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Forest Legality Week

October 23 – 25, 2018 · Washington, DC

Event Summary

The Forest Legality Initiative, a project of the World Resources Institute (WRI), convened partners and stakeholders in October 2018 in Washington, DC, to advance dialogue and initiatives related to the international trade in timber. The three-day event drew 167 attendees from more than 20 countries. Topics under discussion included the Congo Basin, focusing on the private sector and on independent monitoring; the use of blockchain technologies for supply chain management; forest landscape restoration and legality concerns in Latin America; early warning remote sensing systems for illegal logging; shifting source countries for wood products, the related risks, and the implications for due diligence; and illegalities in Eastern European timber supplies. Side events held before the start and after the close of the main conference included a meeting on blockchain in the forest sector convened by the Freeland Foundation and Generation Blue, an update meeting on efforts to create reference libraries for wood identification methods, a side meeting to discuss developments in China related to illegal logging import controls, a side event hosted by Forest Trends on conflict timber in Myanmar, and a side event to gather input on priorities for the future development of the [Open Timber Portal](#). The U.S. Agency for International Development and the U.S. Forest Service provided generous support for the event. Below is a summary of the conference presentations and discussions. Please note that since the event was webcast and we share the presentations, the presentations are on the record, but we do not attribute any audience comments and questions to individuals. The contents detailed below do not necessarily reflect the views of WRI or conference participants.

Tuesday, October 23

Forest Legality in the Congo Basin, Part I: Shifting Dynamics in the Private Sector

[Caroline Duhesme, Association Technique Internationale des Bois Tropicaux \(ATIBT\)](#)

Ms. Duhesme began by providing background on the history and focus of ATIBT, and then presented an overview over the forest sector in the Congo Basin and current developments. Ms. Duhesme shared statistics about the size of the forest sector under management and noted that forests for the most part are owned by the state and contracted out under concessions. Ms. Duhesme further shared the production volumes and the vertical integration of companies that is particularly common in the Congo Basin countries. Ms. Duhesme went on to explore the question whether the traditional forest sector in the region is in a crisis. She shared some examples of historically certified companies that had declared bankruptcy or sold their concessions and pointed out the rise of Asian operators in the Congo Basin forest industry. She pointed out that this transition was occurring at the end of the first management plan in this region. Although Asian companies have been present since the 1990s, there are still significant differences in the market orientation versus traditional forest sector actors. Ms. Duhesme ended her presentation with some suggestions for potential ways forward, including a more detailed analysis of the forest sector in the Congo Basin, in-depth market studies for international and domestic markets, and increased engagement with Asian operators.

Theophile Ogandaga, Olam

Mr. Ogandaga provided information about Olam's engagement in Gabon, including the Gabon Special Economic Zone (GSEZ) which was set up as a joint venture aimed at creating employment opportunities in timber processing for export. The GSEZ is set up as a Timber Industry Service Platform, where the SEZ provides services to companies in logistics and business development. To date, 51 companies are now located in the SEZ, of which 12 are furniture companies. Mr. Ogandaga further shared the GSEZ vision for Gabon and the region, and clarified that the GSEZ is committed to sustainable development.

[Stephane Glannaz, Precious Woods](#)

Mr. Glannaz represents the forest company Precious Woods, which manages concessions in Gabon and Brazil. Mr. Glannaz began by providing an overview over forest management in Gabon, and then provided his perspective on the shifting dynamics in the forest sector in the country. He is concerned about the reduction of actors committed to sustainable forest management in Gabon, which is partially due to the declining imports of tropical wood in Europe at the same time as demand has risen in Asian markets. Since there tend to be fewer requirements for legal and sustainable timber in those markets, Precious Woods is concerned about the decline of standards for social and environmental performance. Precious Woods' business model is oriented towards sustainability and the triple bottom line. They are profitable but are concerned that their model of operation is under pressure: the majority of their value creation, such as protecting biodiversity and forest cover, is not monetized. Therefore, Precious Woods is analyzing why this business model is threatened and why others are failing to remain profitable as businesses. Mr. Glannaz finished by sharing his ideas on how to set up incentive systems for companies operating sustainably as remuneration for protecting biodiversity and other environmental services.

[Nicolas Pillet, Le Commerce du Bois](#)

Mr. Pillet began by providing background information on Le Commerce du Bois, a French association representing timber importers, agents and merchants. Mr. Pillet then shared the results of interviews conducted with members about their perceptions of shifting dynamics in this market. He shared four key points: Due diligence increases delays, especially when new actors enter the market (but also with the traditional operators), traceability is very difficult if wood is processed in Asia and reexported, weak engagement with certification is an obstacle to EUTR compliance, and the commodification of timber with a shift from traditional actors who were more interested in long-term investment to Asian operators more interested in quicker returns.

Discussion

The discussion initially focused on the sourcing plans for the wood processing industry in the Gabon SEZ, and various audience members voiced concern about how the companies would ensure the wood utilized was sourced legally. Mr. Ogandaga stated that while not all wood in Gabon is certified yet, Olam is working with the government on an electronic database to ensure the wood brought into the SEZ is legal. Another participant raised the need for engagement of high level diplomats from the Congo Basin countries with the Chinese government to help solve the challenges. Ms. Duhesme agreed with the need for collaboration and engagement to not work against Asian operators but to manage this change process. ATIBT already has begun this outreach work and is hosting the next ATIBT forum in Shanghai. Another participant asked about the impact on local communities – through social aspects of certification and the shift away from certification. Mr. Glannaz pointed out that without systems in place, the expectations for social standards would rapidly decline, to the detriment of local communities.

