Forest concessions and private sector involvement in the management of public forests in Brazil as a source of sustainable forest products
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INTRODUCTION

Deforestation, forest degradation and illegal forest use are serious global problems, which many timber producing countries have recently invested considerable efforts to fight. There is also a growing awareness of the environmental, economic and social dimensions of trade, and the important role that markets and demand side policies in consumer countries can play in stepping up transition towards sustainable forest management in timber producing countries (van Bueren et al, 2013).

In environmentally sensitive consumer markets such as Europe, governments, trade associations and private companies have introduced initiatives and legal measures to stimulate the consumption of legal and sustainably produced timber (van Bueren et al, 2013). The USA and the EU are Brazil’s top export destinations of wood and paper products and both have counter illegal logging legislation in place. The precise implications of these are yet unclear and organizations in timber producing or consuming countries are frequently unfamiliar with legislation and procedures “on the other side”.

On the other hand, over the previous 10 years Brazil underwent a steady process of adaptive improvement in the normative framework regulating forest management and land-use change, driven in large part by a concern over deforestation in the Amazon. A particularly significant recent legislative change is the 2006 Law on Public Forest Management which allows legal timber production on public forests under a concession system. Even today, buyers and competent authorities in Europe are often unaware of these improvements and especially of the existence, and characteristics, of the Brazilian concession system.

This report is the final output delivered in the scope of the project “Concessions and private sector involvement in the management of public forests in Brazil as a source of sustainable forest products”.

The project objective is to encourage dialogue and information exchange about EU policies and regulations on the trade of forest products and Brazilian successful experiences of forest concession and the sustainable management of forests.

The project’s expected outcomes are:

- Recognize forest concessions in Brazil as benchmark of sustainable sources for the production of forest goods;
- Make EU regulations, laws and institutions related to the trade of timber and timber products familiar to Brazilian public authorities and private forest sector;
- Create a network of institutions related to timber and forest products between Brazil and the EU;
- Exchange information on regulations and laws between European and Brazilian institutions and companies related to sustainable forest management and to the production and the trade of timber.

This report is the final version of an earlier report, written in September 2014, and incorporates feedback from the Brazilian Forest Service and other parties involved in the project, as well as insights obtained during the project missions.

The views expressed in this report are those of the author, and do not necessarily reflect those of the Brazilian Forest Service, nor of the Brazilian or any European Union country Governments.
1. TRADE OF TIMBER PRODUCTS BETWEEN SOUTH AMERICA AND THE EUROPEAN UNION

1.1. THE EUROPEAN UNION MARKET FOR TIMBER PRODUCTS

The EU is one of the largest consumers of timber products in the world. In 2011, the global trade of primary timber products was worth over €108 billion. The European Union represented 35% (€37.8 billion) of that amount (European Communities, 2012).

In volume terms, imports are dominated by sawn wood (39%), logs (36%), and plywood (18%). By volume, 65% of EU imports derive from countries located in temperate and boreal forest zones, while only 14% derive from countries located mainly in tropical zones (figure 1). The latter however are relatively more expensive than other products, accounting for 26% of imports by value. The remaining 21% derive from countries straddling tropical and temperate zones, notably China and Brazil (figure 2). (Olivier, 2009).

Figure 1: Roundwood equivalent volume of EU wood products by forest zone of source country, in 2007. (Source: Olivier 2009)
Russia is by far the EU's largest supplier of logs and sawn wood followed by the USA, Brazil and tropical Africa. EU imports of plywood derive mainly from China, Brazil, Malaysia, Indonesia and Russia. Wood furniture is the leading EU wood product import in value terms with China as the main external supplier by a significant margin, followed by Indonesia, Vietnam and Malaysia. (Olivier, 2009)

Tropical timber accounted for 13% (€27 billion) of overall timber imports into the EU in 2011 (European Communities, 2012). The main importers of tropical timber in the EU are: Belgium, Denmark, France, Germany, Italy, Spain, the Netherlands and the United Kingdom (Probos, 2013).

The EU has a large and diverse wood processing and furniture industry comprising over 300,000 enterprises and accounting for 4% of all manufacturing production value and 8% of all manufacturing employment in the EU. The main EU end-using sectors for wood products – construction and furniture retailing - are also highly fragmented. However, there has been some consolidation in the European timber importing sector in recent years. To help overcome supply shortages and meet rising demand for just-in-time trading, some larger European timber importers have established huge concentration yards close to the main ports, notably in NW Europe, and are playing a central role in the European trade in legally verified or certified wood products. (Olivier, 2009)

But both in absolute and relative terms Europe’s importance in the timber trade is declining. In truth, the value of global trade in all timber products declined sharply in 2009, mainly due to the severe economic downturn in Europe and North America (Olivier 2013a).

The decline in consumption of tropical timber in Europe over the past 10 years has been attributed to the economic crisis, but is also due to changes in consumer preferences, a negative image of tropical timber in some markets and increasing regulation (van Bueren et al, 2013; Olivier, 2013b). The consumption of sawn tropical timber in several of the (until recently) main tropical timber importing...
countries in the EU decreased significantly - CBI (2013) refers decreases of 37% in France, 56% in Italy and 71% in Spain.

Figure 3: European import (selected countries) of tropical timber and timber products (roundwood, sawnwood, veneer and plywood), 2007-2012 in m$^3$. (Source: CBI 2013)

Competition from growing domestic markets and other export markets (such as China, India, Vietnam) has also contributed to the decline of the European share in the international consumption and trade of primary forest products (van Bueren et al, 2013; CBI, 2013). These countries have fewer requirements, are capable of absorbing larger quantities and have cheaper manufacturing capacities.

There is also a shift from importing primary products from timber producing countries to importing manufactured products mainly from Asian suppliers (Maplesden et al, 2012 in van Bueren et al, 2013) - especially China. As pointed out in a recent article (Biron 2014), China has emerged in recent years as a major intermediary for the global wood industry, both licit and illicit. In the past decade, Chinese exports of wood products have increased at annual rates of over 30%. Today, the country is the world’s largest exporter of wood products, with more than 12% of the global market, valued at almost 12 billion dollars in 2012 (Biron 2014).

Finally, substitutes have meanwhile been adopted: existing ones such as aluminium and concrete, modified ones such as temperate and boreal timber modified to improve wood characteristics, and new ones such as Wood Plastic Composite, which is heavily competing with tropical timber in decking (CBI, 2013).
When it becomes too expensive, or legal, technical, social or environmental restrictions to trade become too cumbersome, tropical timber (especially timber for commodity purposes) may be avoided and substituted by timber from other regions and by competing materials (van Bueren et al, 2013).

1.2. EXPORTS OF TIMBER PRODUCTS FROM SOUTH AMERICA

This section is based on work by Olivier (2013a) and Blandières et al (2013) on timber trade between the EU and South America.

South American forests are characterized by the predominance of primary forests. In Brazil the proportion of primary forest exceeds 90% (Olivier, 2013a). But although South America has over 20% of the forest resources in the world, it only responds to around 10% of the world production of timber, most of it being produced by Brazil and Chile.

Furthermore, South America currently plays a relatively limited role in the global international (i.e. cross-border) trade in forest products, accounting for approximately 5% of the world’s timber and timber products exports, and 15% of pulp, paper and paperboard (Olivier, 2013a; Blandières et al, 2013). This difference is explained by the importance of plantations (which contains predominantly eucalypt and pine species) in the South American forest economy. In the plantation sector, and despite the still limited plantation area, there are strong, vertically integrated economic groups (especially in Brazil and Chile), employing global strategies to capture external markets of high aggregated value (Blandières et al, 2013).

As shown in figure 4, South American exports are directed mainly towards NAFTA countries, Asia and the EU-28.

![Figure 4: Value of all wood and wood products exported from South America according to destination regions in 2010 and 2011. (Source: Blandières et al 2013)](image_url)
In recent years, the contribution of the Amazon region to commercial supply of timber on international markets has been falling, driven by a range of factors including low international competitiveness and improved forest law enforcement, including on some of the most commercially valuable species. Other economic factors in South America have also contributed to the Amazon’s declining role in international wood markets, including volatility in exchange rates and rising regional demand which has further reduced incentives to export. (Olivier, 2013a).

Importers in western countries are now much less inclined to purchase from areas like the Amazon, where supply is uncertain and irregular and prices volatile. Introduction of the US Lacey Act amendment in 2008 and the European Union Timber Regulation (EUTR) in 2013 have further encouraged a more risk-adverse attitude amongst western importers. (Olivier, 2013a).

Efforts are now being made to help reverse the decline through a focus on more secure and less volatile supply of Amazon wood products from legally-verified and certified forest areas. These efforts also include encouraging market recognition for a wider range of lesser-known Amazon species, improving financial returns from sustainable harvesting operations and reducing pressure on widely known commercial species. (Olivier, 2013a).

Trade flow analysis of timber trade from South America by Olivier (2013a) shows a dramatic downturn in trade to the USA between 2007 and 2012, driven as much by a large fall in Brazilian exports of softwood products from southern plantations as it is by declining exports from the Amazon. Brazilian softwood exports have been hit by the downturn in American construction industry, the volatile exchange rate of the Brazilian real and, in the case of softwood plywood, intensifying competition from Chinese manufacturers. The value of trade to Europe and Asia declined less markedly during the same period, with the fall in Amazonian product trade offset by an increase in exports of hardwood-derived wood pulp, mainly from Brazil plantations.
2. DEFORESTATION, FOREST DEGRADATION AND ILLEGAL TIMBER TRADE IN TIMBER PRODUCER COUNTRIES

**Deforestation** is usually irreversible, and involves removing natural forests to meet other land needs, such as plantations, agriculture and pasture. The extent of **forest degradation** is not well-known due to problems in defining and measuring it. The direct and underlying causes of forest loss and degradation are highly variable, and have important global dimensions related to the demand for forest products and agricultural commodities elsewhere (European Commission, 2013).

In fact, in a recent study, Lawson (2014) found that 71% of all tropical deforestation between 2000 and 2012 was caused by commercial agriculture. In addition, the author suggests that almost half (49%) of total tropical deforestation during this period resulted from illegal conversion for commercial agriculture.

**Illegal logging** can be defined as the harvesting, transporting, processing, buying or selling of timber in violation of national laws. This definition also applies to harvesting wood from protected areas, exporting threatened plant/tree species, and falsifying official documents. It also includes breaking license agreements, tax evasion, corrupting government officials and interfering with access and rights to forest areas.

Companies and governments that buy timber and timber products have a significant impact on illegal logging. If they unwittingly buy illegal timber, they create profitable markets for illegal loggers and undermine efforts to enforce forest law in timber-exporting countries.

Illegal logging takes place in many countries on a small scale and has limited impact on the environment or society in general. Although generally portrayed as a problem in tropical forests, illegality also occurs in developed countries and economies in transition. However, in a significant number of countries, illegal logging is a major problem that poses a serious threat to forests, communities, and wildlife. Illegal logging is a relatively minor driver of deforestation, but a much more important driver of forest degradation (European Commission, 2013).

