

## Meeting Summary:

## Timber Regulation Enforcement Exchange:

- Malaysia
- Vietnam & Laos
- Papua New Guinea
- Indonesia
- Myanmar

Paris, France

October 24 – 27, 2016



## Introduction

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**Background:** Since 2012, Forest Trends and Chatham House have been working with officials from EU Member States and US Lacey enforcement agencies to further understanding of complex high-risk supply chains for wood products and support coordinated implementation of the EU Timber Regulation and US Lacey Act. These two work streams merged into a process called the Timber Regulation Enforcement Exchange (TREE), an ongoing series of networking and information-sharing meetings which bring the growing group of officials together every six months.

**Objective:** The TREE process aims to support robust and consistent enforcement of demand-side timber regulations by providing a forum for officials to gain detailed insight into high- and low-risk timber flows entering their countries, discuss practical enforcement issues with each other and relevant experts from the forest sector and other relevant product/environmental sectors, establish emergent norms for Due Diligence/care in relation to different forest products, and build relationships with producer country governments, industry representatives, and other stakeholders involved in combating illegal logging and promoting global markets for legal timber.

**Paris Meeting:** Held in Paris, France from October 24-27, 2016, this TREE workshop brought together a core group of US Lacey Act enforcement officials, EU Timber Regulation (EUTR) Competent Authorities (CAs), and a Canadian official implementing the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA), this meeting also included a German government representative charged with enforcing CITES import and trade restrictions and a representative of the European Commission.

The following report summarizes the presentations and discussions from the TREE meeting in Paris. Notes were not taken during Government only training sessions on October 24th covering forest sector risks and document systems in Malaysia, Papua New Guinea, and Indonesia.

**Several topics were covered throughout the week, including:**

- a) An introduction to the FLEGT facility and the FLEGT licensing process, in light of Indonesia's recent completion of this process.
- b) An overview of the recent developments in timber-related CITES guidelines following the recent CITES COP17 held in Johannesburg, South Africa, and the relevance of these developments for timber legality enforcement.
- c) Legality risks and Due Diligence standards in supply chains from Malaysia, Papua New Guinea, and Indonesia, including document training for enforcement officials in assessing compliance for timber imports coming from each of these countries.
- d) Presentations and discussion focusing on illegality risk indicators, including efforts by Forest Trends to assess relative rule of law and governance in a particular country to give insight into the likely level of illegal

logging and the reliability of compliance and chain of custody documents as well as Forest Trends preliminary research identifying log imports into regulated markets originating from countries with some form of log export ban in place.

e) Source-specific risks for timber originating from Malaysia, Vietnam, Laos, Papua New Guinea, and Myanmar, including presentations and discussion of NGO research into exports from these countries.

f) A discussion of the state-of-play for timber forensics technologies, with presentations focusing on emerging technologies for timber species identification and the way in which these technologies are already being used by enforcement officials, including how the UK Competent Authority has used forensic testing to check species of plywood imported from China.

**Monday, October 24, 2016**

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## **Overview and updates: FLEGT facility and outcomes from CITES COP17**

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### *Presentations*

**Mario Sterz** of the German CITES Management Authority summarized notable amendments for the wood sector from the recent CITES CoP which took place in Johannesburg, South Africa in late September and early October. Overall, key developments included the listing of several timber species in Appendix II, which initiates more stringent regulations for international trade in these species. Several African countries proposed reclassifying *Pterocarpus erinaceus* (kosso, African rosewood) from Appendix III to Appendix II, as this species is the most illegally harvested and traded timber species in West Africa currently, and has recently been experiencing uncontrolled and unsustainable harvesting, with a large proportion of the trade going to China. This proposed listing was adopted by consensus without any annotations (i.e. exceptions), meaning that the trade of this species will now require export permits based on a scientific non-detriment finding (NDF) and, notably, a legal acquisition finding. As such, and from the enforcement of timber regulations like the EUTR, timber species listed (under CITES) and which comply with annex requirements and its implementing provisions are considered to have been legally harvested for the purposes of the EUTR.

Three species of bubinga were also added to Appendix II. One major development was the listing of the whole genus *Dalbergia* spp. (300+ species worldwide) in Appendix II. This was a long sought-after goal of the EU and was put forward as a proposal by Guatemala, Argentina, Brazil, Kenya, Thailand and Mexico. There are some exemptions such as a few species which are listed in Appendix I, and an amendment allowing shipments up to 10kg to cover the export of products like instruments and carvings purely for personal. A few other species, namely—*Adansonia grandidieri* (Grandidier's baobab) and *Beaucarnea* spp. (Ponytail palm, Elephant-foot tree)—were added to Appendix II but are not covered by the EUTR in Germany's opinion. Finally, the US proposed two amendments, requiring wood chips of Agarwood (*Aquilaria* spp. and *Gyrinops* spp.) to have a permit in order to be imported, and allowing finished products containing Holy Wood (*Bulnesia sarmientoi*) extracts to be exempt. All decisions made at the CITES CoP will come into effect 90 days after adoption, which will be in early January, 2017. Operators will need to register existing stocks of newly listed species with their CITES management authorities prior to these changes coming into effect, in order to prove that they were imported before the rule changes.

## *Discussion*

A European CA asked Mr. Sterz whether the CITES CoP saw any proposals for dealing with corruption, in light of recent allegations of CITES corruption in countries such as the Democratic Republic of Congo, and Mr. Sterz responded that CITES has an action plan to better address corruption, including in the DRC and are working to better address some of the risks. A US official expressed concern with the <10 kg exemption for Rosewood imports which could be a problematic loophole, given that 35% of all seizures globally since 2005 have been of Rosewood. Finally, participants discussed differences in the enforcement approach across importing countries with regard to instances of alleged fraudulent CITES documentation, noting that the US and Canada tend to accept CITES documents at face-value, while EU authorities have had specific cases where NGO tip-offs have led them to declare EUTR violations because of fraudulent CITES permits. Mr. Sterz noted that CITES is working to better address the risks of fraud and corruption.

## *Presentation*

**Tom Ter Horst** from the European Forest Institute FLEGT facility provided an overview of the Forest Law Enforcement, Governance and Trade (FLEGT) licensing program, and its relevance for the EUTR. A FLEGT license is a document that confirms that timber or timber products comply fully with the relevant laws of the country of export, such as those relating to forest management, environmental aspects, labour rights, community benefits, import and export procedures, and payments of fees and taxes. FLEGT-licensed timber and timber products are treated in a similar way to CITES species and considered to automatically comply with the requirements of the EU Timber Regulation, meaning that Operators in the EU do not need to undertake further due diligence on FLEGT licensed timber. FLEGT licenses are issued by timber-producing countries that have ratified a Voluntary Partnership Agreement (VPA) with the EU, and put in place a timber legality assurance system (TLAS) to control supply chains and verify legal compliance. TLAS are independently audited, and are built on practical definitions of legality that have been developed through participatory processes involving stakeholders from government, the private sector and civil society. The FLEGT process has been ongoing for the past 7-9 years and has involved 15 timber-producing countries, six of which are in the implementation stage, while nine are still in the negotiation stage. In September the EU signed its first FLEGT agreement—with Indonesia—and licensing started on November 15<sup>th</sup>, 2016.