Forest Legality in the Congo Basin, Part II: Independent Monitoring—What’s Next?

During the panel, which was structured as a talk-show [with a joint set of PowerPoint slides](#), speakers answered a series of questions regarding the practice of independent monitoring in the Congo Basin. First, Valerie Vauthier, Director of Resource Extraction Monitoring (REM), explained the origins of Independent monitoring (IM), which was set up in response to illegalities and weak law enforcement in the forest sector. The first Independent Monitors appeared in Cambodia and Cameroon, after NGOs, governments, and donors (such as the World Bank) identified the need to better monitor forest infractions. The practice then expanded to other countries in the Congo Basin and West Africa. The mission of the IM is to highlight irregularities by documenting illegal actions in the forest sector. They also propose recommendations to both the public and private sector to improve forest governance and law enforcement. As Ms. Vauthier said, IMs are the “eyes of civil society,” they work together with governments to make sure laws and rights are respected.

Serge Moukouri, from the Field Legality Advisory Group (FLAG), said independent monitors can be divided into two categories: mandated and non-mandated (or external). Mandated IMs work in formal collaboration with the government, while non-mandated IMs do not. Therefore, mandated IMs have more access to information and their reports are validated by a reading committee before publication. Non-mandated IMs, on the other hand, enjoy more flexibility and may sometimes collaborate with the ministry in a less formal way. Both mandated and non-mandated IMs can coexist in a given country at the same time.

According to Mr. Moukouri, governments take IM recommendations into account on a case-by-case basis. When national government inspectors confirm an infraction, the forest ministry manages the follow-up to that infraction. In Cameroon, cases are transferred to the court when they cannot be solved at the ministry level. Unfortunately, Mr. Moukouri mentions that many of the cases entering the court system fail to produce outcomes. In general, sanctions to firms accused of illegalities are too small to deter malpractice. Hence, companies continue to produce illegal wood, which earns them more profits than a potential fine would cost. Igerha Bampa’s work with the Observatoire de la Gouvernance Forestière (OGF) in DRC offers a good example of success. As a result of her reports, companies are now more careful to comply with regulations on the volume of timber they can legally harvest and trade (article 41 of Arrête 084/CAB/MIN/ECN-DD/CJ/00/RBM/2016).

Nicolas Pillet from Le Commerce du Bois, a trade association based in France, said IM data could be useful for importers when conducting their due diligence. Yet, importers currently barely use IM data as they find it technically challenging and time consuming. They also think the information contained in the reports is more aligned to the agenda of NGOs and is difficult to find. He thus highlighted the need to create user-friendly reports and easy-to-implement solutions. He also underlined the importance, as Ms. Vauthier said, of increasing collaboration and communication between independent monitors and to secure a stable funding model.

IMs in all Congo Basin countries face a number of common challenges. Ms. Bampa mentioned examples such as weak forest governance (including corruption) and lack of collaboration between ministries (which makes law enforcement extremely difficult). She also mentioned challenges regarding delays in report publications and limited access to information from different services (i.e. finance, harbors, customs etc.). Mr. Moukouri said new technologies (e.g. drones, mobile apps, etc.) and that collaboration between IMs in the region would help tackle some of these challenges and ensure the quality, credibility and implementation of reports.

Eric Essomba from the Environmental Investigation Agency (EIA) concluded the panel by pointing out the large gap between the supply of forest sector information and the demand for such information. Increasingly, buyers are requesting more information in order to do their due diligence. The work of IMs can help close the informational gap and complement the work of EIA and other NGOs working in the area.

Discussion:

During the discussion section, speakers answered questions related to the independence, funding, and criteria governing the work of IMs. Ms. Bampa and Mr. Moukouri clarified that IMs are independent vis-à-vis the administration. IMs make observations on infractions in the forest sector and then governments use this information to implement laws and sanctions. It is a collaborative process in which both actors have defined roles, independent from one another. Funding for IMs generally comes from big or small NGOs working in forest legality. The role of IMs is sometimes spelled out by the forest ministry, but this is not always the case. Hence, as Mr. Moukouri said, it is important to work with the government to create defined protocols and criteria for IM work.

Ms. Vauthier and Mr. Moukouri also discussed the training that IMs in the Congo Basin should get. Although it is not possible in all cases for all countries, current IMs are generally college educated. After earning a college degree, Ms. Vauthier believes that future IMs should be “trained by doing.” That is, they should go on missions on the ground to learn what the work entails. Mr. Moukouri also claimed that training should be on-going. Technologies advance fast and newly created as well as established IMs should be put up to date with innovative monitoring tools. Other participants in the audience commented on the fact that in Cameroon fines for infractions in the forest sector are too small to provide an incentive for compliance.

Moreover, a member from the audience asked panelists about how to prevent IMs from engaging in corruption. Mr. Moukouri said that throughout his career as an IM he has always viewed corruption as a “distraction” to his mission. Hence, even though he encountered many cases of corruption, he had no interest in these “distractions.” Thus, he emphasized the need to create mechanisms for current and future IMs to be motivated and protected from these distractions. He concluded by claiming that corruption “stinks” and that, sooner or later, corrupt individuals will be discovered and brought to justice.