Globally, illegal logging has been estimated to cause losses of €7 billion per year, half of this in lost royalties and taxes for governments, and to depress world prices of forest products by 7-16%, depending on the product (European Communities, 2012).

A report for the Forest Trust (Olivier, 2009) indicates that, if only extra-EU trade is considered, around 12.6 million m³ (21%) of the 60.4 million m³ (RWE volume) of products imported into the EU in 2007 are at potentially high risk of being derived from a suspicious source. The largest volumes of risky wood derive from the
Commonwealth of Independent States (CIS), Greater China and Africa and comprise mainly furniture and hardwood products.

Over the last decades, governments, the private sector and civil society have recognized these impacts and have made increasing efforts to tackle the problem. A Chatham House study (Lawson and MacFaul, 2010) measured the scale and effectiveness of the response to illegal logging in five timber-producing countries (one of them Brazil), and seven timber-consuming/processing countries. The study finds that while illegal logging remains a major problem, the impact of the response has been considerable. Illegal logging is estimated to have fallen during the last decade by 50% in Cameroon, by between 50 and 75% in the Brazilian Amazon, and by 75% in Indonesia. Imports of illegally sourced wood to the seven consumer and processing countries studied were also found to have decreased, 30% from their peak. This reflects a general decline in the overall volume of harvesting in the Amazon, legal and illegal, which in turn has also run parallel with a dramatic fall in deforestation rates (Thiel and Viergever, 2006; Lawson and MacFaul, 2010; IPAM et al, 2014).

But illegal logging remains a major problem. The more blatant forms of illegal logging are reduced, the more persistent and less easily detected types of illegality become more important – such as overcutting by licence holders within licensed areas, or the illegal issuance of licences, logging by smaller-scale concessionaires, and domestic markets for illegal wood products at producer countries (Lawson and MacFaul, 2010).

Lawson and MacFaul (2010) also found that over half of illegal wood-product imports arriving in consumer countries are now processed products - particularly furniture - from processing countries such as China. These trends present an increasing challenge for demand-side measures to tackle illegal wood consumption in consumer countries, since they make it more difficult to distinguish legal from illegal wood.
3. INITIATIVES OF TIMBER PRODUCT CONSUMER COUNTRIES TO PROMOTE SUSTAINABLE FOREST MANAGEMENT

3.1. LEGALITY VERIFICATION

Verification refers to an independent process of checking that the forest management and supply chain controls meet a defined set of requirements; in this case, legality and traceability (Proforest, 2011). It usually involves audits of forest management units and processing facilities, including field inspections, and reviews of documentation and management systems. Legality verification systems can be broadly divided into two types:

- Mandatory legality verification
- Voluntary legality verification

Mandatory legality verification programmes are implemented by, or on behalf of, governments. Globally, two types of mandatory programmes stand out:

1. Legality assurance and export licensing that will be required for the voluntary Partnership Agreement (VPA) under the EU FLEGT Action Plan;
2. National or sub-national government regulation and documentation such as the EU Timber Regulation and the US Lacey Act.

VPAs and the EU Timber Regulation are developed in subsequent sections.

There are many examples of voluntary legality verification schemes, each of which may operate according to a different definition of legality. Most are developed by certification bodies; examples are SGS, Bureau Veritas and the Rainforest Alliance’s Smartwood programme. Each certification body has developed its own generic legality standards; Proforest (2011) compares certification body schemes as to what they offer.

A frequent (but not always clearly explained) distinction is found between schemes that do VLO and VLC:

- Verification of Legal Origin (VLO) verifies that timber comes from a known and licensed source and that the entity that carried out the harvest had a documented legal right to do so.
- Verification of Legal Compliance (VLC) expands upon the basic component of VLO by verifying that timber harvesting and other relevant management activities in the forest where it was harvested complied with all applicable and relevant laws and regulations.
Legality is defined by the aspects of legislation required to be addressed at the forest management level. There is no universally agreed definition of legality; however, in many countries the following aspects are covered (Proforest, 2011):

- Legal right to harvest;
- Compliance with legislation related to forest management, environment, labour and welfare, health and safety;
- Compliance with legislation related to relevant taxes and royalties;
- Respect for tenure or use rights to land and resources that may be affected by timber harvest rights;
- Compliance with requirements for trade and export procedures including CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

There are in fact many definitions of (il)legal logging, some narrower than others; Miller et al (2006) discuss six definitions, for example, and Proforest (2011) outlines the definition of legality under the FLEGT VPA, EU Timber Regulation, and under various EU public procurement policies. More detail on legality according to VPA and EU Timber Regulation is given in the next sections.

### 3.2. CERTIFICATION

Whereas legality verification offers evidence of the legal origin/compliance of timber and timber products, sustainability certification goes further in proving that these products originate from forests which are responsibly managed. In order to achieve certification, forest managers and timber suppliers have to comply with certain performance standards which may cover reforestation requirements, and minimization of environmental and social impacts of forest operations.

Sustainability certification is increasingly being included in national public procurement policies and private sector buying standards, and is already a minimum requirement for public buyers in Belgium, France, Germany and the UK (Proforest 2010). While various certification schemes exist, the dominant schemes are: the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

Of the total consumption of tropical timber in Europe, the proportion of certified sustainable timber (FSC, PEFC, etc.) varies remarkably between countries, and data are not easily available (Van Bueren et al, 2013); Netherlands is an exception (see box below).
Box 1: Consumption of sustainably sourced timber in the Netherlands
(adapted from Oldenburger and Winterink, 2013)

In the Netherlands, the market share of certified sustainably produced timber almost doubled in 2011 compared to 2008, when the market share was 33%. In absolute terms the total Dutch wood consumption decreased by almost 12% between 2008 and 2011, while the total volume of sustainably produced sawn wood and wood based panels has increased by 73% in absolute terms.

Special attention was paid to the origin of tropical sawn hardwood. With a market share of approximately 40%, Malaysia was the main country of origin in 2011. Cameroon (22%), Indonesia (10.5%) and Brazil (10%) also played a major role. However, Africa is the main source of certified tropical sawn hardwood, followed by Southeast Asia.

3.3. PUBLIC PROCUREMENT POLICIES

Government procurement in the EU is the awarding of contracts for public works and for the purchase of goods and services by the public authorities of the EU and its member states. Government procurement has been the subject of increasing European regulation since the 1970s because of its importance in the European single market.

Amongst most EU member states, government procurement accounts for between 15% and 25% of all timber imports (Proforest, 2010), and therefore has considerable potential to influence buying practices and promote good business practices across the timber market as a whole. Public procurement policies aim to ensure that public buyers source legal and/or sustainable timber and wood products only, and form part of a broader effort to "green" public procurement policies. An increasing number of EU Member States are adopting green public procurement policies, but coherence and clarity among country-specific timber procurement policies is lacking (van Bueren et al, 2013).

Countries implementing such policies include Belgium, Denmark, France, Germany, Netherlands and the UK. Outside of the EU, Switzerland, Japan, New Zealand and Australia have also implemented government procurement policies for sustainable and/or legal products.
Box 2: UK Government procurement policy

The UK government requires their suppliers to be able to demonstrate that the wood or wood-based product supplied for a contract comes from both legal and sustainable, or FLEGT licensed or equivalent sources. If a supplier has a contract directly with the UK government, they will be responsible for making sure that all the evidence has been gathered and is complete. If a supplier is supplying to Government indirectly through other organisations, they will be responsible for explaining and submitting information on what their own organisation does, and asking their own supplier(s) to do the same.

Various organizations have published material to support companies in implementing this policy (e.g.: CPET, 2010a and 2010b), or in implementing more responsible timber purchasing policies, even when not mandatory, such as ICLEI’s guide (Clement et al., 2012), aimed at European public authorities.

FSC and PEFC have been assessed by the UK Central Point of Expertise on Timber (CPET) and found to ensure compliance with the legality and sustainability requirements. Apart from PEFC, FSC and FLEGT licensing, all other evidence of legality and sustainability is required to be assessed on a case by case basis.

However, where a particular type of product or timber species is required and where there is no sustainable timber or FLEGT-licensed timber or alternative available, timber which can be verified to meet the UK government requirements for legality will be accepted (Proforest, 2011). Voluntary legality verification systems can therefore play an important role in ensuring legality and ensuring compliance with the UK government’s timber procurement policy where no sustainable source is available, particularly systems applying the VLC definition (Proforest, 2011).

3.4. SUMMARY

The variety of timber verification levels available on the market, coupled with different preferences signalled by different users and actors, create a complex environment for producers and traders in tropical timber (van Bueren et al, 2013). Table 1 below summarizes the current levels of verification on the timber market.
Table 1: Segmentation of the European timber market depending on level of legal and/or sustainable compliance (adapted from van Bueren et al (2013) and Cunha and Araújo (2010))

<table>
<thead>
<tr>
<th>Performance class</th>
<th>Origin</th>
<th>Level of verification</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Timber of illegal or unknown (and thus high risk) origin</td>
<td>Anywhere</td>
<td>Not verified against any standard</td>
<td>In principle, due diligence eliminates entry of this timber to the EU market, for this category is not allowed to enter the EU market</td>
</tr>
<tr>
<td>II. EUTR- “Compatible” timber excluding categories III, IV, V and VI</td>
<td>Anywhere</td>
<td>Subjected to a due diligence system by the operator (= importer). At most, 3rd party verified for compliance with EUTR by monitoring organizations.</td>
<td>The due diligence process establishes that there is no obvious evidence for illegal sources</td>
</tr>
<tr>
<td>III. FLEGT-licensed timber (not yet available)</td>
<td>Only VPA countries</td>
<td>Verified against legality definition in the national VPA by using the agreed legality assurance system</td>
<td>Meets a high level of environmental, social and economic requirements</td>
</tr>
<tr>
<td>IV. Timber of CITES listed species</td>
<td>Only species listed in the 3 appendices of CITES</td>
<td>Trade of these species must always be accompanied by a CITES licence</td>
<td>The CITES license exempts the product from further verification, for it is taken as proof of legal origin</td>
</tr>
<tr>
<td>V. Legally verified timber (VLO/ VLC)</td>
<td>Anywhere</td>
<td>3rd party verified for compliance with legal requirements</td>
<td>Meets a high level of legal requirements, but these vary according to definition of “legality”</td>
</tr>
<tr>
<td>VI. Timber certified against forest management standards (FSC, PEFC)</td>
<td>Anywhere</td>
<td>3rd party verified for compliance with responsible forest management standards</td>
<td>Meets a high level of environmental, social and economic requirements</td>
</tr>
</tbody>
</table>
4. WHAT IS THE EU DOING? THE FLEGT ACTION PLAN

Illegal logging has long been a problem but it was not until the 1990s that research in countries such as Cambodia and Indonesia revealed just how severe it was, drawing public and political attention. It became a subject for intergovernmental discussion at the G8 Action Programme on Forests in 1998. The EU recognised that, as one of the world’s largest markets for timber products, its actions were having a considerable impact on the illegal timber trade. The EU also recognised that trade agreements would be a viable option for the EU to help countries meet the EU’s demand for legal timber (European Communities, 2012).