The background and context for the EUTR and FLEGT are rooted in the FLEGT Action Plan of 2003 which aims to address illegal logging and foster good forest governance. It consists of a number of supply and demand side measures, most importantly the EUTR which prohibits the placing of illegal timber on the EU market, and also VPAs, which are bilateral trade agreements negotiated between the EU and a timber-exporting country outside the EU. A VPA seeks to ensure that timber and timber products imported into the EU from a partner country comply with the laws of that country. To achieve this, a partner country must first decide which parts of its national legal framework it will use to define legality for the purposes of the VPA. In some EU Member States, a single Competent Authority is responsible for both the EU Timber Regulation and the FLEGT Regulation. Other Member States divide responsibilities for implementing the EUTR and the FLEGT Regulation between two Competent Authorities. The FLEGT regulation provides for its own tools for FLEGT Competent Authorities to exercise additional verification on FLEGT licenses. Competent authorities decide on the need for further verification of shipments using a risk-based approach. In case of doubt, FLEGT CAs can ask for further verification and clarification from the licensing authorities in the VPA country, as described in the VPA. Customs authorities may suspend the release of or detain timber products where they have reason to believe that the license may not be valid. The FLEGT Regulation also prohibits imports of timber covered by the scope of a VPA without a FLEGT license. There are a variety of tools available for learning and communicating

about FLEGT licenses. [FLEGT.org](http://FLEGT.org) is dedicated to sharing accurate information and practical knowledge about the EU FLEGT Action Plan. It is a one-stop center where members can access and share news, research, training materials and many other resources, including the [FLEGT license information point](#).

#### *Discussion*

A European CA expressed the concerns of Operators in his country that it will be difficult for the Operator's small suppliers in Indonesia to afford the process of becoming FLEGT licensed. Mr. Ter Horst and others indicated that if the products fall within the scope of the VPA, the Operator will have to change suppliers. However, Indonesian suppliers have been supported for the past five years to prepare for the FLEGT requirements. Another CA asked about EFI's outreach efforts, and Mr. Ter Horst described EFI's outreach efforts which have focused on disseminating information to about 5,000 Operators in the EU. A question was then raised about the possibility for Operators to use FLEGT licensing as a marketing tool. Mr. Ter Horst indicated that the marketing of country FLEGT/VPA systems lies with the country of origin/export, not the import countries or Operators. Finally, a CA asked about whether a CITES permit takes the place of a FLEGT license. Another CA answered by clarifying that only a CITES license is required for CITES listed species, not a FLEGT license. Although, some CITES species may also come accompanied with a FLEGT license, but this does not seem to be required in all cases.

**Tuesday, October 25, 2016**

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### **Field initiatives, information collection, intelligence and evidence**

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#### *Presentation*

**Rick Jacobsen** highlighted the work of Global Witness in investigating illegal logging in Papua New Guinea (PNG) and the associated trade with China. PNG is home to the world's third largest tropical rainforest, and 85% of the country's 10 million people live outside of cities and depend on the land, forests, rivers and oceans for subsistence. PNG is the world's largest exporter of tropical logs, and supplies 30% of China's log imports. PNG and the Solomon Islands (SI) together supply 50% of China's log imports, and are believed to have among the highest rates of illegal logging in the world. In China, species from PNG and SI are used to manufacture products such as flooring, furniture, plywood and paneling; most of which is consumed domestically, but significant quantities are exported, including almost certainly to major markets such as the US, EU, Japan, Australia and Canada. PNG's logging industry is dominated by a number of large international logging companies from the Malaysian states of Sarawak and Sabah, two states that have seen allegations of illegal logging. Oversight of logging operations by the PNG government is limited, and police are paid by logging companies to protect their operations against indigenous landowners. There is a chain of custody system for log exports operated by private verification company SGS, but it does not track timber back to the point of harvest. By the mid-2000's, the PNG government had leased 12% of the country's total land area to foreign-controlled companies for large-scale agriculture using Special Agriculture and Business Leases (SABLs), which can be a front for logging, or at other times can be an opportunity to convert forest to oil palm and rubber plantations. Following international outcry, a Commission of Inquiry (COI) was set up in 2011 to examine the legality of the SABLs. It concluded that 38 of the 42 SABLs it reviewed had violated PNG laws, and found evidence of widespread corruption and fraud. Court decisions have since struck down five SABLs following landowner challenges. The PNG government acknowledged the COI findings, and said it would cancel the illegal leases; 2 years later none of these have been canceled, and as of 2014, one out of every ten logs imported by China came from a SABL in PNG.

## *Discussion*

Participants and the presenter discussed the burden of proof needed to prosecute companies importing PNG timber from a SABL under the Lacey Act, noting that US officials could consider seizing this timber under civil law, even if the burden of proof required for a criminal prosecution was unavailable. The discussion also clarified the fact that the SGS chain of custody and tagging system for PNG timber exports is for tax purposes only, and does not establish legal harvest or compliance with other relevant legislation.

## *Presentations*

**Sam Lawson** of Earthsight discussed the organization's recent launch of the Timber Investigation Centre (TIC), which aims to support CSO's in developing specific cases relating to illegal logging. The TIC was launched in July, 2016 and aims to provide at least ten discrete pieces of assistance per year to various CSOs in forest countries, and to undertake one major investigative partnership per year based on existing evidence of the partner CSO organization. The TIC aims to move beyond 'the usual suspects' of timber crime investigations, to partner with a broader spectrum of actors, such as investigative journalists in timber source countries. One challenge TIC has faced is that applications to date have not been as developed as initially hoped and would require significant input from TIC, which the organization does not have the resources to support currently. The TIC ultimately aims to bring actionable evidence to support more robust and aggressive EUTR enforcement.

**Mauricio Moura Costa** of the BVRio Institute presented the online due diligence and risk assessment system that BVRio has created for assessing the legality of Brazilian timber products. BVRio is a Brazilian organization that develops market mechanisms to facilitate compliance with environmental laws. The Government of Brazil has developed a timber tracking system which aims to eliminate fraud and illegal timber harvesting and trade, but the scheme has some critical flaws which the BVRio system highlights. Under the Brazilian system, annual logging permits show a map of the logging area, and list the timber harvester as well as the approved species and volumes of harvest. These volumes are entered into an electronic system as 'credits', which are then traded from buyers to sellers throughout the full length of the timber supply chain—from harvest through processing to final sale and export — making it difficult for illegally harvested timber to enter the market. However post hoc audits have shown that timber harvesters have systematically inflated the volumes of timber (i.e. number of credits) they can produce on a given concession, selling the extra credits on the black market to traders and mills in order to 'launder' illegal wood. BVRio's online DDS system aims to identify the risk that any given timber harvester or timber product was involved in such a scheme. The system uses a 'big data' approach that compiles all relevant publicly available information to check the consistency of various supply chain documents, identifying key risk indicators and assigning a risk rating on a scale from "high risk" to "negligible risk". This BVRio DDS support system utilizes various legal documents, records of infractions, and satellite imagery pulled from 22 separate public databases, involving over 2 billion cross checks per day. The risk indicator scores are aggregated across years and across categories to create a final 'Track Record' score assigned to each logging permit holder (i.e. timber harvester). When BVRio analyzed all logging licenses and permits for Para and Mato Grosso (together representing 2/3 of all timber production in Brazil) for the past ten years, the DDS system identified 30% of all operations to be in the medium- to high-risk category, indicating the continuing need for significant levels of due diligence in assessing the legality of Brazilian timber imports.