Wednesday, October 24

High Risk Timber from Eastern Europe and Ukraine: Recent Investigations and Responses

[Sam Lawson, Earthsight](#)

Mr. Lawson presented the current analysis of Ukraine’s (UA) logging and timber industry based on the organization’s most recent investigation; [“*Complicit In Corruption – How billion-dollar firms and EU governments are failing Ukraine’s forests*”](#) (2018). Providing less well-known information about the forest sector in UA, Mr. Lawson detailed how the Carpathian mountain range - home to one of the largest tracts of forest left on the continent - provides habitat for the continent’s largest populations of native bears, wolves, lynx and bison and is often overlooked as an area facing illegal logging issues with the world’s focus narrowed on tropical rainforests. Unfortunately, in UA, illegal logging and corruption in the forest sector are rampant. The timber coming out of UA make up 4% of the country’s GDP, 70% of which is destined for EU markets. In fact, the EU is importing more illegal timber from UA than from all tropical countries combined. And this makes the EU complicit in UA’s IL crisis.

The research from “Complicit in Corruption” found that UA’s State Forestry Enterprises (SFE), which are mandated to sell logs through legal auctions, are instead having sales controlled by top officials at the State Agency of Forest Resources (SAFR). These corrupt SAFR officials order SFE’s to sell logs to SAFR-chosen buyers, allowing these officials to take a percentage of profit from the sale. In addition, the SFE’s approve the misuse of a legislative loophole which greenlights the logging of healthy trees under the guise of ‘sanitary’ felling - meant to mitigate the spread of disease. Through ES’s field investigations, the organization found that 67%-78% of trees being felled using sanitary felling permits were perfectly healthy trees. By extrapolating the percentage of illegal trees being harvested under this loophole, it can be estimated that 38-44% of production and exports from UA are illegal.

[David Gehl, Environmental Investigation Agency \(EIA\)](#)

Mr. Gehl followed on from Mr. Lawson's presentation to describe the illegal logging situation in Romania (RO); UA's closest neighbor and home to an even larger track of the Carpathian mountain range. Like "*Complicit In Corruption*", EIA's multi-year investigation has exposed corruption of local and top officials in RO's timber industry who utilize similar loopholes, like sanitary felling or accidental clearing (where trees are cleared to prevent disease spread or where cleared trees fell by natural causes) as well as logging on stolen lands (through illegalities rampant in the government's restitution process) to over-harvest and/or harvest illegally inside national parks, conservation forests or on private lands. Sellers then profit from companies like Schweighofer (HS) and Eggers - the EU's two largest mills - who offer bonuses for bringing in additional timber (beyond what a permit, if any, allows). Both ES's and EIA's investigations specifically call out HS and Eggers for knowingly purchasing massive amounts of illegal timber from RO, UA, Slovakia (SK) and Belarus (BY) and by continuing to do so in spite of being spotlighted.

EIA published their findings through two separate reports; "[Stealing the Last Forests](#)" (2015) and "[Behind the Scenes](#)" (2018). In RO specifically, HS's scheme is to purchase from a network of over 200 'depots' which by law, need no harvest permit to accompany logs leaving their log yards (termed 'secondary transports') - meaning that there is absolutely no way to trace the logs coming out of depots back to their harvest origin. HS has capitalized on this loophole allowing the company to claim that the timber they buy from RO depots is legal. HS, opportunistically, has three large processing facilities near depots that sit adjacent to RO national forests and their biggest processing facility sits exactly on the border UA and RO, giving the mill prime access to illegal timber, the EU market and a lot of on-the-ground knowledge around local illicit harvesting schemes. In an exceptional move, after being pressured by citizens, the RO government deployed an online platform called Forest Inspector - which has been used by over 100K individuals - and gives citizens the ability to document and report timber trucks moving through their country. Citizens can input the truck's license plate number into the Forest Inspector smartphone application to obtain real-time information on the truck. And if the app recognizes any illegality, it notifies the citizen and the police immediately.

[Johannes Zahnen, WWF Germany](#)

Mr. Zahnen presented his 2017 investigation on the [German Charcoal industry](#) as well as his [follow up study](#), carried out in 2018. Knowing that Germany imports more charcoal than any other EU country, Mr Zahnen contracted the von Thünen Institute to test German charcoal (using microscopic wood anatomy) in order to obtain information on the species and origin of the timber used in charcoal production. The analysis uncovered that "80 percent of the timber used in the coal production was from species with considerable risks, such as non-declared tropical wood without a forest or legality certificate or from threatened tree species contained on the Red List of endangered species". After German charcoal manufacturers complained about the findings in the 2017 publication, Mr. Zahnen decided to repeated study a year later and again, found 89% of the purchased charcoal was wrongly declared.

More specifically, Mr. Zahnen's investigations found that primarily Poland (PL) made up the bulk of Germany's charcoal imports (37%) with a small fraction being imported directly from Paraguay, UA and Nigeria. Furthermore, it was found that PL was directly sourcing illegal timber for coal from UA (53%) and Nigeria (31%). And though in 2015 UA put a ban on roundwood exports to combat the country's IL issues, production of charcoal in UA increased by 70K tons in two years. The back-to-back WWF reports called out the two biggest coal producers in EE, Polyprom (UA) and Dancoal (PL) as knowingly purchasing illegal wood for coal. And Because of this exposure, Dancoal lost their FSC certification and Polyprom's suppliers are under investigation for illegal logging, tax avoidance and corruption.