The EU’s Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) was adopted in 2003. It sets out a series of actions needed to tackle illegal logging and the associated international trade in illegally produced timber products. It comprises seven basic elements: support for timber-producing countries; activities to promote trade in legal timber; promoting ethical public procurement policies; support for private-sector initiatives to promote corporate social responsibility; safeguards for financing and investment; use of existing legislative instruments or adoption of new laws to support the plan; and addressing the problem of conflict timber.

The main FLEGT elements – Voluntary Partnership Agreements (VPAs) and the EU Timber Regulation – are developed in the next sections. The next figure sets out the main steps of the EU’s FLEGT Action Plan taken since its adoption.
4.1. VOLUNTARY PARTNERSHIP AGREEMENTS

A-1) Main elements

The first key initiatives of the FLEGT action plan were the adoption in December 2005 of a mandate for the European Commission to negotiate on behalf of the EU Voluntary Partnership Agreements (VPAs) with timber-producing countries, and a regulation to empower member states’ border control authorities to control the import of timber products from those countries.

A VPA is a WTO-compatible bilateral trade agreement between the EU and a timber-exporting country outside the EU to work together to improve forest governance and regulation in partner countries, and to provide assurance that timber products had been legally produced.
VPAs are voluntary for timber-exporting countries. However, once a VPA has entered into force, it is legally binding on both sides. Under the VPA, the timber-producing country develops systems to verify that its timber exports are legal, and the EU agrees to accept only licensed imports from that country.

A-2) The VPA Process

The VPA process is described in European Communities (2012). VPAs are developed by stakeholders who work together to identify and resolve governance challenges. During negotiations, the parties agree on a definition of legal timber and establish a robust monitoring system that confirms legal compliance, known as the ‘legality assurance system’. Each VPA defines ‘legal timber’, based on the laws and regulations of the partner country. Generally, the relevant laws cover environmental protection, logging rules, payment of fees, timber trade and transport regulation, and property rights, including those of the communities that depend on forests for their livelihoods. The legality definition ensures that forest law requirements are applicable, consistent, understandable and enforceable – and also reflect the partner country’s social, economic and environmental objectives.

After the VPA is agreed, the producer country implements the agreement by upgrading its systems for verifying legal compliance, recruiting an independent auditor and putting in place transparency, communication and capacity-building measures.

The final phase is when the FLEGT licensing scheme becomes operational. The nation legality assurance system verifies that the timber and timber products are sourced and produced legally, traces products from forest to export and awards a ‘FLEGT licence’ to each verified consignment. Once the system is in place and has successfully passed an independent evaluation, the EU will accept only FLEGT-licensed timber from the partner country. A bilateral joint implementation committee monitors the implementation of the measures agreed in the VPA.

A-3) Implementation so far

As of June 2014, six countries (Cameroon, Central African Republic, Ghana, Liberia, Indonesia and Republic of Congo) have signed a VPA with the EU and are currently developing the systems needed to control, verify and license legal timber. These countries are known as ‘VPA partner countries’. Nine more countries are in negotiations with the EU. Progress can be tracked on the FLEGT website (www.euflegt.efi.int/). For most of the VPA countries significant progress must still be made in implementing the governance reforms and Legality Assurance System, so it will take some time before substantial amounts of FLEGT-licensed timber reach the market (van Bueren et al, 2013).

To date the Brazilian government has shown no inclination to sign a FLEGT VPA with the EU, preferring to focus on domestic measures to improve enforcement of forest laws.
4.2. THE EU TIMBER REGULATION

A-1) Main elements

The EU Timber Regulation (EUTR) is a piece of EU legislation that prohibits illegally harvested timber from being placed on the EU market. The Regulation was published in 2010, after it was found that FLEGT VPAs had limited coverage and their effectiveness was hampered by shipping via a third country, and also in reply to persistent demands for overarching legislation to prohibit the sale of illegal timber in the EU.

Until recently, no consumer country anywhere in the world had legislation in place which prohibits the import or sale of wood products which were illegally sourced (Lawson and MacFaul, 2010). In the absence of such laws, even if a producer-country government were to send a formal alert about a shipment of wood which was known for certain to have been harvested or exported illegally, there would probably be nothing that consumer-country authorities could do to prevent it from entering the country and being sold (Lawson and MacFaul, 2010).

The EUTR – Regulation (EU) No 995/2010 (EU, 2010) became applicable in March 2013 and has three core obligations:

- It prohibits the placing on the EU market for the first time of illegally harvested timber and timber products;
- It requires EU traders placing timber on the market (termed ‘operators’) to exercise ‘due diligence’ in their sourcing of timber; and
- It requires subsequent traders to keep records of their suppliers and customers to make timber easily traceable.

The regulation governs the trade in timber products on the EU market and covers most (but not all) timber products commonly traded; products covered are listed using Customs codes in an annex. The Regulation, however, is not a border measure and shipments will not be checked at EU borders.

The Regulation divides those who deal in timber and timber products into two categories: ‘Operators’ and ‘Traders’. Each has its own distinct obligations (see figure 6). Operators – those who first place timber products on the EU market – carry the bulk of the responsibility, and are required to implement a risk management or ‘Due Diligence System’ (DDS – see chapter 5 for a full explanation of a DDS). Traders – those who buy or sell timber or timber products already on the market – are required only to keep track of who they buy from and sell to, so that the timber products can be traced if necessary.

Operators can develop their own due diligence systems or use one developed by a monitoring organisation. A ‘Monitoring Organization’ is a service provider which maintains and evaluates a due diligence system; grants operators the right to use it; and ensures operators apply it correctly. Monitoring organizations must obtain recognition by the European Commission; a list of those currently recognized can be consulted on: http://ec.europa.eu/environment/forests/timber_regulation.htm.
More details on the DDS are described in the subsequent section.

In each of the EU member states, national governments have appointed a national ‘Competent Authority’, the body responsible for monitoring and enforcing the EUTR. This includes the organization of spot check missions at operator’s premises to see they follow a robust Due Diligence System and if illegal timber has been placed on the market. A list of competent authorities can be found on: http://ec.europa.eu/environment/forests/pdf/list_competent_authorities.pdf.

Each member state has introduced national measures and mechanisms for the implementation of the Regulation in their country, in terms of policing and penalties. The latter include seizure of illegal timber, suspension of authorization to trade, fines and, in the event of serious or repeated offences, prison sentences. The regulation clarifies that penalties should at least be “effective, proportionate and dissuasive”, but with penalties currently varying across the EU, there are some concerns about the uniform enforcement of the EUTR (Hein and Hoare, 2014).
A-2) Implementation so far

Hein and Hoare (2014) studied EUTR implementation by competent authorities, finding that in some countries implementing legislation was still in the process of being introduced. In France, for instance, the Parliament only passed enacting regulations for the EUTR on 11/09/2014 (Jeffree, 2014). According to Potocnik’s (2014) summary of the situation in autumn 2014, nine Member States had not yet adopted rules on applicable penalties for infringement, and 11 were not ready to check whether operators and monitoring organisations fulfil their obligations.

Until implementation is complete, countries lagging behind represent a weak point in the EUTR. The majority of competent authorities are domestic forestry authorities or government agencies; the consequent lack of expertise in the international timber trade is likely to represent a significant challenge for the enforcement of the EUTR. In truth, enforcers are confronted with a wide range of international legislation and documentation, and complexities in evaluation thereof.

According to Hein and Hoare (2014), relatively few checks on operators have been carried out so far. This reflects the lack of implementing legislation, the slow progress in allocating staff and resources to the competent authorities, as well as the steep learning curve that has been required for many.

The staff levels of most competent authorities are relatively low, given the scope of their responsibilities for enforcement of the EUTR and the size of the timber trade. International coordination between competent authorities appears partial and relatively informal. Few competent authorities are coordinating work on the development of document-authenticity validation processes, the sharing of information on monitoring organizations and the development of inter-state communication mechanisms.

The uneven implementation of the EUTR within the EU has been pointed out as a problem (Hinrich, 2014). Also, few Monitoring Organisations are recognized and operational.

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**Box 3: Summary of one year of EUTR implementation by the German competent authority**

(adapted from Hinrich, 2014)

- In a potential universe of 350 to 2,500 operators, the German competent authority controlled around 100 operators in 2013.
- It reported that 25% of operators visited did not apply DDS properly (e.g. “only collecting documents, treating Switzerland as EU”).
- In 2013 it only issued admonitions (no severe offenses were involved), but since 2014 has been applying sanctions. Administrative sanctions include fines up to 50,000€ and criminal sanctions may lead to an unlimited fine or up to 1 year of prison (higher sentences are possible by criminal code for fraud, forgery etc.).
- It reported one severe case, resulting in timber seizure: 180 m³ of Wengé imported from the Democratic Republic of Congo in three shipments, which is seized since November 2013.
A-3) Impact on trade

It is too early to evaluate the impact of the EUTR on timber trade. Market analysts (van Bueren et al, 2013; Olivier, 2013b) make cautious comments on signs that the EUTR may be adversely impacting particular products with complex supply chains. More recently, Olivier (in Jeffree, 2014) refers that “The figures since the introduction of EUTR are actually most remarkable for their relative stability - albeit at a low level. But this stability itself might be partly due to EUTR which, alongside weak consumption and lack of financial credit, has contributed to greater risk aversion.” However, as the graphs below show (figures 7, 8 and 9), other factors seem to affect these trade flows more significantly, such as consumption levels, supply country capacity cuts, species availability, and freight backlogs (Olivier in Jeffree, 2014).

![Figure 7: EU28 import of tropical wood by product group. Monthly (moving average) 1000m³ RWE (Jan12-Apr14) (Source: ITTO IMM analysis of Eurostat, in Jeffree, 2014)](image-url)
Reports from the timber sector (Hinrich, 2014) stress that the DDS is demanding (especially for SMEs), but that it has already led to the replacement of some suppliers. Over time and under continuous pressure from EU operators, supply chains are becoming more transparent, and suppliers more willing to cooperate.

Significant uncertainty still remains though, as to what constitutes adequate evidence of legal compliance, what is enough as mitigation, and what sources of information are reliable (suppliers, governments, NGOs). There is limited
understanding of forest certification (schemes, standards) and legal verification, which are important mitigation measures.

In the absence of clear and homogeneous guidance on supplier legality documentation required, some large European importers have plans to just avoid Brazilian wood, following the recent Greenpeace campaign that questioned its legality. As de Boer (in Jeffree, 2014) points out, there is a risk that more importers will follow suit and simply drop tropical wood at the “merest hint of controversy”.

In a CBI (2013) study on the impact of the EUTR involving a wide range of experts from the Dutch timber sector, four scenarios were regarded as potential directions in which the trade of timber products on the EU market may be headed as a result of the impact of the EUTR:

1. Legal is good enough;
2. Sustainability is the future;
3. Switch to substitutes for tropical timber; and
4. EU market will be ignored.

While experts considered that the second scenario the most likely, this depends on the willingness of EU companies to pay a fair price for certified sustainable timber, as well as the strategy of timber producing countries; and it is probable that all scenarios will coexist, as CBI (2103) pointed out. If timber producers are mainly interested in high short-term profits, for example, the scenario “EU market will be ignored” will prevail in the tropical timber market, but a number of countries and/or exporters may focus on serving the need for legally verified timber (scenario 1) on a mid-term basis.