## *Discussion*

Participants wondered if BVRio is ever involved in official investigations regarding legality, and Mr. Moura Costa indicated that BVRio provides information for investigations at times, but their role is always to provide objective information only. Mr. Moura Costa also stated that BVRio's information is publicly available for free online, and their DDS system has received nearly 10,000 checks on behalf of exporters, buyers, Brazilian government officials and external government officials since it was launched at the beginning of 2016. The BVRio system has also attempted an internal trading platform, which is still in development, but this will also be offered for free as the aim is to promote open and transparent trade for legal/sustainable timber. Finally, when asked if BVRio plans to expand its operations into other countries such as Indonesia, Ghana, or Cameroon, Mr. Moura Costa responded that BVRio is currently doing scoping work in Ghana, but the requisite information there is not digitalized, which presents a huge challenge. The hope is to have the Ghana program developed following one more year of scoping work. BVRio hopes to accelerate its Indonesia scoping work once the FLEGT process is fully operationalized, and to explore work in Cameroon after Ghana.

## *Presentations*

**Valerie Vauthier** from the NGO Resource Extraction Monitoring (REM) presented their work constructing a Forest Transparency Initiative Data Management System to compile and organize key findings from NGO reports and Monitoring initiatives over the period 2013-2016 in the Congo Basin and key SE Asia countries (Cambodia, Cameroon, CAR, Congo, DRC, Indonesia, Ivory Coast), aiming to assist users such as timber buyers and EUTR Competent Authorities (CAs) about risks and past infractions by specific timber suppliers in the region. In total REM is analyzing 38 reports, from both mandated- and external-independent-monitoring-organizations, all charged with bringing transparency to timber trade operations in the region. REM is trying to aggregate the highest quality information available, prioritizing the types of detailed data and information on infractions most usable by EUTR CAs. REM also aims to analyze the gaps in global monitoring systems, and conduct research to fill these gaps, and is exploring the idea of creating a centralized online portal through which CAs and other interested stakeholders could access detailed, organized information on infractions by various operators. The full database for the research involving the 38 NGO reports is still being constructed, but once completed it will be publicly available.

**Emily Unwin** of ClientEarth gave a short presentation outlining some of the challenges her organization has faced through the course of their work building capacity for reform of forest governance frameworks in five Congo Basin countries. Client Earth has included analyzing legal frameworks to identify issues or problems, and compared these frameworks with existing practice on the ground. Ms. Unwin highlighted two major categories of illegality which have, as yet, not been fully discussed in the content of the Lacey Act or EUTR: the first occurring in a context in which procedures for legality are defined in law and therefore reasonably clear, but not applied by government agencies, and the second occurring in an ambiguous legal context in which procedures for legality are not strictly defined or enforced.

**Meriam Wortel** of the Netherlands Food and Consumer Product Safety Authority—the EUTR Competent Authority for the Netherlands—gave a presentation summarizing the value that NGO research can provide in supporting EUTR enforcement, and highlighted the types of information and methods of communication most helpful for getting information to CAs. Ms. Wortel highlighted that there are more than 2,100 people working in her government agency on a wide range of regulatory issues, and the agency receives more than 40 substantiated concerns / incident reports and questions from the general public, NGOs and national and international agencies per day on various topics. Thus,

it is important that NGOs wishing to supply information to CAs are specific and do their best to make sure that the substantiated concern is properly directed to the right office or enforcement official within the agency and is written in the national language. All information presented should also be as detailed as possible, and reliant on recent information which has clear, direct links to the legal requirements of the EUTR. The best way to report the information would be through direct contact with the CA, by filing a report or complaint in the form of a substantiated concern, relying on the specifics of national legislation to guide the submission. Reporters should also always contact authorities in the country where the crime was committed to also file a report or register a complaint. Ms. Wortel explained that the Dutch CAs do share information/outcomes with the filer of the substantiated concern after a resolution has been reached, although the full process of reaching a resolution can take multiple years. She also affirmed that evidence of past infractions by a company can be used as evidence for a current alleged infraction, as this past evidence helps to build a case history of significant repeat offences by an operator, which can be useful and important evidence in evaluating a substantiated concern.

## Malaysia – trade data analysis and stakeholder perspectives

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### *Presentation*

**Marigold Norman** of Forest Trends outlined recent Malaysian timber trade trends based on data compiled by Forest Trends. Malaysian timber product exports remained relatively constant over the period 2006-2015, averaging a total annual value of approximately US\$7 billion/year. Wood furniture was the highest-value export product over the period, followed by plywood, paper, sawn wood, logs, fibreboard, and finally joinery products. Japan was Malaysia's largest trading partner over the period, importing more than US\$13 billion worth of timber products. The EU 28 and USA were the next-largest, at around US\$8 billion, with the UK, the Netherlands and Germany as the top EU importers. Just over half (53%) of Malaysian timber exports went to countries with timber regulations in place, although the majority of Malaysia's paper, sawn wood, log, and fibreboard exports went to unregulated markets, primarily in Asia. Leading importers by product type are the USA and EU 28 (wood furniture), Japan (plywood), India (logs), Singapore (paper), and the EU 28 (sawn wood). The Forest Trends' review of national governance indexes (see page 9) shows that although Malaysia sits at the 30<sup>th</sup> percentile of countries globally (between 1 indicating lower corruption and fewer governance challenges and 100, indicating highest corruption and the most governance challenges), this should not be taken to mean that all Malaysian timber exports are low risk. The majority of Malaysia's highest risk imports come from China and Indonesia, although these make up a very small share of the country's overall timber imports. However, the scale of Malaysia's high risk imports are growing, a trend which is driven particularly by growing imports from China, but also from slight growth in imports from Indonesia and Vietnam. Sawn wood and logs are the two main products coming from source countries with significant governance challenges. In terms of EU imports from Malaysia, the leading countries are the UK (wood furniture, plywood, and paper), the Netherlands (sawn wood), and Italy (veneer). Over the period 2012-2015, EU 28 imports of paper decreased overall; wood furniture imports also decreased, although Ireland, Sweden, Estonia, Romania and especially Bulgaria saw large increases; plywood imports decreased overall, but increased in some countries—particularly Ireland; and veneer imports grew overall due to a remarkable 40 fold increase in Italy and large growth also in the Czech Republic. Ms. Norman clarified that this research was based on national statistics, and therefore cannot account for regional or subnational variation below the national level in Malaysia.