Johannes Zahnen ended on a comment on EUTR enforcement: Shockingly, even in the wake of these reports, he stated that Germany continues to overlook its serious issues with imported charcoal alleging that it can't be monitored because it is not covered under EUTR and adopting the stance that it's therefore considered legal.

Discussion

The discussion session centered primarily on questions around “what are the drivers that continue to enable illegal logging in EE?”, “with these types of investigative reports coming out, is the EU feeling the pressure to act?” and “does illegal logging in EE undermine EUTR and VPA’s with other countries?”

The panelists all had similar viewpoints on actions that need to be taken to pressure the EU to respond to the IL crisis in EE. It was agreed by all that this crisis has not been taken seriously enough by EU member states and only recently with investigations by NGOs. With respect to EUTR, there was consensus that enforcement is close to non-existent in EE and that big firms such as Schweighofer are powerful enough to lobby the EU and continue participating in and profiting from corruption in the EE timber industry. On the market side, big companies like IKEA, H&M, Staples - all of whom source from EE and all whom possess a large, global customer base – need to be much rigorous with respect to vetting their EE suppliers. Corruption is clearly the most outstanding factor with respect to the illegal harvest of timber in EE countries. The EU must require maximum transparency on EE logging operations to dismantle the schemes that have been propagated by the likes of Schweighofer, Eggers, Polyprom and Dancoal. Mr. Lawson pointed out that EU has been focusing too heavily on things such as UA’s log-export ban and has not focused enough on the structural problems like on-site illegal harvest, stating “structural problems need structural fixes”.

The panel’s moderator, Mr. von Bismarck (EIA), gave some optimistic parting thoughts to the audience stating that “there HAS been a response to this crisis” citing the development and successful deployment of RO’s Forest Inspector application. He went on to iterate that citizens care deeply about these illicit activities and that more government transparency is what is needed for the public to act. An audience member, describing his own experiences working in the EU, echoed Mr. von Bismarck’s sentiments stating that the ES and EIA reports had landed on everyone’s desk in the EU and really shaped the conversations within EUTR Competent Authorities. Additionally, Mr. von Bismarck went on to say that the EU must take the lessons learned from the EE crisis and use them to inform how to best to integrate and enforce FLEGT and associated VPAs in tropical countries. Finally, Mr. Lawson stated that the EU needed to ‘sort their house at home’ if FLEGT and VPA’s are to be successful abroad.

Shifting Patterns in the Timber Trade: Legal and Economic Implications

[Kerstin Canby, Forest Trends](#)

Ms. Canby gave an overview of global illegal trade of forest products with a focus on the imports and exports in China and Vietnam to start off the panel. While the volume of China's import of forest products have significantly increased in the past decade, its export volume has remained relatively stable. She also compared China's exports to regulated and unregulated markets noting that exports to the regulated markets have gradually increased in the past 5 years. In Vietnam, the value of forest products exports has been greater than its imports in the past a few years. Vietnam has been increasing import more logs and sawn wood from Africa in recent years. Vietnam imported more logs and sawn wood in 2016 from Africa than Southeast Asia. Ms. Canby also discussed the impact of log export bans. Her presentation looked into log exports in China, India, and the U.S. from countries with full or partial log export bans. She also highlighted the trend of China's log and sawn wood imports from Russia. Sawn wood has surpassed logs in China's timber imports from Russia since 2010. In the end, she discussed future candidates including India and Thailand for demand-side legislation from the perspectives of timber trade value.

[Melissa Blue Sky, Center for International Environmental Law \(CIEL\)](#)

Ms. Blue Sky presented shifting export destinations by legality sensitivity through CIEL's recent case study of Peru. She first gave an overview of the context in Peru. CIEL's research finds that Callao is now the only port in Peru from which official timber exports depart. She then introduced the statistics (covering 41% of all exports in 2015) as well as the legality challenges regarding timber exports from Peru. The major importers of Peruvian timber include China (42%), Dominican Republic (20%), USA (10%), Mexico (9%), France (4%) and others. Ms. Blue Sky also looked into the status of supervised management plans by importing country. A large proportion of China, Mexico and Australia's imports are on the red list, which indicates high risk of illegality. The recommendations for importing countries and companies include consumer and processing countries implementing laws prohibiting the entry of illegal timber, importing companies ensuring their suppliers to request OSINFOR supervise prior to export, requesting extensive documentation and asking questions of their suppliers regarding inventories, harvest, chain of custody, and traceability, and requiring GTFs contain the management plan and zafrá.

[Indroneil Ganguly, Center for International Trade in Forest Products, University of Washington](#)

Dr. Ganguly presented a study on statistics discrepancies in forest products trade by looking at key importing hubs including China and Vietnam. He distinguished normal discrepancies from those associated with systemic factors such as illegal smuggling, underreporting of export volumes, misreporting product types, and misreporting of timber species. Trade discrepancies do not equal illegality. He then discussed some examples of timber trade statistics including China and Malaysia as well as China and Ghana. He also noted some potential incentives of underreporting such as trade restrictions and tax policies behind the discrepancies. Globally, the statistics discrepancies in logs and lumber went down during 2008 and 2012 but has gone up since 2013. Dr. Ganguly noted that more research needs to be done to understand the causes of such trend in trade discrepancies. He also noted the impact of illegal logging and associated trade on the U.S. wood products industry. Preliminary data shows that illegal logs/lumber are anywhere between 20% to 50% cheaper than its legal counterpart.