The implementation of the EUTR creates favourable market conditions for FLEGT-licensed timber, potentially contributing to improve forest management in VPA countries (van Bueren et al, 2013). In fact, progress in VPA accelerated as the regulation came into force. Also the requirement to prove that the timber does not originate in known illegal sources may narrow the gap with sustainably sourced timber.

Alternatively, the immediate effect of EUTR might be a reduced supply of tropical timber assuming that a significant part of tropical timber supplies were of “unknown” origin and that the due diligence obligations and consequent risks move importers to seek timber from non-tropical sources. The worst case scenario may be a cycle of reduced supply, reduced demand and reduced interest in tropical timber, leading to a negative impact on forest management practices in the tropics (van Bueren et al, 2013).

Lawson and MacFaul (2010) underline the danger that the potential impact of demand-side measures to prevent consumption of illegally sourced wood products being taken in key markets such as the EU and the US could be undermined by companies in affected producer countries shifting trade in response towards other markets where such measures are not yet in place. Trade may shift to less sensitive consuming countries, such as India, South Korea, but could also shift towards intermediate processing countries such as China and Vietnam.
The impact and implementation of the EUTR will be reviewed by the EC in 2015, with stakeholders expecting to be invited to comment, in order to identify and remedy any shortcomings.

It must be said though, that other countries (US, Australia) have developed similar initiatives (with different implementation deadlines), thus increasing pressure on the market towards traceability, legality verification and/or sustainability certification of wood products. This means that operators in the US and the EU will need substantially similar information demonstrated in different ways. In particular they will need to know the origin of the timber imbedded in their products and to ensure it has been legally harvested.
5. THE KEY ELEMENTS OF A EUTR DUE DILLIGENCE SYSTEM

5.1. ENSURING LEGALITY

The regulation forbids placing illegally harvested timber or timber products on the EU market. "Illegally harvested" means harvested in contravention of the applicable legislation in the country of harvest. "Applicable legislation" is defined in the regulation (Article 2 (h)) as the legislation in force in the country of harvest covering the following matters:

- Rights to harvest timber within legally gazetted boundaries,
- Payments for harvest rights and timber including duties related to timber harvesting,
- Timber harvesting, including environmental and forest legislation including forest management and biodiversity conservation, where directly related to timber harvesting,
- Third parties’ legal rights concerning use and tenure that are affected by timber harvesting,
- Trade and customs, in so far as the forest sector is concerned (this requirement applies to the point of export from the country of harvest only).

Thus, operators wanting to place timber on the EU market must be sure their products have been harvested in compliance with above mentioned laws of the country of harvest. Forest Trends (2013) provides a useful list of illegal practices and examples of corruption in the forest sector - from illegal logging to timber smuggling, practices specifically aimed at reducing payment of taxes and other fees, and illegal timber processing, although some are outside the scope of the EUTR definition.

5.2. CONFIRMING APPLICABILITY AND SCOPE

To understand the impact of the EUTR on its activities, an organization must first confirm that the regulation is applicable to its product (as mentioned in the previous section, not all products are covered, and this can be easily checked in the annex to the regulation). Products carrying a valid FLEGT licence, or a CITES permit, are considered to comply with the EUTR.

Then it must establish whether it is an operator or a trader, for the implications are very different. These concepts have been the subject of some confusion, leading to clarifications in various versions of the EUTR final guidance document (European Commission, 2013). A frequent source of confusion is the case of importers and distributors, with uncertainty surrounding the implications of various types of contractual arrangements.
As explained in the EUTR final guidance document, the definition of operator is independent of the ownership of the product, or other contractual arrangements. The entity acting as the importer when the timber is cleared by EU customs authorities for free circulation is the operator, given that products do not acquire the status of 'European Union goods' before they have entered the territory of the customs union. In the majority of cases, the importer can be identified as the named or numbered 'Consignee' in Box 8 of the customs declaration document (Single Administrative Document). Goods under special customs procedures (e.g. temporary importation; inward processing; processing under customs control; customs warehouses; free zones) as well as transits and re-exportation are not considered to be placed on the market.

Traders simply need to keep information on the suppliers they buy timber products from and the businesses they sell them to. Operators must implement due diligence systems to make sure that the timber in their products has been legally harvested.

### 5.3. DUE DILIGENCE SYSTEM

The core of the 'due diligence system' notion is that operators have to carry out a risk management exercise to minimize the risk of placing illegally harvested timber, or products containing them, on the EU market. The three key elements of such a system are:

- **Access to information**: the operator must have access to information describing the timber and the products (see details below);
- **Risk assessment**: the operator must assess the risk of illegal timber in his supply chain, based on the information collected and using the criteria set out in the regulation;
- **Risk mitigation**: if the risk assessment shows there is a risk of illegal timber in the supply chain, the operator must implement mitigation measures (or discontinue procurement from that source).

#### A-1) Information

As the first step of the DDS, operators need to indicate the following information for the wood products they place on the EU market:

1) A description of the type of product and species of the wood used (common name or full scientific name if there is ambiguity about the common name),

2) Origin of harvest (where legislation or the risk of illegal harvesting differs between sub-national regions, the exact sub-national region has to be indicated in addition to the country of harvest),

3) Quantity,

4) Name and address of the supplier to the operator,
5) Name and address of the buyer (trader) who purchases the timber from the operator, and

6) Documents or other information indicating compliance with the applicable legislation.

A-2) Risk Assessment

This step requires operators to evaluate the risk that the timber traded is illegally harvested, using the criteria specified in the regulation. These criteria imply obtaining replies and supporting evidence to questions such as:

- How do I assure that my suppliers comply with the applicable legislation? Are my products certified or legally verified?
- Is illegal harvesting of this specific tree species a problem in the country/area where I source my products from?
- Are illegal harvesting practices prevalent in the country/area of harvest where I source my products from? Is there armed conflict in this country/area?
- Are there any UN Security Council or EU sanctions on timber imports from this country/area?
- Is my supply chain complex?

It is difficult to produce and maintain an updated and complete source of information on aspects of risk for a large number of countries. And listing countries as high risk for illegal timber can become politically sensitive. It is therefore unlikely that specific listings of high risk countries, species and trade patterns will ever be published, even though such listing of controversial sources and routes would help operators and competent authorities create risk profiles for the legality of timber arriving in the EU (Forest Trends, 2013). Therefore formal legal or political guidance on country or trade flow risks is lacking. Information remains patchy and even non-government sources have shied away from defining entire countries, regions or trade flows as higher risk. However, tools are being developed by civil society organizations and the private sector to help (Forest Trends, 2013). Examples include:

- WWF’s generic and country-specific guides on timber legality verification (example: Miller et al, 2006), available on their site dedicated to Global Forest and Trade (http://gftn.panda.org/),
- Forest Legality Alliance’s Risk Information Tool (http://risk.forestlegality.org/),
- ATIBT’s (International Technical Association for Tropical Timber) country sheets (http://www.legal-timber.info/en/country-sheets.html),
- The European Timber trade Federation’s “System for Due Diligence” (ETTF, 2012),
- The British Standards Institution standard on the subject (PAS 2021:2012).
Obviously, challenges remain, starting from obtaining and maintaining clear, complete and up-to-date lists of relevant evidence of legality from each country, to actually receiving this evidence in a language one is able to understand.

A-3) Mitigation

If the outcome of the risk assessment is that there is a non-negligible risk (i.e. high risk) of the timber product being illegal, the operator has to set up risk mitigation procedures to minimise that risk effectively (Proforest, 2012). Examples include requiring additional information or documents from suppliers, requiring third party verification or certification, or making on-site visits to the Forest Management Units to obtain more information and evidence. If the outcome of the risk assessment is that the timber is of negligible risk of being illegal, there is no need to set up risk mitigation procedures.

Box 4: Role of certification and legality verification in the EUTR
(adapted from Proforest, 2012)

The Regulation refers to Certification and Legality Verification in Art. 6(b) under risk assessment: Art. 6(b) and in Art. 6(c) under risk mitigation.

In simple terms, when assessing the risk of a product, operators should take into account if a product is certified (e.g. against FSC/PEFC) or legally verified (e.g. against VLC). In practice, operators may rate credibly certified or legally verified products as negligible risk (i.e. low risk) of being illegal and will do no or few risk mitigation activities.

Certification and legality verification schemes have adapted their standards and procedures to ensure full compatibility with the Regulation, hoping that enforcement authorities will accept operators rating certified or legally verified products as negligible risk. But as previously mentioned, Verified Legal Origin (VLO) standards do not cover all applicable legislation as outlined in the regulation, and it remains to be confirmed if this approach will be accepted by enforcement authorities.
6. THE BRAZILIAN FOREST SECTOR

6.1. BRAZILIAN FORESTS, FOREST USE AND deforestation

Brazil is a country the size of a continent (850 million hectares). It still does not have a complete national forest inventory, which explains why estimates of total forest cover vary widely. The Forest Resources Assessment (FAO, 2005) estimated that the total area of planted and native forest is 470 million hectares; recent estimates by the Brazilian Forest Service put it as 463 million hectares (SFB, 2013a). Thus, forests cover more than 54% of the country.

Of the total forest area, 1.5% consists of planted forest (mainly pine and eucalyptus), concentrated mostly in the (non-tropical) South of the country (SFB, 2013a). This may seem insignificant, but with an area of just over 7 million hectares (SFB, 2013a), plantations are the main source of raw material for the cellulose and paper industry, a sector boasting high productive efficiency and significant socio-economic participation in the forestry sector (Thiel and Viergever, 2006).

Under the Brazilian 1965 Forest Code (Law 4771/65), a minimum percentage (80% in the Amazon) of private land in rural areas must be maintained under native vegetation (called reserva legal, i.e., “legal reserve”). These legal reserves in the Amazon may be sustainably managed for timber and other products after approval of a Sustainable Forest Management Plan.

Sustainable Forest Management Plans, under reduced impact logging techniques, include mapping of production areas, identification of commercial species and volumes to be harvested. The law allows a maximum harvesting of up to 30m$^3$ wood/ha in a 35 year-cycle.

Other than harvesting wood grown in plantations or harvesting natural forest with an approved Sustainable Forest Management Plan, timber can also be legally extracted through authorized land clearance for the conversion of forest land into other uses (such as agriculture and livestock).

In fact, a significant proportion of commercial timber harvested in the past, even when authorized by government authorities, derived from forest clearance rather than sustainable forest management (Olivier 2013a). An SFB analysis of wood originated from natural forests during the period of 2007 to 2010, drawing on data from IBAMA’s DOF system, shows that 49% of this timber originated from sustainable forest management and 51% from authorized deforestation (SFB 2013a).

Deforestation in the Brazilian Amazon has been falling steadily, at the same time that Brazil has experienced impressive rates of economic growth, suggesting a decoupling of economic growth from deforestation. The gains are partially credited
to the improvement of monitoring and enhancement of enforcement activities, and a high-level inter-sector cooperation. This is largely due to concerted efforts under the scope of the Amazon Deforestation Prevention and Control Action Plan (Plano de Ação para a Prevenção e Combate ao Desmatamento na Amazônia Legal – PPCDAm), culminating in a deforestation rate of 4,656 km² in 2012, the lowest ever recorded by PRODES (figure 10).