## Risk indicators – measuring relative rule of law and governance for Due Diligence

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### *Presentation*

**Marigold Norman** of Forest Trends presented new research on the relevance of national governance indicators to the regulation of the trade in illegal wood. In a forthcoming information brief, Forest Trends compares 12 national level political, governance, business, economic and corruption indexes to determine the level of consistency in country assessments and provide a new aggregated relative governance ranking for 211 countries. This governance ranking has been developed to provide an entry point for Operators in the EU, or buyers in other regulated markets such as the USA, undertaking a risk assessment process for forest products from source countries where NGO or media reports on incidences of illegal logging are less frequently available or absent. The ranking has been specifically designed to help Operators and buyers assess how the level of governance in a particular country might give insight into the likely level of illegal logging and the reliability of compliance and chain of custody documents. The analysis is based on an assumption that ineffective governance and the prevalence of corruption will undermine rule of law in the forest sector.

There are a few important caveats to note with regard to this study. First, it is important to understand that the results are relative—rather than absolute. Second, the 12 indexes used to construct the aggregate score only assess national governance and despite the well-documented links between national governance and the management of natural resources, enforcement of the relevant forest policies and regulations generally take place a long way from a country's capital. Rural areas often see poorer governance and greater challenges in enforcing policies and laws even where robust systems theoretically exist at the national level. Finally, because the aggregate index and underlying indicators are based on measures of governance, one can find examples where timber-sector risks in some countries are higher or lower than the broader, national-level indicator might suggest. For example, Peru ranks in the 40<sup>th</sup> percentile in the aggregate index (i.e., relatively lower risk), but the underlying 12 index rankings vary widely for Peru, and well-documented forest governance challenges exist in the country. Conversely, Liberia ranks in the 78<sup>th</sup> percentile in the aggregate index (i.e., relatively higher risk), but the country's forest sector has experienced significant scrutiny and reform over the past several years, and may well be performing better than the overall national-level governance context of the country might suggest.

In conclusion, the relative ranking and data sets therefore offer insight into one of the questions that companies will need to consider as part of an effective risk assessment; however, they should not be used in isolation or as an alternative to seeking out detailed assessments of forest crime, which is necessary in order to undertake a full and meaningful risk assessment for a specific species or supply chain. Rather, this ranking can signal that in countries where there is a global consensus around high levels of corruption and contextual governance challenges, it is critical that companies invest significant resources in forest-specific risk assessment and mitigation.

### *Discussion*

Participants acknowledged the usefulness of a global, composite risk index by country, but wondered if it might be possible to include forest-specific metrics, to make the findings more tailored to the forest sector. However, unfortunately no forest-specific governance assessments at the global, comparative level exist, making it impossible to incorporate forest-specific metrics. Participants also expressed concern that in many countries, the forest sector may be higher risk than the country as a whole, in part because forest sector actors (i.e., timber companies) are often based out in countries without strong regulations and enforcement in place. Concerns were raised that

underestimating risk is a bigger problem than overestimating risk, and some feared that this tool could be mistakenly interpreted or deliberately misused to minimize the presence or timber sector risks or the need for stringent DDS in countries that appear above the 50<sup>th</sup> percentile ranking, but which in reality have serious and systemic timber legality challenges associated with either, or both, domestic production or imported timber. Ms. Norman acknowledged these concerns, but re-iterated that the tool is in no way meant to replace the need for country-specific timber sector analysis or due diligence, but should be used as an initial entry point for understanding the general risk level of a country, with the understanding that any given country's timber sector risk may differ substantially from the overall country governance risk. One CA suggested that in order to avoid any misinterpretation, the study should make clear any anomalous countries and caveats and remove risk ratings suggesting "high" and "low" risk countries.

**Wednesday, October 26, 2016**

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## **Vietnam exports and Mekong timber**

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### *Presentations*

**Kerstin Canby** of Forest Trends presented a project Forest Trends has been working on with the Vietnamese government, using Vietnamese customs data to better understand the imports, processing and exports of timber products through Vietnam. Overall annual timber trade values are estimated at US\$7 billion in forest product exports (2015) and US\$1.5 billion in forest product imports mostly in the form of logs and sawn wood which are then further processed and in many cases exported. Vietnamese customs data is collected at border crossings, but the data is not made readily publicly available; Forest Trends has access to the data through partnerships with Vietnamese timber trade associations and government agencies. The Vietnam customs data is compromised by inaccurate species and trade value information, due to either data reporting errors or purposeful misclassification or under-reporting of trade value to avoid tax payments. In some cases, Forest Trends can contact a Vietnamese company directly to seek clarity on apparent data discrepancies, but this is very time consuming and not always possible. Forest Trends has thus far used the data to conduct analysis of Vietnamese timber product exports to the EU, USA, Australia, Japan, Korea and China, and reports summarizing these findings have been widely shared in Vietnam and beyond. Forest Trends has also released reports analyzing Vietnam's timber imports to identify species risks, particularly for imports of logs and sawn wood coming from African or other Mekong countries. Future work will seek to combine this customs analysis with timber enterprise surveys of Vietnamese timber companies, with the goal of helping to inform and build a timber legality scheme in support of the country's VPA process.

**Marigold Norman** of Forest Trends highlighted trends in timber product exports and imports from Vietnam and the Mekong region, using UN Comtrade data. From 2006-2014, Vietnam's exports increased from nearly US\$2 billion to nearly US\$6 billion, signaling the country's growing role as a timber processing hub—particularly for wood furniture. Vietnam's timber products are largely exported to the USA, the EU28 member states, Japan, and China. Overall, approximately one third of the country's exports between 2006 and 2015 went to countries with timber regulations in place—this includes the USA, Canada, Australia, EU28 countries + Norway and Switzerland, Japan and South Korea. Broken down by product, about half of Vietnam's wood furniture exports went to regulated markets while around a fifth of fuel and paper exports went to regulated markets; sawn wood and log exports were almost entirely destined for unregulated markets. The vast majority of Vietnamese timber product exports to Australia, Canada, the USA and

EU28 countries (led by the UK, Germany, France and the Netherlands) are in the form of wood furniture. Exports to the USA and Canada are dominated by bedroom furniture, and have grown from US\$30 million to US\$120 million to Canada and from US\$650 million to US\$1.8 billion to the USA from 2006 to 2014.