[Kip Howlett, Decorative Hardwoods Association](#)

Mr. Howlett spoke about the shifting patterns in international trade of timber products and the trade disputes between the United States and China. He first presented a few key statistics of the timber trade flows in U.S. and China. For example, China remains the biggest buyer of U.S. hardwood logs, with \$418 million from January to August in 2018. He noted that the impact of U.S. AD/CVD duties on Chinese hardwood plywood since the beginning of 2018 have been obvious. Vietnam, Indonesia and Cambodia have all increased their plywood exports to the U.S. since. There is huge surge in softwood plywood imports from China in 2018. U.S. Commerce Department has looked into whether these products should fall in the scope of AD/CVD order against China. China's softwood log imports are increasing with New Zealand as its largest supplier. China is also the world's largest wood panel producer and the sector continues to grow. Mr. Howlett also discussed the current U.S.-China trade disputes. The current 10% and 25% duties on certain timber products have caused some disruption in some segments, but the AD/CVD orders are the major drivers. In the end, he highlighted the need for increasing publicity on the issue of legality.

Discussion

A question from the audience focused on the role of China in promoting timber legality given its large share in international trade of timber products. Ms. Blue Sky emphasized on the need of looking for negative impacts of illegal timber in China based on the U.S. experience as well as the strengthen of political will and a choice between environment and development in China. Dr. Ganguly noted that there is currently not enough incentive for China to stop importing illegal wood. Another question from the audience asked about the policy

implications behind the trade discrepancies between Ghana and China. Dr. Ganguly explained potential trade policies in Ghana that may cause such discrepancies. In the case of Ghana-China trade, there are not commercial reasons for China to misreport. Another question focused on the significance of Mexican and Dominican timber imports from Peru. Ms. Blue Sky noted the need of further research into the specific trade flows involving these countries.

Timber Legality and Forest Landscape Restoration: Fostering Dialogue and Avoiding Unintended Consequences

[Rene Zamora, World Resources Institute](#)

Mr. Zamora introduced the concept of Forest Landscape Restoration (FLR) as a new movement seeking to leverage land use activities to face climate change, adaptation and restoration. He also introduced to the audience the Bonn Challenge under which Initiative 20x20 and AFR100 bring together FLR commitments from Latin America and African governments. Beyond just tree planting, the speaker explained that FLR includes a comprehensive portfolio of activities including the design of strategies to conduct different types of restoration strategies vis-à-vis economic activities (e.g. agriculture, cattle ranching) to ensure more sustainable use of the land. The speaker provided examples highlighting the nexus between forest legality with FLW: when there is little incentive for land owners restore their lands for timber production because illegal timber outcompetes legal timber in the market; when the law makes it expensive to restore the land, or when it restricts the use/ownership of the trees after restoration activities.

[Guillermo Navarro, FAO-FLEGT](#)

Mr. Navarro's presentation focused on achieving forest landscape restoration through legal and sustainable business models and value chains via investments and institutional approaches to FLR. As with REDD+, he explained, FLR can be expensive and we need make an attractive business case for investors. There needs to be a paradigm change on FLR to focus on profitable businesses value chains that co-generate human well-being and the rehabilitation of environmental services. Legality needs to be cost effective and not looked anymore as a transaction cost but as a value added. FLR needs to be focused on productivity, cost effective (low costs of being legal); the laws need to be clear and –in some cases—less restrictive (e.g. particularly about the access/use of the timber); laws should also protect the dignity of the forest actors and be enforced to reduce the impunity of illegal activities. Mr. Navarro then provided specific examples from an analysis of a Teak value chain in Costa Rica where the producer receives a fraction (4%) of the financial return on the timber over a 17 years period. With the legal restrictions, which prohibit the owner to use about 70% of his/her land, the opportunity cost for protecting environmental benefits are too high.

Mr. Navarro asked three panelists to make short presentations answering the following questions (see slides [here](#)):

- *Please provide examples showing the linkages between FLR and legality*
- *What is the impact and the sustainability issues in the examples you highlighted?*
- *What are the necessary social, environmental, economic and institutional conditions that will make legality and restoration complementary?*

Richard Gyimah, Ghana Forestry Commission

Context: the government of Ghana is implementing a national plantations strategy that seeks to establish and manage 625,000 ha of plantations by 2040 to deliver a sustainable supply of timber products, as well as a range of economic, social and environmental benefits. The government is now calling for private developers and public-private partnerships to implement the strategy but, at the same time, communities are increasingly becoming more involved in natural resources governance and management and calling for better benefit-

sharing arrangements as forest land custodians. Mr. Gyimah presented two examples of the linkages between legality and FLR: the first was a community-managed project that rehabilitated forest reserves while increasing the production of agriculture, wood and non-wood forest products as well as institution's capacities. Although the project established 13,388 ha of plantations and trained almost 5,000 local farmers in livelihoods initiatives, the livelihoods initiatives could not be sustained after the end of the project. Moreover, because the trees had a relative long rotation, farmers ended being cash strapped. The second example highlighted a large-scale plantation established in degraded areas within and outside forest reserved by commercial private developers. Although almost 20,000 ha of plantations were established, the initiative is putting pressure on agricultural lands resulting on the dissatisfaction among local farmers as they feel their livelihoods are threatened. Some of the challenges identified by Mr. Gyimah included: a major challenge to FLR is to provide economic alternatives to industry as the private sector is an important actor to create sustainable value chains. He also identified the need to have in place harmonized and coherent laws that holistically tackle FLR efforts and weak law enforcement.