Figure 10: Deforestation rates in the Amazon measured by PRODES (km²) (source: INPE/MCTI, in http://www.mma.gov.br/florestas/ppcdam) * - preliminary 2013 rate

Arima et al (2014) investigated the issue at municipal level. They conducted a statistical analysis to ascertain if different levels of environmental enforcement between two groups of municipalities had any impact on the reduction of deforestation rates in the Brazilian Amazon. Their analysis shows that these targeted, heightened enforcement efforts avoided as much as 10,653 km² of deforestation. While contributing factors are debated, they include macroeconomic trends (the strength of the Brazilian currency), new incentives for utilizing already deforested lands, and increased awareness of the values of ecosystem services (World Bank, 2012).

Lawson (2014) also acknowledges Brazil’s dramatic decrease in deforestation (a 70% drop) since 2004 as the “greatest success story to date in the fight against tropical deforestation”, with actions by the Brazilian government to address rampant illegal conversion of forests for commercial agriculture seen as major drivers of this success. However, despite this success the problem of forest conversion continues, and much of the legacy of past illegal deforestation has yet to be effectively addressed.
In Brazil, among the most common illegalities relating to forest conversion are fraudulent land titles and the failure to retain the legal reserves under Brazilian law (Lawson 2014; Olivier, 2013a). Other possible regulatory breaches are converting forests outside legal boundaries and clearing of other forest conservation areas within properties (such as streamside buffers).

A-1) Public forests

Public forests are natural or planted forests that are under the domain of the Union, the States, the Municipalities or the Federal District. In November 2013, the National Registry of Public Forests (NRPF) registered 314 million ha of public forests in Brazil, representing 36% of the national territory (SFB internal data, 2014).

When included in the NRPF, public forests are usually allocated to a specific use or function (conservation, forest production, community use – including indigenous land, etc.); these are known as “designated areas” and cover 238 million hectares (76% of Brazilian public forests). Additionally, 76 million ha are non-designated public forest areas - areas not allocated to a specific function yet (SFB internal data, 2014).

Designated public forests are mostly federal, around 190 million hectares, while 48 million are state public forests. From the total designated public forests, 156 million ha have been designated for community use (Indigenous land, extractive reserves, sustainable development reserves and public settlements), 32 million ha for forest production, 47 million ha for conservation (parks, biological and ecological reserves) and approximately 3 million ha for military use (SFB internal data, 2014).

In community use areas, timber and non-timber resources can be extracted, as long as this is done in accordance with rules for each management type, and communities are involved in extraction.

6.2. ADMINISTRATIVE AND LEGAL CONTEXT

Forest Management in Brazil involves different institutions and the three government levels: federal, state and municipal.

At federal level, forest management is under direct responsibility of four institutions:

- The central body of the system is the Ministry of Environment (Ministério do Meio Ambiente), which is responsible for planning, coordinating, providing guidelines and formulating environmental policies.

- IBAMA (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis) is the Ministry of Environment’s agency responsible for monitoring compliance with Brazilian Environmental legislation and for federal licensing. Amongst other functions IBAMA, that was established in
1989, issues and regulates permits for forest exploitation and approves forest concession management plans.

- The Brazilian Forest Service (Serviço Florestal Brasileiro, SFB) was established in 2006, with responsibility over public forest management for sustainable production including the management of the public forest concession process at the federal level. The SFB is also responsible for organizing and implementing the Brazilian National Forest Inventory, producing information and offering training and forest extension activities.

- ICMBio (Instituto Chico Mendes de Conservação da Biodiversidade) manages federal protected areas.

At the state level the most relevant actors are the Environment State Agencies (OEMAS) that are responsible for issuing environmental licenses, approving sustainable forest management plans at state level and monitoring activities on state land.

Forest legislation and regulation in Brazil have become less ambiguous in recent years, after having a major overhaul during the last 10 years (IPAM et al, 2014). Already, a much larger area of the Brazilian Amazon has a much clearer tenure system, compared with the situation ten years ago (Lawson and MacFaul, 2010). Although new rules are only now being implemented, the early signs are unanimously recognized as very positive (Thiel and Viergever, 2006; Lawson and MacFaul, 2010; Earth Innovation Institute, 2014).

Brazil scores well on transparency. Rules, dates and results of resource allocation processes are published on the internet, and laws and regulations also stipulate open access to concession contracts, forest inventories and forest management plans (Lawson and MacFaul, 2010).

However, there remain significant obstacles to effective forest law enforcement in Brazil. The current reform process must be seen against a backdrop of uncertain land tenure. Unresolved land tenure remains a major cause of illegal logging, a major obstacle to both the government and the private-sector response and a significant constraint to verifying forest legality in Brazil (Lawson and MacFaul 2010; Forest Trends, 2013). Furthermore, recent decentralization of regulatory functions has created additional challenges in a federal system where the division of responsibility between the different levels of government is not well defined. Some forest-rich States, particularly in the Amazon, are amongst those whose environmental agencies responsible for forest monitoring and enforcement are seriously under-resourced (Forest Trends, 2013).
6.3. CONTROL OF ORIGIN OF FOREST PRODUCTS AND SATELLITE MONITORING

Brazil has also introduced a very impressive and sophisticated system for tracking timber and other forest products (Thiel and Viergever, 2006; Lawson and MacFaul, 2010). These involve two instruments: the Document of Forest Origin (DOF) and SISCOM.

The Document of Forest Origin (DOF) system is internet-based and holds a centralized database at IBAMA. It allows the producer, after receiving an authorisation to harvest or deforest, to access the forest administration system online and debit harvested volumes against the original volumes per species authorised in the AUTEX (harvesting authorization). The system provides a bar-coded document to inform road checks about the origin and volume of the logs. Upon arrival at sawmill, the bar-coded document is used to read the information in the system. The bar-code individualises the timber transport permit (ATPF-DOF), protects the system against fraud and misuse of forms, and the fact that the system is on-line protects it against corruption and the arbitrariness of local bureaucrats (Thiel and Viergever, 2006).

DOF contains information on the species, quantity of product, data on its origin and destination. The DOF is a licence that must accompany the product until its final processing and enables it to be traced from the customs terminal back to the processing sites and the forest source. This system is obligatory at the federal or state level, for any forest harvesting, forest management or legal deforestation.

In 2007, IBAMA’s activities were decentralized in order to facilitate the process of licensing activities in the different states. Harvest licenses and other licences became the responsibility of the state, authorised by the OEMAs. As a result each OEMA developed similar systems to DOF; each of which must be integrated to the federal DOF system. In Pará, it is called SISFLORA and the document issued to accompany the transportation of logs, sawn timber and final products is referred to as the Guia Florestal (GF). GF1 is for logs transportation, GF2 for sawn timber and GF3 for final products (The Forest Trust, 2012).

SISCOM is a shared database of timber harvesting licences and authorisations that integrates into one comprehensive system geo-referenced information of diverse origins, such as cartographic and cadastral data, forest management plans and deforestation permits, and other information available to IBAMA and OEMAs., Information is made available to all parties and is open to civil society access (Thiel and Viergever, 2006).

This forest-product tracking system has extensive reconciliation procedures: volumes at origin and destination, and information at state and federal level must match; volumes processed at mills must not exceed those authorized in sustainable forest management plans (Lawson and MacFaul, 2010). Since the system is publicly accessible on the internet it provides a unique level of transparency and enables unofficial independent monitoring to occur. In addition,
IMAZON performs independent monitoring in Pará state; see for example Fonseca et al (2014). The system has been well designed and although it is still open to fraudulent behaviour (WWF-Brasil and SINDIMASP 2013) this is acknowledged and is being monitored by IBAMA.

Another front on which Brasil has invested heavily in the past years is technology to control deforestation. In fact, the development of various satellite monitoring mechanisms in the last 20 years has turned the country into a worldwide reference in the subject (Maia et al, 2011). Recent improvements have allowed monitoring to be almost real-time and to become an important tool for monitoring and enforcement activities.

The Amazon Forest Satellite Monitoring System (PRODES) was implemented in 1988, the real-time Deforestation Detection System (DETER) in 2004, and the Brazilian Amazon Forest Degradation Mapping system (DEGRAD) in 2009. The three systems were conceived and are operated by the National Institute for Space Research (Instituto Nacional de Pesquisas Espaciais - INPE).

From 2003, PRODES began to use digital image analysis and to make results publicly available, thus increasing the use of this information by other organizations - government and nongovernment. In 2005, methodological improvements allowed the use of images from more than one satellite or moment in time to be used in data generation, reducing uncertainty caused by cloud cover. In the last decade, image processing capacity has also increased.

Specifically developed as an alert system, DETER captures and processes images on forest cover for the entire Brazilian Amazon every 15 days. The images allow the government to find deforestation hotspots, and concentrate law enforcement efforts in these areas. The programme produces monthly reports of deforestation polygons, although with a lower resolution (25 hectares) than PRODES (6 hectares). Reports are sent to relevant verification, control and enforcement authorities, aiding in the identification of priority areas for control and inspection, and turning DETER into a major tool for these authorities.

DEGRAD was created in order to produce annual maps (with a resolution similar to PRODES) of areas undergoing forest degradation or selective logging, but not yet deforested.

The increasing amount and detail of information available has permitted a parallel increase in the use of intelligence by government authorities, leading to improvements in planning and implementation of control and inspection activities. The use of intelligence to plan inspection activities has significantly increased effectiveness, as in the case of IBAMA’s use of a map that estimates deforestation risk applying the Kernel methodology, creating geo-referenced zones from the number of deforestation points detected (Maia et al, 2011).
Still, wood-balance analysis and expert surveys suggest that illegal harvesting represents 35–72% of logging in the Brazilian Amazon (Lawson and MacFaul, 2010). Imazon (2012, in Greenpeace 2014) estimated that 78% of the area logged in the state of Pará (the largest producers and exporters of timber in the Brazilian Amazon) between August 2011 and July 2012 was harvested without authorization, 67% of this on private land.

Greenpeace (2014) describes five ways used to launder (illegal) timber through the use of official systems:

1) Logging authorised in area already harvested or deforested,
2) Overstating of the total volume of trees belonging to valuable species within a PMFS, as means to gaining additional harvesting credits for that particular species,
3) Authorised area with no signs of timber extraction,
4) Credits issued for more timber than the AUTEF (logging authorization) authorises to be harvested,
5) Credits issued without an AUTEF or Sustainable Forest Management Plan.

Processors, exporters and buyers should be aware of this; if they source timber from the Brazilian Amazon they should take action to trace their supply chains back to source and secure strong evidence of legal harvest (The Forest Trust, 2012).