Given Vietnam's growing role as a timber processing and export hub, it is important to understand the origin of Vietnam's timber imports and to assess the risk of the timber source countries in order to support legitimate enforcement of the EUTR/Lacey/ILPA timber legality statutes. Applying the Forest Trends governance index, Ms. Norman noted that the majority of Vietnam's highest risk imports come from China, Laos and Indonesia, with the value of some of the highest risk imports (based on the source country's governance ranking) increasing from just less than US\$ 600 million in 2006 to over US\$2 billion in 2015. Vietnamese customs data shows that certain species (based on trade name) tend to be imported from a few, specific countries: Laos and Cambodia are key source countries for rosewood logs; Nigeria, Cameroon and Gabon are source countries for rosewood sawn wood. Laos is also a major source for Pau Rosa, while Cambodia and Myanmar are the main sources of Pyinkado. Finally, Tali is primarily sourced from Cameroon and Gabon while Okan is overwhelmingly sourced from Cameroon. Much of this timber is processed in Vietnam and then exported as component parts and finished products. Particular product risks for European imports include: Tableware (HS code 44190000) which may be White Meranti originating from Laos; Marquetry (HS 44209090) which is often made from tropical timber imported from the Mekong region (such as Pyinkado from Laos and Cambodia); and Furniture (HS 94016900) which includes benches often made from Meranti from Laos or Vietnam. Particular product risks for Australian imports include: Flooring (HS 4409) which can be Mahogany and Keruing originally from Laos; Pallets (HS 4415) which may be rosewood; and Joinery products (HS 4418) which saw a large increase in exports from 2014 to 2015, and are sometimes made from *Aglaia* spp. from Vietnam.

**Keith Barney** from the Australian National University at Canberra discussed the cross-border timber trade between Laos and Vietnam. Mr. Barney recently spent time in southern Laos near the Vietnamese border and provided some observations from the field. Statistics gathered by Forest Trends suggest that the scale of the timber trade from Laos to Vietnam could be on the order of US\$300-500 million/year. Timber harvesting and trade in Laos over the past decade has been closely linked to infrastructure development—particularly hydropower—and has sometimes infringed upon protected areas. Laos has been building many new dams on the Mekong River for hydropower; these dams create large reservoirs, but prior to dam operation, timber is first cleared from the future inundation zones. These operations often become a 'free-for-all' scenario in which logging contractors illegally harvest from an area much larger than the actual inundation zone. High-level government officials have also been linked to corruption in the Laos timber trade. However, not all of the cross-border trade is associated with large-scale or elite actors. There is a thriving charcoal trade across southern Laos and into Vietnam, and a small-scale luxury hardwood trade involving small trails and other informal networks which run across the whole Laos-Vietnam border area and are impossible to track or monitor. A new prime minister of Laos was elected in early 2016, and he has been stepping up law enforcement with regard to the timber trade, specifically through a new executive order (PMO/15) strengthening timber inspections and banning all unprocessed timber exports from Laos to Vietnam. Provincial governors and district officials seem to be complying with the order, with the result that some sawmills have closed down since the decree, and there has been a decrease in the number of timber trucks crossing the border over past few months. This is the first time such a decree has been so effectively implemented, and will be a very interesting development to continue following. This crackdown will likely force timber smugglers to have to pay higher bribes, making it more financially difficult for them to continue in the trade.

## *Discussion*

One participant asked whether the new ban on unprocessed timber exports from Laos to Vietnam covers only certain species, or whether it is comprehensive. Mr. Barney responded that the government is trying to make sure that plantation grown species can be traded, but for the moment even these are prohibited until a better system can be put in place. There are also a few exceptions for companies to export veneer. With regard to the Forest Trends trade data analysis showing the export of Rosewood pallets from Laos to Vietnam, Mr. Barney guessed that the species is either being misclassified and is not really Rosewood, or the pallets are being used to smuggle Rosewood into Vietnam for further processing.

## *Presentations*

**Alexandra Banks** of NEPCon presented NEPCon’s work compiling risk assessment profiles for various timber source countries exporting to Vietnam, including Laos, Cameroon, Ghana and the DRC. NEPCon is a non-profit organization which was originally founded in Denmark, and now has 17 global offices. They generate revenue by providing fee-based timber certification services, and then use the resulting profits to fund non-profit work in capacity building projects around the globe. NEPCon recently opened a country office in Vietnam, and is expanding its work and presence in the country, including actively engaging in the ongoing VPA process. The organization has been working on National Risk Assessments for timber legality since 2007—conducting timber legality risk assessments for over 60 countries—and is now expanding into a new area of work assessing supply chain risks for key commodities including timber, palm oil, beef/leather and soy. NEPCon’s National Risk Assessments consider the risk of illegality across the five categories of relevance to the EUTR, with an additional 21 sub-categories. The assessments score countries on each of the 21 indicators, determining there to be either “low/negligible” risk, or “specified” risk. At present, a total of 47 National Risk Assessments have been completed, with the aim to complete 15 more by mid-2017, expanding assessments particularly in West Africa. Ms. Banks specified a number of legality risks specific to timber originating from Laos, Ghana, Cameroon and the DRC and passing through Vietnam before being exported to regulated markets. She also pointed out that the market availability for purchasing certified timber originating from these four countries is quite small, making effective risk mitigation very difficult.

**Brian Schaap** of Forest Trends highlighted the findings of timber trade data analysis done by Forest Trends which aimed to quantify the value of logs being exported from countries with log export bans (LEBs) and being imported by the USA, Australia, and EU 28 member states plus Norway and Switzerland. The research analyzed UN Comtrade import data from these regulated markets, focusing on imports categorized under HS Code 4403 (wood in the rough, or roughly squared), for the years 2011 through 2015. At least 30 countries have log export bans (LEBs) in place as of May 2016, according to [research](#) compiled by the World Resources Institute (WRI). These export restrictions range from comprehensive bans on all raw or crudely processed logs, to more narrow restrictions targeting only specific tree species or harvest regions/locations. The findings from this analysis show that many European countries, as well as the USA and Australia, reported significant flows of logs from LEB countries over the past five years, worth a total value of US\$198 million. However, it was noted that this research should be taken as a starting point for deeper scrutiny into the types of logs that are being imported in particular supply chains, and whether or not these imports violate the specific LEB prohibitions from the various source countries.

A few key trends emerge from this analysis:

- 1) A handful of European countries are responsible for the vast majority of log imports from LEB countries: Italy, Germany, France, Belgium, the United Kingdom, and Portugal are together responsible for 85% of European log imports from the 30 countries with full or partial log export bans.
- 2) Cameroonian log exports are by far the largest source of LEB imports flowing to Europe. In total, European countries imported \$113.9 million in logs from Cameroon over the five-year period, representing 60% of the total log import value to Europe from all 30 countries.
- 3) Total log imports from LEB countries declined steadily from 2011 through 2015, going from \$64.7 million in 2011 to \$24.7 million in 2015. This may be related to EUTR enforcement, although it is difficult to definitively attribute to the EUTR.
- 4) The vast majority of Australia's log imports from LEB countries came from Malaysia, where the policy differs among States. Although all log exports from Peninsular Malaysia are banned, more research into the specific timber species being imported from other States, as well as whether they exceed the Sarawak quota, would be needed in order to determine their legality.
- 5) United States imports from LEB countries came primarily from Nigeria, Brazil, Honduras, Cameroon, Guatemala, and Malaysia. Nigeria's log export ban, in place since 1976, appears to apply to all logs without exception, while Brazil allows for the export of plantation-grown logs.