Rene Zamora, World Resources Institute

Mr. Zamora explained a paradox between the Guatemalan government's efforts to promote FLR running afoul with the legal framework. The Guatemalan government is willing to compensate land owners with up to \$2,000 USD in six years if they restore riparian zones. However, by law, the trees that are within 30 meters next to a river cannot be touched. This means that if the landowner restores the riparian areas, they are, *ipso facto*, relinquishing their lands. Compared to growing sugar cane, the opportunity cost is too high and there is no benefit from FLR. However, Mr. Zamora explained that the key is to change the landowners' paradigm; if they focus on how riparian forests function as a barrier to protect the sugar cane plantations from river flooding, there is a clear and direct benefit from FLR. Mr. Zamora also emphasized on the need to ensure that the legal framework is coherent and not-contradictory. He also highlighted the fact that engaging the private sector is key.

Maria Ines Miranda, SSC-Americas

Ms. Miranda introduced the audience to the Good Wood project in Chile, which sought to connect forest products supply chains from small producers directly with ethical consumers willing to pay a premium. A key component for the success of the project was to communicate to the buyers the environmental and social credentials of the project through label recognition (e.g. FSC, fair trade). Ms. Miranda explained that where there is illegality there is lower value of the forest and less information about the supply chain, but in the case of ethical consumers, it was very important to tell the story behind the products. Unfortunately, the project had to stop, but Ms. Miranda argued that there is a need to scale up the model to increase the value to the forests and make them more profitable vis-a-vis other productive activities such as soy, palm oil and mining. If there is no economic value associated with the forests, we will not be able to protect or restore the forests. In terms of FLR, Ms. Miranda explained that there is a need to start a movement to create and foster these value chains to access more high value market and there are favorable conditions in Chile, Mexico and Peru, and that entrepreneurship and innovation is needed to expand these models.

Discussion

In responding questions from the audience, panelists discussed ways to measure the impacts of FLR efforts focused on timber production. A possible way to measure impacts and outcomes could be through the adoption of forest management certification systems or assessing the impacts on the communities working in these supply chains. The panelists also discussed the challenges assessing the price difference in the market place between legal and illegal timber. There are some estimates (e.g. a 40-50% more for legal timber in Ghana), but price differences also depend on price and products. There is also the issue between different Harmonized Trade Standard codes when looking at price difference in international markets. A member of the audience asked the

panelists about the current and projected size of plantations, and the proportion of timber from these operations going into export markets. The panelists provided some rough estimations including 20-30% of finished products exported from Ghana are from plantations; 5 million hectares of plantations in Chile providing 99% of the production. The panelists also discussed how timber from Chilean plantations outcompete timber from plantations in Guatemala, and how it is very difficult to do forest management in Costa Rica (including from FLR) due to the country's focus on forest protection. In that country, 55% of Costa Rica's territory is forested and 20% of that is in protected areas.

Blockchain and Timber Supply Chains: Silver Bullet or Hype?

[Alan Laubsch, Generation Blue](#)

Mr. Laubsch opened by highlighting that many of the systems society relies on are hundreds of years old. Banking, for example, still relies on paper-based documents, and rogue traders operating within banks essentially hold the keys to the kingdom. Mr. Laubsch posits that blockchain could potentially be the most significant advancement in two centuries, since the advent of double entry bookkeeping and joint-stock corporations. In consideration of forestry and legality issues and that halting deforestation is the single biggest action that can be taken to mitigate climate change, blockchain needs to be used to create more transparency in these areas, which can be achieved since blockchain is decentralized, distributed and peer-powered. Blockchain can be viewed as a global notary service that operates as an ecosystem. Mr. Laubsch then provided examples of environment-related blockchain products, including Fishcoin, SolarCoin, and mangrove and blue carbon token which have been issued by Generation Blue.

[David Kennan, Timberchain](#)

Mr. Kennan presented his company's work in Chile developing and deploying a technology-based, blockchain-reliant system that aggregates wood product supply chain data. In Chile, where most of the natural forest does not have a large export value and where most illegal logging is for firewood, CONAF (National Forestry Commission) is responsible for issuing harvest permits and monitoring harvest management operations. In 2014, Timberchain began building a digital traceability system for forest products (STBN) with CONAF. In the system, each concession owner has an online account, can create electronic waybills, and can send electronic waybills to the next supply chain actor, who then receives timber credits in the system account. Based on this data, CONAF can audit sites and better monitor trade flows. In addition, Timberchain has developed a separate, proprietary traceability system that digitally recreates supply chains by allowing actors to associate documents to sites, such as transport waybills, FSC certificates, and photographs. Interested parties can see a summary of movements, can see where wood originates, and can print a digital passport that summarizes a product's supply chain. The digital passport itself is authenticated by blockchain technology, providing more confidence in the legality of products.