6.4. VERIFICATION, CONTROL AND ENFORCEMENT

Both the DOF and SISCOM systems improve the administration of timber transport permits (ATPF) and increase cross-checks and controls. The move to electronic administration freed staff previously devoted to paperwork to verify and monitor the implementation of the management plans in the field. On the other hand, the decentralisation of forest administration and control to the States should increase the overall institutional capacity to verify the quality of forest management. In this new setting of a decentralised forest administration and audits by independent third parties, IBAMA’s role is expected to evolve towards strategic control through the use of satellite technology and intelligent tracking and verification systems (Thiel and Viergever, 2006).

When illegalities are discovered, IBAMA and OEMAs are responsible for applying fines and confiscating equipment, or referring the case to the police and the Public Prosecutor’s Office when criminal offences are committed. Overall, there have been significant improvements in enforcement response in Brazil in recent years, especially in terms of field enforcement (detection and seizure), but follow-up (such as prosecutions, convictions, and issuance and collection of fines) remains poor (Thiel and Viergever, 2006; Lawson and MacFaul, 2010).
7. PRODUCTION AND EXPORTS OF WOOD AND WOOD PRODUCTS IN BRAZIL

7.1. PRODUCTION OVERVIEW

According to the Brazilian Forest Service (2013a) in 2011, 273 million m³ of round wood were produced in Brazil (see table 2). This comprised 62.5 million m³ of logs from natural forests and 210 million m³ of logs from plantations. Almost half of this was used as fuel (fuel wood and coal). The production of native round wood for industry is estimated at around 13.5 million m³ per year (2012), and has been in slow but steady decline since 1995, with a certain correlation with deforestation (Andrade, 2014). 36% of this production is estimated as being of unknown origin, and over 90% of native round wood production originates in private forest areas (Andrade, 2014). The average price of round wood – 201 R$/m³ in 2011 rose from 69 R$/m³ in 2003 (IBGE, in Andrade, 2014).

However, it must be noted that as explained by Olivier (2013a), because it is unclear what assumptions have been made regarding unregulated harvesting in the Amazon region, estimates of wood production can vary significantly. For instance, ITTO estimated annual commercial production of tropical hardwood logs in Brazil in 2010 as 30.8 million m³ – versus the 12.6 million m³ indicated in table 2. Data on wood production volume in the Brazilian Amazon has been suspect in the past, not least due to the significant unknown amounts of wood being derived from illegal forest clearance operations. For example, an estimate by Chatham House using a “wood balance” approach based on 2009 data suggested that illegal wood in that year might have contributed as much as 95% or as little as 33% of total supply in the Brazilian Amazon depending on the statistics used (Olivier 2013a).

In any case, most native wood is converted into sawn wood, of which around 75% is consumed domestically. In the domestic market, the state of São Paulo is by far the main consumer, mostly for construction (Thiel and Viergever, 2006). Andrade (2014) signals a recent tendency to expand the internal market.

Table 2: Quantity of round wood from native forest and plantations and their main uses (SFB 2013a) (note: Fuel includes fuel wood and coal)

<table>
<thead>
<tr>
<th>Origin</th>
<th>Use</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native forests</td>
<td>Fuel</td>
<td>64 153</td>
<td>59 894</td>
<td>54 558</td>
<td>50 230</td>
<td>48 384</td>
</tr>
<tr>
<td></td>
<td>Industry</td>
<td>16 389</td>
<td>14 127</td>
<td>15 248</td>
<td>12 655</td>
<td>14 116</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>80 542</td>
<td>74 021</td>
<td>69 806</td>
<td>62 885</td>
<td>62 500</td>
</tr>
<tr>
<td>Plantations</td>
<td>Fuel</td>
<td>69 538</td>
<td>73 841</td>
<td>68 439</td>
<td>75 688</td>
<td>84 763</td>
</tr>
<tr>
<td></td>
<td>Industry</td>
<td>105 132</td>
<td>101 262</td>
<td>106 911</td>
<td>115 742</td>
<td>125 852</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>174 670</td>
<td>175 103</td>
<td>175 350</td>
<td>191 430</td>
<td>210 615</td>
</tr>
</tbody>
</table>
Table 3: Value of round wood from native forest and plantations and their main uses (SFB 2013a) (note: Fuel includes fuel wood and coal)

<table>
<thead>
<tr>
<th>Origin</th>
<th>Use</th>
<th>Value (million R$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>Native forests</td>
<td>Fuel</td>
<td>1 392</td>
</tr>
<tr>
<td></td>
<td>Industry</td>
<td>1 801</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3 193</td>
</tr>
<tr>
<td>Plantations</td>
<td>Fuel</td>
<td>2 698</td>
</tr>
<tr>
<td></td>
<td>Industry</td>
<td>5 481</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11 372</td>
</tr>
</tbody>
</table>

Table 4: Production of other wood products (SFB 2013a)

<table>
<thead>
<tr>
<th>Product</th>
<th>Quantity (1.000 m³ for sawn wood and panels) (1.000 t for pulp, paper and paperboard)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>Sawn wood</td>
<td>8 692</td>
</tr>
<tr>
<td>Panels (compensated wood, particleboard, MDF, Hardboard, OSB)</td>
<td>8 980</td>
</tr>
<tr>
<td>Pulp, paper and paperboard</td>
<td>21 529</td>
</tr>
</tbody>
</table>

The best estimates of wood utilization in Amazon derive from surveys of forest processing companies jointly undertaken at irregular intervals by the Brazilian Forest Service and IMAZON (Olivier 2013a). One 2010 survey (SFB and IMAZON, 2010), estimated that 14.2 million m³ of roundwood was consumed by surveyed companies generating 5.8 million m³ of processed wood. The majority (72%) was sawn wood with low added value (boards, battens, rafters and similar). Another 15% was transformed into more added-value products (flooring, window frames, decking etc.) and the remainder (13%) was converted into plywood and similar laminated products. Another 2012 survey (SFB, 2013b) used the legal systems for monitoring forest product transport and recorded 800 companies in the forest sector in the Amazon region (Amazônia Legal), processing 10.8 million m³ of roundwood that was consumed by surveyed companies generating 5.6 million m³ of processed wood.

The 2010 survey indicated a significant reduction (by half) in log consumption in the Amazon compared to earlier surveys in 1998 and 2004. According to IMAZON, the significant decrease in log consumption was related to three main causes: increasing regulatory control; replacement of tropical timber by competing products such as MDF and laminates in Brazil’s domestic construction sector; and the global economic crisis.

As production of traditional Amazon species like Mahogany (*Swietenia macrophylla*), Cedro (*Cedrela odorata*) and Virola (*Virola surinamensis*) has declined in the Brazilian Amazon, the focus has switched to other species such as Sucupira (*Bowdichia nitida*), a heavy duty flooring species, Tauari (*Couratari guianensis*), a light general joinery species, Tatajuba (*Bagassa guianensis*), a
heavy duty joinery species, Jatobá (*Hymenaea courbaril*), dark species favoured in flooring, Ipê (*Handroanthus serratifolius*), Garapa (*Apuleia leiocarpa*) and Massaranduba (*Manilkara huberi*), these last three all decking timbers (Olivier 2013a).

### 7.2. TRADE OVERVIEW

Brazil is by far the largest exporter of wood products in South America, alone accounting for 2.7% of world exports and 55% of exports by South American countries (Olivier 2013a).

With the exception of 2009, when the financial crises and the stalling of the construction sector – which is the main consumer of this kind of products – led to a sharp fall in exports to Europe and the USA, the total value of Brazilian annual exports of EUTR-regulated timber products has remained fairly consistent at around USD 9 billion over the last five years (figure 1) – but with a significant shift in product mix (Olivier 2013a).

Between 2007 and 2012, total export value of pulp and paper products increased from USD 4.7 billion to USD 6.65 billion. During the same period, total export value of solid timber products declined from USD 4 billion to USD 2.3 billion (Olivier 2013a).

Brazil’s plywood exports have been declining in the face of weak overseas consumption, declining availability of good quality hardwood logs and stiff competition from Chinese manufacturers. Over 90% of plywood exports from Brazil are now softwood from plantations in the south. Illegal logging is not considered a significant problem in the softwood and eucalyptus plantation forests of Southern Brazil and other temperate regions of Latin America. These plantations are generally managed by large companies and over 50% of the area is certified (Olivier, 2009).

In 2012, in order of value, Brazil’s exports of timber products comprised: wood pulp (52%); paper (22%); mouldings (6%); furniture (5%); plywood/veneer (5%); sawn (4%); and joinery (2%).
Over the last five years, the EU has maintained its position as the largest single export market for Brazilian timber products - 36% in 2012 (figure 12). The initial decline in Brazil-EU trade was mainly due to falling EU imports of tropical hardwood, while the more recent recovery was driven by the rising volume of EU pulp imports from Brazil. Other important export markets for Brazilian timber products are the USA (18% of 2012 export value in 2012), China (15%) and Argentina (6%) (Olivier 2013a).
EU imports of Brazilian solid timber products declined from 7 million m$^3$ RWE volume in 2007 to 2.5 million m$^3$ RWE in 2012 – a decline with particular emphasis on sawnwood and mouldings, with two thirds now consisting of plywood (figure 13). Solid timber products imported into the EU from Brazil are predominantly plywood, sawn lumber and decking (Olivier, 2009).

![Figure 13: EU imports of EUTR regulated timber from Brazil by product (Source: Olivier 2013a). Note: The EUTR explicitly excludes some products from the definition of “timber and timber products” and these are also excluded from this figure.](image)

EU imports of Brazilian hardwood products have fallen steeply; 70% of EU imports of Brazilian timber now consist primarily of softwood. Only 5% of EU imports of timber products from Brazil are now identified as tropical hardwood, as shown in figure 14 (Olivier, 2013a).
According to data processed by Olivier (2013a), between 2007 and 2012 Germany emerged as the single largest EU import market for Brazilian timber products, taking around 24% of the total volume, mainly due to imports of softwood plywood. France remains an important market for Brazilian timber products, accounting for 11% of volume in 2012. France takes a relatively large share of tropical wood. Spain has declined sharply as a timber market in recent years (figure 15).
Brazilian exports of sawn hardwood have fallen from 1.23 million m$^3$ in 2007 to only 0.31 million m$^3$ in 2012. Exports of hardwood identified as tropical fell from 443 000 m$^3$ in 2007 to 111 000 m$^3$ during this period (figure 16). This is due to a combination of declining demand in the EU and the USA and reduced availability in Brazil.

The EU is the largest single market for sawn hardwood exported from Brazil, although total volume to this market has fallen from 525 000 m$^3$ in 2007, to 106 000 m$^3$ in 2012. Exports to the USA have fallen from 97 000 m$^3$ in 2007, to only 22 000 m$^3$ in 2012. Vietnam is now the second largest export market for Brazilian sawn hardwood taking 51 000 m$^3$ in 2012. Figure 16 shows, in more detail, data on sawn hardwood export to the EU, highlighting the rapid decline between 2007 and 2009 and slower erosion of trade since then. France and the Netherlands have remained the main European importers during this period. Portugal and Spain were significant importers prior to 2009 but now take only small volumes.