## Looking beyond documents – risk management for fraud and forgery

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### *Presentation*

**Arthur Blundell** of Forest Trends and Natural Capital Advisors discussed fraud in the forest sector, aiming to outline what specifically fraud is, what it looks like in the timber sector, and what enforcement officials and timber buyers/operators can do to reduce the likelihood of fraud in timber supply chains. Mr. Blundell defined fraud as: “deception intended to result in personal gain”, which involves motive, rationalization, and opportunity. One challenge facing fraud prevention in the timber sector is that timber fraud may be easier to rationalize than other types of product fraud, since the end quality to the buyer or consumer is the same for legal vs. illegal timber. Ensuring that trade is legal is in many ways a public good (e.g., following laws/rules for harvesting to ensure sustainable forest management, or ensuring accurate reporting for tax collection purposes). Perpetrators of timber fraud may rationalize their behavior by claiming that no person has been harmed by their illegal activity, and work needs to be done to change this mindset. Weak enforcement by governments can support this rationalization. For example, the Canadian Province of British Columbia (BC) has identified routine non-compliance with its Forest Practices Code by major timber operators in BC. However, the BC government has only levied fines worth less than 0.2% of the total revenue it has collected from logging, which Mr. Blundell argued was a missed opportunity for the government to use fines to incentivize behavior changes among operators. In addition, the Indonesian corruption commission found that the country's largest timber operators paid US\$1.5 million each in bribes—with some claiming that they were driven to bankruptcy by this corruption—and would have certainly preferred a more transparent system to reduce their overall costs. As an interesting parallel, Mr. Blundell explained that stringent EU regulations for the seafood trade have had a strong impact in reducing fraud and mislabeling, but the rate of seafood fraud in the US has remained constant because there has not been similarly strong regulation or enforcement. In the timber sector, another challenge in fighting illegality and fraud is that timber can be ‘laundered’ using forged or fraudulently acquired documents and does not require outright smuggling. Furthermore, voluntary assessment, reporting, and declaration

procedures—which are used in some certification schemes—are vulnerable to fraud themselves. Document fraud of many kinds is a particular risk for the timber sector, and buyers must question their suppliers and conduct detailed research in order to mitigate this risk.

### *Discussion*

Participants discussed the fact that timber certification is good in its own right, but it represents such a small share of the total timber product market that it's not solving the macro-level issues of fraud and illegality in the timber sector. Furthermore, certification schemes rely to some extent on self-reporting and self-monitoring, which can be very risky in countries with weak legal systems. Another participant pointed out that source country governments need to take serious local action on enforcement, or it will continue to be very difficult for buyers to have confidence in timber supplied from those countries. Another point of discussion centered on the observation that the EUTR/Lacey/ILPA regulations are normalizing the process by which buyers are asking suppliers detailed questions about the legality of their products, as suppliers seek to ensure that they conduct due diligence. However, in many cases operators are still not asking the kinds of detailed questions they should be asking of their suppliers in order to ensure that documents are credible.

### *Presentation*

**Niels Bølling**—from the EUTR competent authority office of Denmark—presented a perspective from a European CA about how regulators can go beyond checking documents in their role as EUTR enforcement officials. Mr. Bølling explained that when his agency investigates a timber operator or trader, these operators/traders often have a clear, simplistic view of their supply chain, when in reality the picture is much more complex. Thus, one technique regulators use is to ask the operator/trader to spatially map their supply chain, to help them better identify and understand the chain's complexity. As an example of how effective this technique can be, Mr. Bølling described an investigation he conducted with a Danish company which was implicated in an NGO report as having purchased illegal timber from Brazil. The company initially claimed it was not sourcing from the Brazilian region alleged in the report, but after the company mapped the winding supply chain of the product, it was revealed that the actual source region was even higher risk than the alleged source region identified in the NGO report. Furthermore, the irrationality of the winding supply chain map raised questions about the legality of the timber product in question, suggesting a route which did not make sense economically or practically, and was therefore more likely to be the result of trading illegal credits than of trading physical timber. Mr. Bølling emphasized the importance of not just simply asking for documents when conducting an investigation, but asking questions to get at supporting information behind the documents. For example, it was noted that official timber documents from Myanmar do not prove legal harvest, and require further scrutiny because of the high risk of corruption in Myanmar. Mr. Bølling presented a draft matrix of questions that EUTR CAs may use in conducting DDS assessments, with the aim of ensuring that CAs are asking relevant questions. The aim is to develop a tool which is in line with the actual language and requirements of the EUTR, in the hope that the questions identified are applied consistently across the various operators and traders which the CAs are charged with regulating.

## Myanmar Update

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### *Presentations*

**Jennie Sverker** from the Swedish EUTR competent authority presented an update on recent investigations into effective Due Diligence for Swedish imports of Myanmar timber. Total imports of timber from Myanmar into Sweden are relatively small, estimated at 450,000 Euros/year, or 0.1% of the total Swedish import value of EUTR-covered products. The Swedish CA conducted assessments of three Swedish operators importing timber from Myanmar, in the form of sawn wood, sheets for veneer, and moulding and strips. Ms. Sverker gave details for two of these cases, one of which was a small operator and one of which was a large operator. Both operators relied on a ‘Green Folder’ of documents issued by the Myanmar Timber Merchants Association, which shows that the Myanmar Timber Enterprise (the sole official supplier of timber in Myanmar), is responsible for the logging. However, the folder of documents does not give any information about who specifically harvested the logs, or from which specific location within Myanmar. In the case of the large operator, the investigation revealed that the operator was importing teak planks from Thailand, which had been at least partially sourced from Myanmar. This operator uses a monitoring organization as part of its DDS, but the monitor was unable to identify the origin of the logs within Myanmar, even after visiting the country to conduct a supply chain investigation. As a result, the CA ruled that these imports do not meet the DDS requirements of the EUTR. In the case of the small operator—which was importing teak sawn wood from Myanmar—it had no DDS in place to mitigate illegality risks. After the Swedish CA issued an injunction and a penalty, the operator challenged this in court, and the Swedish court recently ruled that the ‘Green Folder’ was insufficient to show negligible risk, and more information verifying the origin of the logs within Myanmar is needed. In some cases the ‘Green Folder’ will list the forest management unit where the timber supposedly originated, but verifying these documents is very difficult. The impacts of the Swedish court ruling on EUTR enforcement in other EU countries remains to be seen, but in theory other countries could refer to the court ruling in building a case that the ‘Green Folder’ is insufficient to prove negligible risk.

**Jago Wadley and Peter Cooper** of the Environmental Investigation Agency (EIA-UK) presented EIA’s investigation on the trade in Myanmar teak. EIA played a role in successfully lobbying to strengthen the EUTR when the policy was being formulated and debated, ensuring that the legislation included a prohibition against illegal timber imports, in addition to the DDS requirement. In EIA’s opinion, Myanmar timber has been high risk since the very beginning of when the EUTR came into force, and EIA has issued various reports since 2013 providing evidence to support this claim. Although the timber sector in Myanmar has been undergoing reform since 2011—including a reduction in quotas for teak and hardwoods, a log export ban (2014), a one-year logging ban (2016), and the ongoing attempt to close border trade with China—illegal logging and excess harvests have grown since 2011, with massive illegal exports to China which were almost certainly aided by corruption among high-level government officials. Ongoing problems include corruption and a strengthened monopoly by the Myanmar Timber Enterprise (MTE), and a fundamental lack of transparency and traceability within the timber supply chain. EIA feels that the ongoing trade of Myanmar timber to Europe sends the message that reforms to date in Myanmar have been adequate, and that EU Operators are EUTR compliant, when in reality neither of these is true.