Additional panelists included Michael Marus (Forestry Stewardship Council), Cindy Squires (International Wood Products Association), and Christian Sloth (NEPCon).

Discussion

Before opening up to questions from the audience, the panel discussion focused on the opportunities and challenges of blockchain regarding wood products industries. For opportunities, the panelists noted that blockchain has the potential to strengthen the integrity of existing systems, such as bringing more transparency to supply chains regarding both the quality and quantity of products, increasing the efficiency of auditing, and converting paper-based systems into more secure, digitized certificates, which CITES is currently considering. Concerning the challenges of blockchain, the panelists noted that digitizing systems, blockchain-based or not, is a challenge in itself, owing to the range of actors' needs and differing levels of tech-savvy.

After opening up to questions from the audience, panelists noted that blockchain technology is open-sourced and that blockchain-based products, such as Bitcoin, are highly secure, even inefficiently so. However, more efficient, less energy-intensive blockchains than Bitcoin have now come into existence. Blockchain cannot necessarily prevent actors from lying about or entering bad quality data, but blockchain does have the potential to allow tracing the origin of bad data much more quickly than current systems. To demonstrate integrity, blockchain systems often create trust amongst users by independent testing, which incentivizes actors to check quality and verify claims. Regarding costs, the panelists noted, although blockchain systems may actually reduce user costs of existing traceability systems, potential users may be hesitant to participate in a system that may publicly expose business secrets.

Thursday, October 25

Early Warning Remote Sensing Systems and Illegal Logging, Part I: Current Capabilities to Detect Illegal Logging

[Dr. Matthew Hansen, University of Maryland](#)

University of Maryland (UMD) is one of the world's leading institutions for geographical sciences and an important partner within the Global Forest Watch program. Dr. Hansen's team at UMD have developed an early warning system known which create alerts known as GLAD (Global Land Analysis Data) alerts when their system senses tree cover loss. During Dr. Hansen's presentation he listed the various satellites that his team relies on for their data collection, primarily Landsat and similar satellites controlled by the EU. He prefaced his presentation by stating that the algorithm which creates the GLAD Alerts does not see illegality, it senses tree cover loss, but as the algorithm improves as other data layers such as protected areas or logging concessions are added. With these other data layer, the chances of identifying where illegal deforestation is taking place increases.

Currently, GFW and the UMD team work together to promote the use of GLAD alerts; alerts are available for all topical countries. To create a working algorithm to sense tree cover, the UMD team has an extensive validation process that continuously protects against the system sending out false positives. Dr. Hansen closed by saying that although millions of alerts are created every day, the majority are just business. Users of Global Forest Watch can overlay these alerts with other map layers like protected areas or logging concessions to confirm if an alert is expected and when it's not, send the proper authorities to respond.

[Mikaela Weisse, World Resources Institute](#)

Mikaela Weisse is a Manager on the Global Forest Watch (GFW) team at WRI, leading their strategy for satellite-based forest monitoring. Ms. Weisse's explained that one of the primary goals of GFW is to make information about forest change accessible to the public. GFW publishes data from many sources including UMD and allows users to create maps related to their own interests or needs. Users can also create alerts for changes in tree cover for any given area of interest. Also, the GFW team has developed an app called Forest Watcher which allows users to go out into the field and create reports on forest change without internet access. Once the user connects the reports automatically update. Mikaela also spoke about a GFW feature called Places to Watch which gathers GLAD alerts happening in protected areas and passes them to Mongabay.

[Ruth Nogueron, World Resources Institute](#)

Ruth Nogueron works at WRI as an associate on both the Global Forest Watch and Forest Legality Initiative teams. Ms. Nogueron presented examples of how the early warning alerts have been used in Peru based on an upcoming case study. Early warning systems, including the GLAD alerts, have been widely used in Peru particularly because Peru's Ministry of Environment (MINAM) was an early adopter of the GLAD alerts (to monitor their Payment for Ecosystem Services Program) and disseminator and trainer of people in their use. In

addition, organizations like Rainforest Foundation US have begun training indigenous communities in the technology which allowed them to solidify their territory and taught them the importance of monitoring.

OSINFOR is a Peruvian government agency tasked with auditing and verifying the implementation of forest management plans in forest concessions, as well as in privately owned timber producing areas which has been a leader in the use of early warning systems in the country for law enforcement actions and in the implementation of an innovative program that allows communities pay fines related to illegal logging by conserving a portion of the forests in their territories. Ms. Nogueron explained that with the early warning alerts OSINFOR identified the expansion of a new road in the buffer zone of a protected area, coordinated with other government agencies, and identified a group of trucks transporting timber.

Through Ms. Nogueron's presentation she made it clear that although there is a widespread use of the early warning systems in Peru, there are technical, governance, capacity and security limitations. In particular, governance and capacity limitations are the more challenging as, one government official stated: they "have real time deforestation alerts, but un-real capacity to respond".

Ms. Weisse and Ms. Nogueron ended the panel by presenting the next steps for GLAD alerts and GFW. The GFW team hopes to increase the resolution of satellite images and incorporate imagery from Sentinel-1 which can cut through cloud cover. Additionally, the team is working on a pilot project with Sheffield University to pair satellite images with field data on selective logging. This pilot could help improve the algorithm through better identification of identify logging, making GLAD alerts a greater tool for enforcement agencies. Lastly, with the hope of fostering good governance the GFW team will continue to create spaces for collaboration between actors from across the forest sector to build capacity and promote transparency.