The reduction in exports to Europe and North America, starting in 2008-2009, was partially compensated by an increase of exports to Asia (figure 12). Asian demand is actually seen as the motor for future South American exports of wood and wood products, with important implications (Blandinières et al, 2013). Firstly, South American wood product exports are dominated by less processed products (90% in 2010). Exports of processed products continue dependent on European and North American demand and, lesser so, on local demand. Although a recovery of demand after the world economic crisis can be expected, its structure and new
legal requirements can be disappointing. Secondly, exports from South America to Asia have a strong component of tropical wood (25% in 2010 and 18% in 2011). Thus, a world demand whose growth is dominated by Asian economies, which are less sensitive to environmental demands, can keep a strong pressure on native forests, especially if plantation forests do not appear as a competitive alternative and important volumes of illegal wood are allowed (Blandinières et al, 2013).

Much has been said about a “leakage effect” in which the higher environmental demands of the markets from the US, EU, Japan and Australia would lead to a shift away from these markets towards less demanding markets such as the Middle East or Central Asia (Blandinières et al, 2013; Probos, 2013). There is some evidence that exports of Brazilian tropical timber may be shifting to less sensitive markets, partly in response to increased action on illegal timber in more sensitive markets (Lawson and MacFaul, 2010).
8. CONCESSIONS OF PUBLIC FORESTS

8.1. THE 2006 LAW ON THE MANAGEMENT OF PUBLIC FORESTS

From the perspective of the Amazon timber industry, one of the potentially most significant developments in recent years was the introduction as part of the 2006 Law on Public Forest Management - Law no. 11.284/2006 (see box below) regulations allowing (for the first time) legal timber production on public forest land under a concession system (Postali and Nishijima 2011; Olivier 2013a).

This Law:

- Stated that all public land with forest cover in 2006 is a public forest;
- Established that beyond that date all public forests should remain “public and forests”;
- Established a new mechanism for production of goods and services in public forests - forest concessions;
- Established the right to practice sustainable forest management in public forests.

Until 2006, public forests could only be legally used in two ways: by traditional and local communities, through the creation of extractive reserves or sustainable development projects; or by direct administration of the government in national and state forests, which never occurred (Thiel and Viergever, 2006). Before 2006, thousands of private logging entrepreneurs had no legal alternative to harvest timber in Public Forests and thus many opted for illegality. The 2006 Law on the Management of Public Forests adds a third method: management by the private sector through concessions granted by bidding processes.

The same 2006 law established two other key elements for environmental forest regulation: the Brazilian Forest Service (Serviço Florestal Brasileiro - SFB), responsible for managing and monitoring concessions, and the National Fund for Forest Development (Fundo Nacional de Desenvolvimento Florestal - FNDF), destined to finance activities for sustainable forest development.
Box 5: The Law on Management of Public Forests (Law no. 11.284, dated 2/3/2006)

- The Law creates the Brazilian Forest Service (SFB), responsible for promoting sustainable forest management in public forest lands, including the promotion of forest concessions.
- Forest concessions are one of the ways of managing public forests, which allows the Union, states and municipalities, through a bidding process, to give a third party the right to manage, sustainably and after due payment, forests under public ownership to obtain goods and services.
- Concession of public forests is only possible on areas not destined for use by local communities or indigenous populations, military areas, total protection areas or reserves.
- Concessions do not involve land grants, but the right to harvest timber in a sustainable way using reduced impact techniques.
- The income generated from concessions is used to finance the Brazilian Forest Service, ICMBio and IBAMA, the National Fund of Forest Development (FDNF), as well as the state and the municipalities where the concessions are located.
- The Law mandates a national registry of all public lands to be carried out before the concession process.
- A public forest must be inserted in the Annual Forest Concession Plan (PAOF), to be eligible for concession.
- Concessions require environmental assessment studies, regional public hearings and consultation with a multi-stakeholder council (CGFLOP - Council for the Public Forest Management).
- The maximum duration of a concession is 40 years and they are only open to national enterprises or organisations.
- Concessions are subjected to monitoring and control by various entities, including independent audits every three years.

8.2. ELEGIBLE AREAS FOR FOREST CONCESSION IN BRAZIL

In 2013, 313 million ha of Brazilian forest land were identified as publicly owned in the National Public Forest Registry (SFB internal data, 2014). Of this area, around 72% is owned by the federal government and the rest by state or municipal governments (SFB, 2014). These 313 million ha represent 36.7% of the national territory, and are located mainly (over 90%) in the Amazon Biome (SFB internal data, 2014).

Most public forests are subject to legal restrictions, and thus inaccessible for commercial timber harvest. The following categories of federal forested land are not available for commercial timber harvest: Integral Protection Conservation Units and lands intended for this use; Indigenous Lands; lands under community use, or...
intended for it; military areas; and areas without “Assigned Destinations” in the Registry.

Using the values of the 2015 Annual Forest Concession Plan (SFB, 2014), there are around 15.3 million ha (4.9%) of federal forested land as technically available for allocation for sustainable timber production.

State forest land can also be allocated for commercial timber exploitation under concession agreements with the State governments, in a similar fashion.

8.3. THE CONCESSION PROCESS

The concession process includes various steps, in a sequence of three phases, which can last up to four years (see figure 17).

![Diagram of the concession process](image)

**Figure 17**: The various stages of the concession process on federal land (SFB internal data, 2014)

The Brazilian Forest Service proposes an Annual Forest Concession Plan describing the federal public forests that can be conceded in the specific year, which is then approved by the Ministry of the Environment.

In the 2015 Forest Concession Plan for example (SFB, 2014), 3.4 million ha (1.1%) of federal public forest area were identified as eligible for concession, distributed over nine separate forest areas in three states: Amazonas, Pará and Rondônia.
Estimates of timber volumes are also established in the Annual Forest Concession Plan. For instance, timber production on federal public forests that will be eligible for concession in 2015 was estimated at 1,0-1,2 million m³/year, assuming a productivity of 18 to 22 m³/ha/year, depending on harvesting intensity (SFB, 2014). This volume amounts to 8.8% of the current consumption of wood from the Amazon region, meaning that federal forest concessions can play a significant role in wood supply once they are fully operational.

Actual timber volume produced in each concession is reported annually in the Annual Forest Concession Plan.

For an area to be eligible for a concession, the Management Plan of the National Forest must be approved before the concession process starts. The Plan defines the specific area of the national forest where timber extraction will be allowed. It also determines the community’s area inside the conservation unit that must be respected. Other environmental and social studies must be undertaken during the elaboration of the Management Plan.

The concession process also includes comprehensive procedures for competitive and transparent bidding of logging licences and for prior consultation with communities.

Social participation is essential, so civil society takes part in many phases of the concession process. One of them is the consultation within the framework of the Council for the Management of Public Forests (CGFLOP), a multi-stakeholder advisory committee for the SFB. Representatives from NGOs, Private Sector, Federal and State Agencies take part in the council.

The public hearing is the stage in which the local population can present their thoughts and opinions regarding the specific forest concession, often suggesting changes in the final bidding documents. SFB assesses and responds to every contribution from the civil society during the consultation process. If deemed adequate, suggestions are incorporated within the bidding documents.

The tendering process includes a legal qualification, which ensures the organization is in full compliance with applicable legislation on various fields (fiscal, labour etc.) and a technical qualification, in which the technical aspects of the proposal are assessed. Contracts include performance indicators, minimum price for timber and social and environmental restrictions beyond the minimum standards established by law.

Once the concession contract has been signed, the concessionaire must develop a Sustainable Forest Management Plan and present it to the relevant licensing agency - which in the case of federal concessions is IBAMA.
8.4. IMPLEMENTATION SO FAR

Finalizing the procedures to allocate and regulate concessions has taken longer than expected. However, by the beginning of 2013, 233,000 ha of federal public forests had been granted as concessions and SFB were in the process of granting further 832,000 ha (figure 18). At federal level, a total of 50 million ha are estimated to be available for concession in the long run, most of that located in the Amazon region (IBAMA, in Postali and Nishijima 2011).

![Figure 18: Maps of public forests in Brazil (Source: SFB, internal data, 2014)](image)

Up to September 2014, the Brazilian Forest Service has signed a total of 10 contracts for forest concessions, with seven different entities, covering an area of 480.154 ha (table 5). Although the concession procedures have only recently been put into practice, indications so far are that they are also being well implemented (Lawson and MacFaul, 2010).
Table 5: List of existing federal forest concessions to date

<table>
<thead>
<tr>
<th>Forest Name - FMU</th>
<th>Concessionaire</th>
<th>Area (ha)</th>
<th>Date of contract</th>
<th>Start of operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamari / RO - FMU I</td>
<td>Madeflona Industrial Madeireira Ltda.</td>
<td>17.176</td>
<td>16/10/2008</td>
<td>09/2010</td>
</tr>
<tr>
<td>Jamari / RO - FMU III</td>
<td>Amata S/A</td>
<td>46.184</td>
<td>30/09/2008</td>
<td>09/2010</td>
</tr>
<tr>
<td>Saracá-Taquera/ PA – FMU III</td>
<td>Golf Indústria, Comércio e Exploração de Madeiras Ltda.</td>
<td>18.934</td>
<td>12/08/2010</td>
<td>09/2013</td>
</tr>
<tr>
<td>Jacundá/ RO/ PA – FMU I</td>
<td>Madeflona Industrial Madeireira Ltda.</td>
<td>55.014</td>
<td>05/06/2013</td>
<td>09/2014</td>
</tr>
<tr>
<td>Jacundá/ RO/ PA – FMU II</td>
<td>Madeflona Industrial Madeireira Ltda.</td>
<td>32.758</td>
<td>05/06/2013</td>
<td>10/2014</td>
</tr>
<tr>
<td>Crepori/ PA – FMU II</td>
<td>Brasad’oc Timber Comércio de Madeiras Ltda.</td>
<td>59.408</td>
<td>06/06/2014</td>
<td>Forecast: 09/2015</td>
</tr>
<tr>
<td>Crepori/ PA – FMU III</td>
<td>Brasad’oc Timber Comércio de Madeiras Ltda.</td>
<td>59.864</td>
<td>06/06/2014</td>
<td>Forecast: 09/2015</td>
</tr>
</tbody>
</table>

In addition to federal forest lands, the State of Pará has granted 477,000 ha of concessions for commercial exploitation in State-owned forests and an additional 235,000 ha are planned for future concessions. Other states have begun by identifying areas suitable for concession, but have not yet put any of these up for bidding.

8.5. MONITORING

Monitoring of activities carried out on forest concessions include:

- A logging detection satellite system (*Sistema de Detecção da Exploração Florestal, DETEX*),

- Chain of custody control, which requires producers to maintain product control from the forest to the first processing site.

The Brazilian Forest Service monitors compliance of contractual obligations. Finally, there is an independent audit of the concession contract, at least every three years, carried out by an organization accredited by INMETRO and recognized by the Brazilian Forest Service.

Besides monitoring carried out by the Brazilian Forest Service, IBAMA supervises compliance with the Sustainable Forest Management Plan and with environmental legislation in general, as it would do for every case of legal forest harvesting. The state agencies (OEMAs) do the same on state concessions.
9. FOREST AND CHAIN-OF-CUSTODY CERTIFICATION

Independent forest certification has formed a significant component of Brazil’s marketing efforts to broaden market share (Olivier, 2009). Of the dominant certification schemes - Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification schemes (PEFC) – FSC is largely predominant in Brazil. Although the PEFC system is based on a national forest certification system (CERFLOR) it has not yet resulted in relevant quantities of certified products.

