forests.

Stakeholder involvement can also be fostered in different ways. This has been the case in Ghana via the “Timber Validation Council” or in the Republic of Congo (Brazzaville) via the

“Multi-stakeholder Technical Secretariat”, which ensures that civil society groups and the private sector which have been involved in the VP

Forest Product Certification

Forest product certification was developed in the early 1990s, primarily by the Forest Stewardship Council, as a mechanism to reliably identify forest products that come from sustainably managed forests, and providing a third party verified chain of custody allowing wood and fibre products to be traced back to their origin. It was developed as a response to growing worries about deforestation and the environmental and social impacts of this. The development of the certification process involved the development of agreed international (and locally modified) standards defining sustainable forest management; the auditing and certification of forest management operations that meet those standards; the auditing of the chain-of-custody; and the labelling of certified products to identify them.

The two main schemes are the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC). Today the area of certified forests covered by the two main organizations is about 440.3 million hectares, representing 10.7% of the total global forest area. By some measures forest certification has been incredibly successful. By others, it has been far less so. The original concept of certification was to provide a market mechanism to reduce deforestation, particularly in the tropics. However very few certificates have been issued in the bulk of tropical countries, with certification in Africa primarily in Southern African plantations, and relatively little certification in South East Asia (particularly FSC). This is partly due to the technical difficulty of obtaining certification; the costs of certification (especially for small Forest Management Units); and the lack of a price premium for certified forest products in the marketplace.

The simplest way to assure that timber products are legal is through a recognised forest management certification, accompanied by Chain of Custody certification that assures traceability from forest to market. This should check the validity of evidence such as:

- Letters of source, sales invoices, transport documentation and purchase orders;
- Concession, felling and harvesting licences, management plans agreed by regulatory authorities;
- Evidence of payment of appropriate royalties.

In many parts of the world it is not simple to implement and maintain a certified forest management system and certified chain of custody, due to economic, socio-political and governance issues. In the absence of forest certification, a company needs to provide an independent audit of timber origin and legality. An interesting example of this is the FSC 'Controlled wood' concept. "FSC Controlled Wood" is the name FSC has given to wood which is not FSC certified, but which has been vetted to exclude the most controversial sources. The standard provides a basis for buyers to 'support the best and avoid the worst'. 'The worst' being defined by the FSC membership as including:

- Illegally harvested wood;
- Wood harvested in violation of traditional and civil rights;
- Wood harvested in forests where high conservation values are threatened by management activities;
- Wood harvested in forests being converted to plantations or non-forest use;
- Wood from forests in which genetically modified trees are planted.

To obtain credible evidence of legality, other than recognised certification, may not be straightforward. The validity of trade documents such as supplier declaration and government documentation needs to be verified. Independent audits can be expensive. But where risks of illegal timber are high, it may be the only way to achieve an acceptable evidence of legality.

What is Chain of Custody?

Chain of Custody (COC) certification is the unbroken path which timber and paper products take from the forest to the consumer, including all stages of harvesting/importing, processing, manufacturing, transportation and distribution.

COC auditing can provide verification that the timber or paper products originate from legal sources, and verifies that these products are not mixed with products from unverified forests at any point in the supply chain, except under strict controls.

The two largest schemes offering internationally recognised, independent third party COC monitoring are the Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC). FSC and PEFC Chain of Custody certification is required whenever a company takes legal ownership of the product, and wishes to make claims to third parties that the product originates from a PEFC or FSC certified forest. The principles outlined in FSC and

PEFC can equally be applied to the development of a TLAS scheme and to its auditing and verification.

The key activities in carrying out a COC audit can be defined as:

- i. Understanding the Scope – i.e. where, when, how the audit will take place and what product you are auditing
- ii. Confirmation of the audit team, their skills and experience
- iii. Contact details of the organisation to be audited
- iv. Design and implementation of an Audit Checklist – this sets out clearly the questions which need to be asked and determines how the answers will be recorded. This might include interviews, observations and documentary evidence collection
- v. Reporting – how the information is collated and presented back to all stakeholders that require the information
- vi. Corrective Actions – where failings exist in the systems being audited, a standardised method needs to be developed to present these failings back to the organisation being audited and provide the organisation with an opportunity to respond in a set timescale
- vii. Review – it is good practice for Audits to be reviewed by colleagues and others to ensure that the process is clear, transparent and consistent. This will allow for a systematic improvement in all aspects of auditing
- viii. Decision Making – ultimately, somebody needs to take responsibility for signing off the Audit and making it publicly available