During 2016, EIA conducted a two-month investigation into the placement of Burmese teak on the EU market, contacting major operators and posing as a procurement company looking to source a large volume of teak. This

investigation identified nine companies across five EU countries (Belgium, Denmark, Germany, Italy, the Netherlands)—which represent some of the biggest operators in the market. EIA submitted Substantiated Concerns for each company. As part of the investigation, EIA assessed the supply chain documentation available to each operator, finding that none were able to conduct due diligence on their supply chain upstream of the point of sale by the Myanmar Timber Enterprise (MTE). In the opinion of EIA, these operators failed to comply with some of the most fundamental aspects of Due Diligence such as identifying: who cut down the trees, where, whether they had a permit to do so, and whether the permitted harvest conditions were followed. Some operators did appear to have made an effort to gain and validate further documentation beyond that provided by the MTE, but the MTE reportedly blocked them from doing so. Mr. Wadley and Mr. Cooper then discussed in depth the difficulty associated with answering the five questions required of operators as part of the EUTR guidance, given the context in Myanmar. Finally, the presenters pointed out that a harmonized enforcement approach toward Myanmar timber is needed across the EU, to overcome the probable phenomenon in which Myanmar timber would begin to be imported into those EU countries with relatively lax enforcement, thus failing to apply the EU-wide pressure for timber sector reform which will be needed for the necessary changes to occur in Myanmar.

**Jago Wadley and Peter Cooper** of the Environmental Investigation Agency (EIA-UK) next presented on an investigation EIA had conducted into illegalities associated with the trade of timber harvested in Laos and Cambodia, passing through Vietnam for processing, and then being exported to Europe. EIA submitted a Substantiated Concern to the Italian CA in March of 2016, alleging EUTR violations by two Italian companies. For context, the presenters explained that the majority of Laos' timber production is currently conversion timber stemming from infrastructure development projects such as hydropower dams, coal and gold mining, roads and railways, and the creation of agricultural commodity plantations. The majority of this conversion timber is then exported as logs or rough sawn timber to Vietnam and China – often as part of “logs for services/loans” contracts. As such, exceptions to Laos' log export ban have become the rule, with exemptions EIA suggesting often being granted by the most powerful individuals in the ruling communist party. Between 2006 and 2011 log export values increased nearly sevenfold, from \$35 million to \$262 million, and estimated volumes increased threefold; sawn timber exports more than doubled in value, and volumes rose 20% between 2006 & 2011; at the same time, finished-product exports flat-lined.

EIA conducted an undercover investigation in June of 2015, posing as an operator wishing to buy balau furniture from a Vietnamese producer (Thanh Thuy Co. Ltd.), and asked for DDS documents. The Vietnamese producer admitted that all the balau they process into furniture is imported as logs from Laos and Cambodia, and that their customers (which allegedly included the two Italian companies) never ask questions about legality. The investigation revealed that in two sets of supply chain documents, the timber origin was listed as coming from a dam clearance operation in Laos (called Xekaman 1), which was carried out by a Vietnamese timber company owned by the Vietnamese military—even though various laws, resolutions, and Prime Ministerial decisions prohibit military-owned businesses. Furthermore, nearly all of the supply chain documents obtained by EIA investigators were Vietnamese rather than Laotian, and no log export permit from Laos was ever produced by any supplier in the chain, despite repeated requests from EIA. The conclusion reached by EIA from this investigation was that unmitigated risk existed and that Laos' log export ban had been broken. In further support of this conclusion, a leaked WWF report surfaced which exposed the massive levels of illegal logging happening in Laos; the report used high-resolution imagery to show that 71% of 2007-2013 removals at Xekaman 1 occurred in protected forests outside the concession of harvest. In essence, these findings showed Xekaman 1 to be an illegal timber laundering hub. EIA's investigations have found Vietnamese and Chinese businesses to be the main agents of corruption in the Laos timber sector.

Since EIA submitted the Substantiated Concern to both the Italian EUTR CA and the CITES MA, they have received no response, and as a result EIA has no evidence that Italy's EUTR CA has reviewed the complaint, or is carrying out its duties as a EUTR Competent Authority. All of the products implicated in the Substantiated Concern are still on the market. EIA feels that the European Commission (EC) needs to intervene to force stronger EUTR enforcement action by the Italian Government. Mr. Wadley pointed out that under FLEGT, the EUTR and VPAs are intended to complement, incentivize and reinforce one another. However, lack of EUTR enforcement is reducing the incentives for important trade and enforcement reforms in Vietnam and Laos, and disempowering the EC negotiation team as they work to finalize the VPA with Vietnam.

### *Discussion*

In the discussion that followed, a U.S. enforcement official asked whether the banned military business was also exporting to the USA. The presenter responded that timber from Laos is coming to the USA, but passing through intermediaries in Vietnam first. The official then asked why more evidence of the sort the presenters described is not being directed to U.S. enforcement officials, to which the presenter responded that the burden of proof under the Lacey Act is unfortunately very stringent and therefore difficult to achieve. In response, the U.S. official expressed that the U.S. Lacey Act enforcement officials do not expect to receive complete cases with full proof on a silver platter, but would appreciate even incomplete or partial case submissions or evidence which would allow for the accumulation of information that could potentially be used at a later date, even if it would not be immediately actionable. Another U.S. official shared that face-to-face meetings with NGOs have been some of the most effective ways for them to gather information, and suggested that EIA UK do the same with the EU CAs to whom they submit Substantiated Concerns, or use the TREE meetings themselves as an opportunity to have these sorts of discussions. The representative from the European Commission pointed out that the Commission has the obligation to promote and monitor the uniform and effective application by the Member States and briefly described the procedures to follow in some particular cases, including the work on substantiated concerns. While the Commission supports the Member States in implementation with a number of positive measures, it is also firmly taking action to address cases of non-compliance. An EU country CA pointed out that the Italian government branch which houses the EUTR CA has been undergoing restructuring lately, which could be contributing to their difficulty in responding to EIA's submission.