Brazil hosts the largest area of certified forest of any developing country - in May 2014, there were 104 FSC forests management certificates in Brazil (FSC database), covering 6.4 million ha (7% of the certified forest areas in the world). However, most (56%) are plantation forests, mainly located in Southern Brazil, of which over 50% are FSC certified. The paper sector and softwood plywood sectors have been key drivers of certification of Brazilian plantations (Olivier, 2009).

Furthermore, of the certified tropical forests, only 45% of them are producing timber; the remainder produce non-timber forest products (Lentini et al, 2012). Also, forest area alone is not directly related to product volume available; the proportion of certified forest area does not correspond to the proportion of wood volume, especially in the tropics. Certified production of native wood products is still relatively small, although this is expected to increase following the introduction of forest concessions and the promotion of community and family forest management (Lentini et al, 2012; Olivier 2013b).

In May 2014, there were 1019 FSC Chain-of-Custody (CoC) certificates, but mostly in the printing, paper and pulp sector; again, it is difficult to obtain estimates of Brazilian certified processed products, given the fact that the total sales of a certified company and its sales of certified products can vary widely.

In 2011, the Brazilian market consumed 78% (it was 86% in 1999) of all wood from the Amazon, but the market for certified Amazon wood is different: according to Lentini et al (2012), 68% (almost 73 thousand m³) is exported. On the other hand, 80% of the certified wood exported takes form of sawn wood (a result of primary processing), for the construction sector or further processing.

Certified forest owners and wood processors in the forest industry mentioned that the main benefit of being certified is better access to markets, rather than higher prices (Lentini et al, 2012). According to FSC (cited by Lentini et al, 2012), the challenges to certification of tropical forests are linked to structural sector factors, such as lack of land tenure clarity, low state presence, lack of infrastructures, pressure of other land uses (e.g. agriculture) and high level of illegality which do not favour products from responsible forest management in a competitive market.
10. SUMMARY OF THE MAIN RECORDS OF LEGAL COMPLIANCE AT THE FOREST LEVEL IN BRASIL

Production of wood in the Brazilian Amazon is described below, where the main steps that can be taken to ensure the purchase of legal wood are indicated.

**STEP 1 – Registry of the property on the Rural Environmental Registry.**

All private rural property must be registered in the Rural Environmental Registry (*Cadastro Ambiental Rural-CAR*), so that activities carried out within it can be considered fully legal. Registration on the CAR can be consulted on: [http://www.car.gov.br/#/consultar](http://www.car.gov.br/#/consultar), using the registry receipt supplied by the property owner.

Note: Registry on the CAR does not apply to public forests under concession.

**STEP 2 – Approval of the Sustainable Forest Management Plan**

If a private forest owner wants to log wood within his property, he must produce and submit a Sustainable Forest Management Plan to the Environment State Agencies (OEMAS) for approval. In the case of concessions of public forest at federal level the agency responsible for approving the plan is IBAMA.

Note: Another option to extract legal wood is through authorized land clearance for the conversion of forest land into other uses (such as agriculture and livestock); in this case a Permit for Alternative Land Use must be obtained (*Autorização de Uso Alternativo do Solo*).

**STEP 3 – Approval of the Annual Operational Plan**

After approval of the Sustainable Forest Management Plan the rural property owner must submit an Annual Operational Plan (*POA*) requesting permission to log the Annual Production Unit (*UPA*), which is a subdivision of the Forest Management Unit. The document obtained is called Forest Logging Permission (*Autorização de Exploração Florestal – AUTF* or *AUTEX*, according to the agency involved).
STEP 4 – Issue of the transport document from the forest to the sawmill

Wood transported from the forest to the sawmill must be accompanied by an electronic transport document (called Documento de Origem Florestal - DOF, or Guia Florestal - GF1 in the States of Pará and Mato Grosso).

The DOF can be consulted on: https://servicos.ibama.gov.br/ctf/consulta_dof.php. The GF has two barcodes: one with 32-digits, that can be consulted on the State Environmental Agency sites (SEMA-PA or SEMA-MT), and a 16-digit code, which can be consulted on the IBAMA site.

STEP 5 – Issue of the transport document for sawn wood from the sawmill

Sale of sawn wood from the sawmill and all subsequent sales until final application or export always involves an electronic transport document – the DOF or the GF3. The GF3 is specific for sawn wood in the States of Pará and Mato Grosso. Both types of documents can be consulted on the links indicated in the last step.

Note: To check traceability of wood throughout the supply chain, it is necessary to obtain the DOF or GF of all transport steps. When the first transport shall be of logs, the issuer ("Emissor/Remetente") is indicated as the person responsible for the Management Plan and the receiver ("Destinatário") is indicated as the sawmill. Each subsequent step will have as "Emissor/Remetente" the “Destinatário” of the previous step.

OTHER SOURCES OF INFORMATION

To increase confidence in the companies involved, other sources of information can be used.

I – Situation in the Federal Technical Registry

The Federal Technical Registry (Cadastro Técnico Federal- CTF) is mandatory for all persons (natural or legal) who carry out activities that can cause pollution or use environmental resources. Regular situation at the CTF is a prerequisite for accessing any IBAMA service, including use of the DOF system. DOF and GF cannot be issued if the situation of the company in question is not regular at the time. The CTF situation can be consulted using the numbers of registry of individual persons (Cadastro de Pessoa Física -CPF) or registry of legal entities (Cadastro Nacional de Pessoa Jurídica -CNPJ), which are indicated in the DOF and GF, on the following address:

II – Embargoed areas

IBAMA grants public access to the list of embargoed rural properties, whose owners have committed environmental irregularities, such as unauthorized deforestation. This allows checking if there are embargoes on the area covered by the Sustainable Forest Management Plan. The list can be consulted on: https://servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php

III – Electronic Invoice

The electronic invoice (Nota Fiscal Eletrônica - NF-e) is the document that ensures tax regularity during the sale of products. The NF-e is recorded in the DOF or GF and can be consulted online, with content cross referenced with the DOF or GF content: http://www.nfe.fazenda.gov.br/portal/consulta.aspx?tipoConsulta=completa&tipoContento=XbSeqxE8pl8=
11. FINAL COMMENTS ON CONCESSIONS AS SOURCES OF SUSTAINABLE TIMBER PRODUCTS IN BRAZIL

It remains unsure how the new legal framework, enforcement measures and concession system will impact the long term supply of timber products from the Brazilian Amazon. According to Olivier (2013b), these measures may reduce supply in the short term – due to decreased availability from conversion forest and other illegal harvesting – but improve security and regularity of supply in the long term.

The concession system is already an important land-use planning tool, as it establishes that public forests are to remain public, and forests. When fully implemented it may be a powerful tool to stop the expansion of the agriculture frontier and the conversion of forest into pastures. In fact, the law implicitly breaks the relationship of the forest sector with cattle ranching and its dependence on the conversion of forest into pasture or arable land in order to ensure access to forest resources (Thiel and Viergever, 2006).

More directly related to the subject of this report, the Brazilian concession system emancipates forestry from its marginal position into a legitimate economic sector (Thiel and Viergever, 2006). This impact was clear during the project mission to Brazil.

Wood production has been decreasing since implementation of the new legal framework and stricter enforcement measures starting in 2006 – this is evident from the number of sawmills that have closed since this period in the Amazon region. The remaining forest operators welcome the predictability and security offered by their 40 year contract with the government, despite the strict rules and intense monitoring. Sawmills associated with concessions are no longer dependent on supplies of wood from dubious origin, by third parties. In addition, the 40 year contract is a guarantee of their investment.

Concessions on public forests guarantee access to legal land, without the problem of uncertain land tenure that compromises investments in the Amazon, as concessionaires contacted during the project missions underlined. This was the main advantage of the concession regime that was cited by all concessionaires that were contacted.

During this project, no evidence of negative opinions of Brazilian forest concessions by environmental organizations was encountered. Although this is partly due to the recent implementation of the system in Brazil, in other Amazon countries criticism of concession systems were documented a little over 10 years after their implementation. Finer et al (2014), for instance, present evidence that Peru’s legal logging concession system is enabling widespread illegal logging via the regulatory documents designed to ensure sustainable logging. The regular reports on forest transparency produced by IMAZON have not mentioned concessions as a source of similar problems in Brazil.
On the contrary, various authors - such as Thiel and Viergever (2006), Lawson and MacFaul (2010) and Lentini et al (2012) - are optimistic about the Brazilian system. Roberto Smeraldi, from Friends of the Earth – Brazilian Amazon (cited in Adeodato, 2010), cites forest concessions as incentives for environmentally and socially responsible forestry.

Unfortunately, most of the promising advances mentioned above are not recognized by relevant European agents. European operators and the organizations they represent, as well as competent authorities contacted during the project, lack knowledge regarding the legal framework of the Brazilian forest sector, and require accessible sources of information in English. In fact, most European organizations encountered were unaware of the Brazilian concession system.

Lack of knowledge is not limited to Brazilian forestry and forest products trade; it extends to other issues that are relevant to traders of wood products in Europe. On the part of many individual operators, there is still limited understanding of forest certification (schemes, standards) and legal verification, for instance, which are important mitigation measures, and of how they can be used in the context of a Due Diligence System implemented for compliance with the EU Timber regulation.

Brazilian producers and exporters of native hardwood products would welcome more support from government agencies related to exports, in promoting the forestry sector in global markets, and providing markets with the information they need, in English. European operators voice equivalent requests for more support from government agencies related to imports, in accessing and making sense of the information they need.

Brazilian exporters informed that some clients recognize concessions as source of legal and sustainable wood, and many are willing to pay a 5-6% surcharge for these products. Onsite visits to logging and processing sites are also referred to as important confidence boosters for importers. Certification, however, is not indicated as being particularly valued by European importers, especially since the implementation of the EU Timber regulation. All of the Brazilian exporters contacted, who were FSC certified, mentioned that European clients asked for a profusion of legality related documents, independently of whether the wood sold was certified.

This project also confirmed the problem - in importing EU countries - of uncertainty about what constitutes adequate evidence of legal compliance, what is enough as mitigation, and what sources of information are reliable, as already referred to in section 4.2 of this report. This uncertainty will continue until competent authorities have built up a record of inspections of wood products of Brazilian origin, which can provide the market with real information on how they value evidence of legal compliance from the country, including evidence of origin in a forest concession.
This problem seriously affects countries which are constantly under the “forestry limelight”, such as Brazil. In the absence of clear and homogeneous guidance on supplier legality documentation required and the high visibility of NGO reports on illegality in the Brazilian Amazon forest, some large European importers referred to plans of just stop buying Brazilian native wood products.

It would be particularly regrettable if importers were to shun Brazilian wood, now that significant improvements in the legal framework, forest monitoring and enforcement measures against deforestation are widely recognized, and that forestry is emerging as a legitimate economic sector, and the concession system is starting to produce a steady, significant output of legal wood.
10. REFERENCES