Initiatives to Support Forest Law Enforcement ⁶

The European Union has used a number of approaches to address illegal activities in the forestry sector. These include procurement policies, the so called 'Illegal Timber Law', and the development of Voluntary Partnership Agreements (VPAs) between the EU and other countries to support the EU's Forest Law Enforcement, Governance and Trade process. The first VPAs with Cameroon, Ghana and Republic of the Congo came into effect in 2009, and the first VPA licensed timber arrived in the EU in 2016. VPA negotiations are proceeding with a growing number of countries. VPAs are made credible through Timber Legality and Assurance Systems.

⁶ Primarily source from FAO State of the World's Forests 2011

A number of countries, primarily rich consumer countries (but also including Mexico) have issued procurement policies banning the use of illegally harvested forest products and in some cases encouraging the use of sustainably managed forest products.

In addition to the demand-side measures above, international and bilateral agencies have continued to support activities to strengthen forest law enforcement in producer countries through technical assistance for policy and legal reform, training in law enforcement, development of chain-of-custody and other monitoring systems and other capacity building activities.

The EU 'Illegal Timber Regulation' (EUTR) Placing timber from illegally harvested forests and products derived from such timber is prohibited in the European Union – the law came into effect on 3 March 2013.

What is Illegal Logging? The definition of legal timber is based on the law of the country of harvest. It can be described as forestry practices or activities connected with wood harvesting, processing and trade that do not conform to law. Illegalities occur right through the chain from source to consumer, 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 as well as mis-declaration to customs, before the timber enters the legal market.

Operators who place wood based products for the first time in the EU market must develop and implement a Due Diligence System including three key elements: Information on product name, species, country of origin and quantity, a Risk Assessment to determine the likelihood that the product comes from an illegal source and Risk Mitigation to ensure that illegally harvested material is removed from the supply chain, by exclusion or by working with the supplier more closely.

The Lacey Act (USA) originally prohibited the transportation of illegally captured or prohibited animals across state lines within the USA. It has been amended several times, including an amendment in 2008 making it unlawful to import, export, transport, sell, receive, acquire, or purchase in the USA illegal plant products – including timber and fibre. This also includes commerce outside the territorial boundaries of the USA. The amendment was designed to stop trade in illegally harvested trees and their products. Different wood products are being phased in

to comply with the Act. The penalties of breaching this act are potentially severe, including significant fines and up to five years in prison. The severity of punishment is dependent on what due diligence systems the private company had in place, along with the value of forest products traded, and whether the importer knowingly or unknowingly engaged in illegal sourcing. It also requires the importer to declare country of harvest, scientific species, quantity and measure, as well as the value.

When implementing these initiatives, both the United States of America and the European Union encourage wood industries and traders to apply 'due care' and 'due diligence' in their procurement practices to avoid the entry of illegal wood products into their supply chains.

Supply Side Initiatives at Work

Because private sector companies are not usually primarily driven by ethical, moral or charitable concerns but **compete** with each other to **maximise profits back to their investors and share holders**, there will always be a tendency by them to find the cheapest way to buy and sell products to consumers. The private sector companies that import and retail timber therefore demand from Government and Authorities that there be 'a level playing field' made available for them to compete on. They generally accept there should be rules and minimum standards but they dislike it when those rules are not enforced and the companies who abide by the rules and standards are undercut by those who ignore the rules (and get away with it). This is a constant complaint from those private companies who lead the way in raising timber trading standards.

Over the last decade in the UK the FLEGT process has deliberately encouraged and created space for stakeholders from the Private Sector, Civil Society and Government Authorities to discuss, debate, argue, listen, lobby and understand where common ground is. Today there is far greater common understanding between the UK timber companies and campaigning environmental NGOs than was the case a decade ago when these parties rarely cooperated and in many cases hated each other!