## **Forensic Update**

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### *Presentations*

**David Baisch** of Conservation X Labs presented on the organization's ongoing work to create a low cost, modular, portable DNA barcode scanner, designed for the developing world, that can identify critical wood samples in the field to the genus and species level (and possibly region of origin) without access to taxonomic experts or a laboratory. In pursuit of this goal, Conservation X Labs is partnering with the Smithsonian Institution, the World Wildlife Fund, Oceana, and the University of Washington. Funding for the project is coming from the U.S. government's court case settlement with Lumber Liquidators, in which a portion of the US\$10 million fine was set aside for the development of timber identification technologies. Conservation X was awarded this funding to develop a tool to give border enforcement officials an on-site technique for timber species identification. However, the challenge is difficult, as DNA concentrations are very low in hardwood timber, and the presence of inhibitory compounds also complicates DNA extraction and analysis. Furthermore, while one gene or genome can be used to distinguish all animal species

from one another, plant identification requires multi-gene analysis and comparison. In order to develop the barcode scanner, the project will need to achieve three key steps, including: 1) developing DNA extraction methods for timber that are appropriate for field use; 2) identifying and developing amplification and analysis technologies in a field-ready device; and 3) improving design and reliability of existing technology to reduce overall cost and maximize the field applicability and scalability. The project aims to capitalize on similar technologies that have been developed for the healthcare sector, and will be able to keep costs low since the technology will serve as a decision support tool, and can therefore function well with a 90-95% accuracy rate. The most promising potential technology is microfluidic wafer technology which manipulates small volumes of water for DNA extraction and analysis. The project's goal is to have the first prototype finished by 2017, with field testing hopefully occurring in late 2017. The project is completely open-source, and welcomes input and collaboration, including on identifying key species of concern, design constraints, and possible field locations for prototype testing.

**Rob Ogden** of the TRACE Wildlife Forensics Network, discussed the state of science and technology for timber identification and forensics. Mr. Ogden differentiated between the distinct goals of identification (i.e., what species is it, where is it from) vs. verification (i.e., does it match the paperwork), and outlined three separate application contexts within which identification/verification can be applied—casework, traceability, and intelligence—highlighting their different purposes and evidentiary standards. Mr. Ogden defined forensics as “the application of science to a legal question enforced by a criminal justice system”, and described the crucial difference between academic research and forensics, the latter having the added checks of validation, quality assurance, and the legal casework process. Mr. Ogden compared three distinct timber identification methods: wood anatomy, DNA analysis, and DART ToF Mass Spectrometry. Wood anatomy analysis is relatively fast and low-cost, but requires a technician with a very high level of expertise, and the number of experts globally with this level of expertise is already limited and is only further shrinking. DNA analysis has moderately high set-up and operational costs, but can be very accurate—down to the species level. However, one key challenge with the technique is extracting DNA from highly processed wood products, which can be very difficult. DART ToF Mass Spectrometry has a very high set-up cost (machines typically cost US\$500,000), but the analysis itself is simple, low-cost, fast, and accurate; the biggest need at the moment in order to improve the usability of this technology is access to a larger set of reference data against which to compare test results in order to be able to identify a sample species. More reference data is also needed in order to be able to more widely-apply these tools toward identifying the geographic origin of timber samples. In some cases, with the proper reference data, DART ToF Mass Spectrometry analysis can not only identify the specific timber species of a sample, but also its geographic origin and whether it was from a wild or cultivated/plantation setting. However, given the high up-front costs of collecting and categorizing reference data, it only makes sense to do so for inquiries which are expected to be particularly high-value and/or recurring. Mr. Ogden recommended a [Timber Analysis Guide for Investigators, Scientists & Legal Professionals](#)—recently published by the United Nations Office on Drugs and Crime (UNODC)—as a helpful background document to understand and assess the various timber identification techniques currently available. Unfortunately, lab services for timber identification are quite limited—particularly for legal casework applications, as very few labs are accredited to these high standards—although some commercial and national labs can provide analysis to support traceability and monitoring. Strong economies of scale exist for this type of lab-based work, so until there is more demand for these types of services, costs will remain high and options limited.

**Mike Sawyer** of the UK EUTR Competent Authority presented an overview of timber identification testing options available to CAs, the value that these technologies can provide to both CAs and operators/traders, and examples of ways in which the UK government has utilized these technologies in its EUTR enforcement activities. Timber testing

can allow CAs to evaluate whether regulated entities have conducted sufficient due diligence for EUTR compliance, and testing allows operators/traders to confirm the accuracy of their timber supply chain, thus enhancing their confidence in their suppliers and mitigating against the risk of illegality in their supply chain. The UK EUTR CA takes a risk-based approach to company and product selection for DDS assessments, and purchases products from regulated entities for testing. The CA asks the regulated entity to declare what species should be in the test sample, and the CA then conducts the tests to see if the results support this declaration—testing a number of locations/components of the products in order to ensure an accurate and comprehensive sample. Mr. Sawyer described four distinct types of testing available: 1) Anatomical testing—which is simple and reliable, but cannot always provide the level of detail necessary; 2) DNA testing—which is more involved but can provide more detail; 3) Isotope testing—which can identify the location of origin for the timber in some cases; and 4) Near-infrared spectroscopy—which can provide additional detail. In most cases, the lab conducting the testing can assist with identifying the most appropriate test(s) depending on the specific context and needs of the inquiry.

As an example of how timber testing has been used by the UK EUTR CA office, Mr. Sawyer described an investigation conducted into Chinese plywood imports, which was carried out in 2014 and repeated in 2016. In total, sixteen operators were investigated in 2014, and eight operators in 2016. Overall compliance with DDS improved slightly over the two-year period. Specific improvements included operators having more supply chain documentation on file, and relying less exclusively on only paperwork from their suppliers. Persistent problems among operators included the absence of existing DDS available on request, and the absence of risk assessment and risk mitigation measures. In terms of product testing results, consistency between what operators declared and what the test results showed improved from 2014 to 2016—particularly with regard to plywood face material. However, persistent problems included instances of plywood face and back declarations not matching the ID test results. Mr. Sawyer concluded by stating that supply chain clarification for plywood imports appears to be improving—in large part due to the application of timber testing technologies by the companies themselves—but that DDS compliance among operators is not improving at the same pace. The UK CA therefore still considers the imported plywood sector to be high risk.

### *Discussion*

In the discussion that followed, the Danish CA shared that he is seeing the same trends with operators in Denmark, with some of them conducting timber testing on their own products as part of their DDS. However, some operators fear that if they conduct testing and receive results which are not what they expected, this could create incriminating evidence against them in the case of future EUTR DDS assessments or investigations. The EC representative encouraged Mr. Sawyer and the UK EUTR CA office to share their experiences using timber testing for EUTR enforcement with CAs from other countries to encourage more widespread use of these approaches within the EU. Finally, Kerstin Canby from Forest Trends wondered whether it might be possible to secure public funding to identify a single lab that CAs could use for timber testing as part of EUTR enforcement, to overcome the high up-front costs that Mr. Ogden identified and create the economy of scale necessary to bring the cost-per-test down. Mr. Ogden shared that a system like this already exists for the wildlife sector, which has a forensic testing fund set up for this exact purpose, with 50% of funding coming from governments and 50% from NGOs. The EC representative agreed that this sort of system could work for the EU timber sector, although securing public funding could be difficult. Mr. Ogden suggested that a good place to start could with a project-based approach—getting an NGO to fund a prototype to prove the concept, with voluntary participating by various EU CAs.