Early Warning Remote Sensing Systems and Illegal Logging, Part II: Application of Remote Sensing in Law Enforcement and with Local Communities

[Tom Bewick, Rainforest Foundation US](#)

Rainforest Foundation has been working with indigenous communities in the Amazon for thirty years. For the past few years, the organization has focused on getting technologies used to monitor deforestation into the hands indigenous peoples. For his presentation, Mr. Bewick focused on an in the Loreto region of Peru. There, Rainforest Foundations has been working with 36 different communities in training three forest observers per community to use satellite data, cell phone applications, and, in some cases, drones to monitor deforestation in their areas, some of which total up to 8,000 ha. The typical process involves training representatives of an indigenous community on satellite data-based deforestation alerts, coordinating data using smartphones in the field, using maps when in the community, undertaking field patrols for verification, and preparing reports. If the indigenous community finds deforestation from outside parties, they then engage the authorities and file formal complaints. Since the beginning of the project in March 2018, approximately 1,000 forest patrols have been undertaken, 1,500 deforestation alerts have been verified, and twelve cases have been brought to environmental prosecutors. Although initial analysis shows that the deforestation rate has decreased from 5% to 0% across project areas, Columbia University is conducting an independent study, over 2018 and 2019, to determine whether the use of data and technological solutions has any effect on deforestation rates in the studied area.

[Hannah Stutzman, Amazon Conservation Association \(ACA\)](#)

Ms. Stutzman relayed that their approach to integrating technology with governance is to prevent deforestation, detect it when it occurs, determine the legality, alert and coordinate stakeholders, and then respond. Recently, using remote-sensed data, ACA has been tracking logging road development, noting that 1,300 new miles of logging roads were created between 2015 and 2017. While identifying illegal logging activity in protected areas is relatively easy, considering the location, identifying and responding to activities that are illegal in other areas,

such as concessions, is more difficult. This is because concession maps and forest management plans must first be located and then the appropriate authorities must be notified. In many cases, identify the correct authorities is difficult. Working with communities in Madre de Dios, Peru, ACA trained communities to use data, smartphones, and drones to support forest patrols, which in turn can lead to formal reports submitted to authorities. Ms. Stutzman noted that after authorities are notified of a potential violation, field visits by authorities must be funded by people making the claim, so robust, substantiated reports are necessary

[Alvaro Samayoa, Astrosat](#)

Astrosat is executing a project in Guatemala known as Forestry Management and Protection System (FMAP), which is financed by the UK Space Agency. This work follows on from Guatemala's moving toward tech-based systems for forest management begun in 2010. As part of this progress, INAB, Guatemala's National Forestry Institute, introduced SEINEF, a forest products volume-based traceability system. FMAP builds on these developments by aiming to integrate systems and technologies into a national data system for forest information that can also be shared with law enforcement. The intended benefits of FMAP, a two-year program ending in November 2019, include a user dashboard with all relevant information, a system structure that reflects existing legal frameworks, and a program design that can focus on positive results, such as improved forest management, and not only violations. Though, by connecting various government agencies, FMAP has the potential to improve enforcement response time and do so at a lower cost than foot patrols alone.

[George Porto-Ferreira, Brazilian Institute of Environment and Renewable Natural Resources \(IBAMA\)](#)

From 2004 to 2017, Brazil experienced a 74% reduction in deforestation, largely due to action plan that built an early warning system to detect deforestation and the opening of data to the public for free on the internet. In addition, SINAFLOR, a national forest products traceability system, became public, and a second system, Cadastro Ambiental Rural, required all owners of land input contextual information that can help to identify the causes of deforestation. Mr. Porto-Ferreira also elaborated on how IBAMA enforces environmental laws, taking an approach that aims to make the dissuasion perception of any given potential violation greater than the economic advantage of making the violation. In relying on remote sensing, IBAMA uses hotspot maps to identify where the greatest area of deforestation is occurring, which in turn requires the agency to rely on different satellite systems with different spatial and temporal resolutions for monitoring. Once deforestation has been identified, IBAMA can move to stop the action as it is occurring, or if enforcement does not mobilize until after the deforesting activity has ended, the agency has five years to apply a fine.

Discussion

Initial discussion focused on how to integrate community-based monitoring, such as those promoted by Rainforest Foundation US, with larger, national systems, such as IBAMA's system in Brazil. In Brazil, noted Mr. Porto-Ferreira, the systems relied on by government authorities run on federal servers, but the enforcement actions are often implemented by local government, who are often corrupted because of their close community and financial ties to nearby logging. Corruption, however, is not restricted to tropical or developing countries, noted Mr. Moad, as the US Forest Service has also been forced to take corrective actions against corruption. In addition, cooperating with and between government agencies can be made more difficult because of a lack of communication, separation of responsibilities for governing forestry activities, and an inability of administration to keep pace with technical advances. An additional discussion point focused on incorporating and addressing non-environmental benefits of halting illegal logging and deforestation, such as increased government revenue from improved monitoring. Mr. Samayoa noted that Astrosat and partners have begun to discuss the possibility of expanding FMAP's dashboard indicators to include social issues and benefits. Mr. Porto-Ferreira, in turn, said that IBAMA has encouraged officials to enforce transport taxes since this revenue is retained by local governments in Brazil.