In UK and Europe it has been the International NGOs and CS organisations such as 'Greenpeace', 'Friends of the Earth' and 'World Wildlife Fund for Nature Conservation' who have held the private sector and Government policies to account. Back in the 1990s they picketed and demonstrated in front of retail companies such as 'B&Q' to protest at them selling 'illegal' flooring and garden decking originating from Indonesian rainforests reserved for wildlife and tribal peoples. These demonstrations and adverse publicity hit 'B&Q' hard causing a significant

drop in their sales [of all their products] as consumers turned away from their shops. This prompted 'B&Q' to shift to sourcing all its timber products from FSC certified sites.

Friends of the Earth Website (2010):

“Europe has taken a big step towards stopping illegal timber imports - and protecting forests around the world.

The European Parliament has voted for a Directive that should help create a level playing field in the international timber sector. The vote took place on 7 July 2010 and marks a **major milestone in 10 years of campaigning** on the trade of illegal timber in the EU. Campaigning for the ban involved **massive support from activists** from the UK and across Europe.

“This law, if properly enforced, will have a huge positive impact on the world's forests and their inhabitants. It will also mean that developing countries will finally start benefiting from the revenues that, until now, have disappeared due to illegal trade.” Geert Ritsema, Friends of the Earth Europe

Greenpeace Website (2010):

[*Victory! After 10 years of campaigning, EU votes to ban illegal timber*](#)



Exposing illegal timber used in the construction of the new Home Office building in 2003 © Greenpeace/Cobbing

It's been a long time coming but finally - finally! - the European parliament has voted overwhelmingly in favour of a law banning illegal timber from entering the European Union. Like many other organisations, Greenpeace has been campaigning on this for years - 10 long ones, in our case - so to see this become a reality is an amazing tribute to the thousands of people who emailed, donated or took direct action.

In the UK the Government commitment to counter the international trade in illegal timber resulted in support and dialogue with the UK Timber Trade Federation particularly in the area of improving the “Corporate Social Responsibility” (CSR) of the UK timber retailers. The timber

trade realising they needed to improve their record and reputation in the buying and selling of timber and carry out 'due diligence' to reduce the chances of importing illegal timber.

The UK Government is committed to only procuring timber from legal sources in any of its purchase for Government funded construction. Only timber companies with a proven record of trading in legal timber are short listed to tender for Government contracts.

However Governments come and go, as do their policies and priorities, so embedding minimum standards into the private sector timber trade is the sustainable way of eliminating illegal logging from international markets.

European Government actions influencing and improving the procurement policies and practices of a range of Institutions beyond the EU is also **necessary** to reduce demand for illegal timber and so increase the chances of protecting tropical forests and the livelihoods of their forest dependant peoples. For example

- Banking policies in issuing loans for forest conversion (ie. HSBC);
- Chinese private timber sector policies & practice;
- The procurement policies of the big retailers such as Wal-mart, Ikea, Tesco. the growth of large retailers over the last decade has seen their power and control over timber supply chains strengthen.

Such private sector organisations control huge flows of billions of dollars of trade; far greater than most of the world's Governments. HSBC alone has a greater outreach of offices throughout the world than any Government or International agency. So harnessing the power and reach of these enormous organisations to remove illegal timber from the market place by cutting off demand is worth trying to achieve.

The above has discussed how there are ongoing efforts to improve the demand side from the Industrial developed countries and the huge international conglomerates for internationally traded legal timber. If their procurement policies are improved this should iteratively improve standards all the way down the supply chain; verified by chain of custody evidence. The changes to timber import EU legislation and the US Lacey Act greatly improve the chances.

Conclusion

1. The timber industry can be a force for good. It can contribute to the economy by generating foreign exchange and significant taxation revenues, contributing a significant percentage of total GDP. From a developmental perspective, timber harvesting and often primary processing is conducted in remote areas, and it offers jobs and services for the workforce and their dependants, and sometimes the surrounding communities (e.g. health centres, schools, stores, livestock farms, etc.), supporting the work of state authorities.
2. Considering the trade of timber products as a whole, only a relatively small proportion (ca. less than 10%) of timber and wood products leaves the country of origin, though this varies greatly from country to country. However, it is clear that the vast majority of timber and wood is traded nationally, and used locally. This raises two issues:
 - Firstly, this **10%** of internationally traded timber is where the MNCs, profits and key trade lie. The MNCs want **cheap** wood products that are **also legal and sustainable**. This contradiction has not yet been resolved.
 - Secondly, **90%** of consumption is local, national or sub-regional. Demand for legal and sustainable forest products urgently needs to be generated at national and sub-regional levels.
3. But are timber producing nations and developing country consumers ready to pay a 'green premium'? Are issues of legality and sustainability even concerns at all to the growing consumer classes in Asia for example? - If not, trade pressures will be unable to influence improvements to forest governance, and could do the reverse; continue to act as drivers of illegal and unsustainable forestry.
4. We cannot stop trade in forest products at local, national, regional and international levels. So it is beholden on us to dramatically improve the standards of trading forest products to make all forest product trade as legal and sustainable as we can through a mix of legislation on the one hand and awareness raising to influence consumers on the other.

The 'take-home message' from this primer is that the international forest products industry is a leading global industry, generating huge revenue. Often, the forest products industry is a driver for forest utilisation, and possibly degradation, deforestation and illegal practices. Large parts of the trade are actively opposed to this, and are actively supporting processes designed to stop illegal and unsustainable forestry and logging. The illegal, criminal part of the trade is actively subverting these approaches, and likes to operate through complex, murky and untraceable supply chains. As such, parts of the forest products trade is currently part of the problem of illegal and unsustainable forestry, but also increasingly much of the forest products trade is a key part of the solution through driving better forest governance.

References to Browse

<http://www.scsglobalservices.com/>

Brochure on Timber Legality Verification. SCS Global are leaders in 3rd Party certification, auditing & testing, supporting environmental, sustainability & food quality.

<http://www.euflegt.efi.int/portal/>

Brochure on Timber Legality Assurance Systems. EU FLEGT Action Plan has measures in place to exclude illegal timber from entering markets, to improve the supply & to increase demand for responsible wood products.

<http://www.illegal-logging.info/index.php>

Provides information key issues in the debate around illegal logging. 131 pages of documents written by a number of people, from Greenpeace to BSI. Areas include Africa, China, Brasil and many more. Youngest document from Greenpeace 04.03.13 Oldest document from 01.01.99 from IIED

<http://www.euflegt.efi.int/portal/>

EU FLEGT Action Plan has measures in place to exclude illegal timber from entering markets, to improve the supply & to increase demand for responsible wood products. Ghana has approx 2.6 million hectors of forest.

<http://www.euflegt.efi.int/portal/>

Brochure on Ghana European Community - EU FLEGT Action Plan has measures in place to exclude illegal timber from entering markets, to improve the supply & to increase demand for responsible wood products.

<http://www.ltsi.co.uk>

LTS work with both private and public sectors. Addresses the core issues in development, economics, building capacity, re-shaping policies & empowering the poorest.

<http://corporate.helveta.com/news-article.html?id=82>

Helveta in Oxford has been selected by Cameroon Government to provide a national wood tracking system. The platform will allow the government to fully comply with VPA's requirements. Helveta leads the way in supply

chain management and asset management software for extended global supply chains. Helveta's CI World software is used extensively in the food and timber sectors

<http://www.tropenbos.org/>

Brochure on Community Forestry in Cameroon: How it can contribute more effectively to FLEGT. TBI's **vision**, tropical forests have critical contributions to make in providing the range of goods and services required by local communities and the people of the world. Well-managed forests — as components of productive landscapes — can simultaneously contribute to the objectives of alleviating poverty, providing ecosystem services and fostering sustainable economic development.

<http://clients.squareeye.net>

Website you need username & Password. 15th edition of TTAP Newsletter

<http://www.itto.int/>

Report document and Annex. ITTO is among the pioneers to address the issue of forest and timber certification as a voluntary market-based tool for promoting trade in tropical timber from sustainably managed and legally harvested forests and as a preferred alternative to bans and boycotts on the products.

<http://www.ghana.gov.gh>

Government website. Brief report on the Workshop On Forest Certification and Sustainable Forest Management. No download

<http://www.ghanatimber.org>

TIDD support logging and wood processing sector. No downloads

www.workinggroupgh.org

Growing environmental awareness and consumer demand for more socially responsible businesses through certification emerged in the 1990s as a credible tool for communicating the environmental and social performance of forest operations. Forest certification is an important tool for those seeking to ensure that the paper and wood products they purchase and use come from forests that are well-managed and legally harvested.

<http://www.cbd.int/>

The Convention on Biological Diversity (CBD) entered into force on 29 December 1993. It has 3 main objectives:

The conservation of biological diversity
The sustainable use of the components of biological diversity

The fair and equitable sharing of the benefits arising out of the utilization of genetic resources
Report - Legal vs Certified Timber (Cameroon)

<http://www.africad.ubc.ca/>

Research paper - We work in Africa's forested regions on applied research to address poverty alleviation and sustainable livelihoods, social equity, and conflicts over natural resources. We aim to be a leader, in both the generation of knowledge through scientific inquiry and the communication of knowledge through teaching and capacity building, on poverty and forest-dependent livelihoods. University of British Columbia

<http://www.sgs-ghana.com>

SGS Global are leaders in 3rd Party certification, auditing & testing, supporting environmental, sustainability & food quality.

<http://www.illegal-logging.info>

Provides information on key issues in the debate around illegal logging. 131 pages of documents written by a number of people, from Greenpeace to BSI. Areas include

Africa, China, Brasil and many more. - Report

<http://www.illegal-logging.info>

Report document relating to the EU timber regulation legal framework guidance

http://ec.europa.eu/environment/environment/forests/illegal_logging.htm

Main EC website on illegal logging

<http://www.forest-trends.org>

Beginning in 1996, a small group of leaders from forest industry, donors, and environmental groups began to meet to consider the array of challenges facing forest conservation and began to identify common ground. This group recognized the respective contributions and limits of their own institutions and decided to create a new organization - Forest Trends - to expand this work of bridging traditional divides and promoting market-based approaches to forest conservation.

<http://europa.eu>

European Union Web Site - New timber regulation comes into force dated 1st March 2013

Other Websites:

Central Point Expertise on Timber <http://www.cpet.org.uk>

UK Timber Trades Federation <http://www.ttf.co.uk/>

Tropical Forests Trust <http://www.tft-forests.org>

James Latham <http://www.lathams.co.uk/InformationA.47.html>

Programme Endorsement Forest Certification <http://www.pefc.org> ;

<http://www.youtube.com/watch?v=ZGHuse425rE&feature=related>

Forest Stewardship Council www.fsc.org/ ; http://www.fsc-uk.org/?page_id=5

<http://www.youtube.com/watch?v=vhCwKe-uFBw&feature=related>

Greenpeace <http://www.greenpeace.org.uk/forests>

<http://www.greenpeace.org/international/en/campaigns/forests/threats/illegal-logging/>

<http://www.youtube.com/watch?v=SlyW89QJwk8>

Friends of the Earth http://www.foe.co.uk/campaigns/success_stories/timber_success_24588.html

WWF http://www.wwf.org.uk/what_we_do/safeguarding_the_natural_world/forests/

http://www.youtube.com/watch?v=lv3W_YIDnOs&feature=related

IIED <http://www.iied.org/natural-resources/key-issues/forestry/justice-forests-series-short-films>

EIA US Lacey Act http://www.eia-global.org/forests_for_the_world/lacey.html

World Resources Institute <http://www.wri.org/project/global-forest-watch>

Indonesia Kehati TLAS http://www.illegal-logging.info/item_single.php?it_id=366&it=presentation

Multistakeholder Forestry Programme <http://www.mfp.or.id/>

The EU's Illegal Timber Law: what it really means http://americanhardwood.org/news-events/release/?tx_ttnews%5Btt_news%5D=387&cHash=f13fe97edaa60b0a4e90abf6429ec19b

Chatham House Illegal Logging Info <http://www.illegal-logging.info/index.php>

Environmental Investigation Agency <http://www.eia-global.org>

Madagascar:

http://www.youtube.com/results?search_query=illegal+logging+trade+&oq=illegal+logging+trade+&aq=f&aqi=&aql=&gs_l=youtube.3...14970.27767.0.28470.36.36.0.0.0.94.2335.36.36.0

Forest Commission climate change angle: <http://www.youtube.com/watch?v=zEb22FDsGyU>

Walmart 2011 Global Responsibility Report www.walmartstores.com/sites/ResponsibilityReport/2011/

Wikipedia http://en.wikipedia.org/wiki/Illegal_logging

BBC News - Illegal logging makes billions for gangs www.bbc.co.uk/news/science-environment-17448581

Global Witness <http://www.globalwitness.org/campaigns/environment/forests/illegal-logging>