GTTN

Global Timber
Tracking Network

GTTN WGM1 WG1

Notes of the parallel session of WG1 'Standardization' meeting of 20 October, held at WRI, Washington DC

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1 Introduction

On 19-20 October 2017 the GTTN held its first working groups meeting at the World Resources Institute in Washington DC, back-to-back with the Forest Legality Week.

On the first day, the purpose and goals of the three working groups were presented by Nele Schmitz (WG1 standardisation), Tommi Suominen (WG2 database), Gesche Schifferdecker and Jo van Brusselen (WG3 communication & advocacy). Roger Young from Agroisolab UK presented a proposal for a charter (see below) and Pacyinz Lyfoung of PIIPA presented her work on intellectual property rights.

During the second day three parallel workshops were held to discuss the upcoming activities of the three GTTN working groups. This document wants to inform on the discussions that took place, identifying the most useful activities for WG1. As a reminder:

GOAL OF WG1: concentrate the creative and scientific thinking of all timber tracking experts in a few concrete improvements of the methods and their international acceptance

The project description of GTTN2 mentions the following tasks for the WG on standardisation:

- Reviewed GTTN guidelines on sampling of reference material
- Development of recommendations for data analysis on the quality of reference data and for the assignment of test material to geographic origin
- Guidelines on methods for common data analysis of genetic and stable isotopes on geographic origin
- Compilation of test labs evaluation reports

The aim of the workshop was to transform this proposed action list into a consensus list of actions. The workshop was guided by two questions given here below.

Workshop question 1

Timber tracking can be done (i) in view of prosecution to support a **forensic** case study or (ii) in view of **due diligence** to support transparency in the timber supply chain.

Concerning METHODS:

➢ What is the **common ground** of these two approaches (forensic *vs.* due diligence; concerning the WG1 topic of standardisation/harmonisation)? What parts of the timber identification process (species or geographical origin) follow the same methods (although maybe not the same procedures) even when executed within the different frameworks of a forensic or a non-forensic study? How can these two parallel worlds reinforce each other to increase the impact of timber tracking overall?

Concerning PROCEDURES:

➢ Would it be useful to adapt (and merge) the UNODC *Best Practice Guide for Forensic Timber Identification* and the SWFS *Standards and Guidelines for Forensic Botany Identification* to be practical for non-forensic timber identification work?

Question 2

Concerning **sampling, analysis and data interpretation** everyone has different needs depending on:

▪ The timber tracking method used
▪ The question asked, identifying species or origin
▪ The applicable law (US, EU, AUS, JP)

But everyone might also have similar struggles (f.ex. sampling design, corruption in sampling region, data outliers, underlying assumptions for statistical method of data analysis) and a limited budget. How can we make sure that in future all single studies reach a maximal impact?

➢ How could guidelines be developed **to allow merging of data** (stronger statistics, interpolation, …)
➢ How could guidelines be developed to allow **integration of (the results of) timber tracking methods** (more precise, faster identification)?

➢ For which combinations of the above 3 variables and for which processes (sampling, data analysis, data interpretation) would guidelines need to be developed?

As not all registered WG1 members were present at the workshop we didn't conclude with the consensus action list. Instead this document, presenting the outcome of the workshop discussions and a draft task list is send to all WG1 members for your amendments and for pre-registration (to evaluate the interest to contribute/& lead and the need for sub-task forces). After processing all comments a final task list will then be send around for final registration, after which you will be informed on task force compositions.

2 Update on discussion of the sampling charter

In the frame of the US oak project Agroisolab has started a proposal for a charter to manage the rights, privileges and oversight of publically funded timber reference databases as used in the authentication of origin and species of traded timber.

The charter is very much in line with the ambitions that GTTN has with the development of a MoU to regulate cooperation through GTTN. The charter forms an excellent accelerator for this discussion. The charter version 2.0 can be found in the WG1 workspace for your interest and all comments can be send to Jo Van Brusselen, who will consolidate feedback for Roger Young who is leading this work.

The main points of a first discussion we had as part of the GTTN meeting on this charter, are presented here below:

FSC informed that they contribute with sampling for the US oak project and that this could be extended to other countries where FSC is active. A way to do this would be by making the provision of samples a requirement for FSC certifying forest operations. What would be needed is a short clear description for the foresters on what they should sample. FSC acts as a certifier in many countries but not all highly traded timber is represented by FSC (f.ex. wood traded on producer countries' domestic markets or wood from Madagascar). The high need for further development of reference data was indicated by a new WWF study where wood products from

several retailers were bought and the wood tested against the labels. 50% of the products were mislabelled (not necessarily by the retailers themselves, as the mis-labelling can have happened more upstream the supply chain).

There are different taxonomic sources. CITES lists contain wrong names. Common names are used everywhere and depending on the region they can mean several different species. It was suggested to strive for the use of scientific names only along the entire supply chain. A discussion should start on the implications of varied taxon naming for timber tracking and how to deal with it.

Quality assurance of data is required before entering the database. It was agreed that ISO 17025 accreditation is not feasible for all labs. Blind tests could be an alternative as well as a colour grading scheme of the data in the database indicating their quality verification.

What is the question being asked? Mostly about raw wood or processed timber? Species identification needed or only distinction between two species or even just the confirmation that the product contains a tropical species? Further development of timber tracking tools should match both research interests and market needs.

There is need for a common language in the GTTN community. Commonly used words were found to be confusing and not interpreted in the same way by everyone (f.ex. due diligence, due care forensic science, good science, quality data, reference samples, reference data, timber legality). Not only words like '*reference sample*' or '*standard*' can cause confusion, even the word '*courier*' can (different meaning in US vs. UK English). When building a GTTN glossary we can merge existing glossaries (f.ex. UNODC, SWFS) and build further from there. GTTN will not be able in the short term to resolve existing differences in interpretation or between glossaries. But what could be done is to list and point out any differences.

We need ways to distinguish wood from natural forests *vs.* plantations. If you ask a company for a test sample (to use as a reference) they sometimes refuse. Companies can hide illegal activities behind the pretext of plantations.

3 Update on WG1 meeting

Below you can find a summary of the meeting discussions broadly grouped according to the tasks that would be interesting to do collaboratively with the WG1 members of the GTTN. In the next section you will then find a more specific list of task force ideas.

➤ **Performing a few pilot studies using already available and (partly) analysed reference samples for the different timber tracking methods**

The aim would be to use these concrete cases to find out what standards/guidelines would be useful to enable method combinations and how they should look like. Looking at the results and having done the studies in an uncoordinated way, without standards/guidelines, all specialists together would discuss how the results from the different methods can enforce each other. **Innovation is in the combination of the technologies**. With these pilot studies we want to find out which method combinations can answer which questions and what guidelines would be useful to make these combinations of timber tracking methods easier in practice in future (f.ex. guidelines for sampling, validation procedures, data analysis, transparency in methods, interpreting results of different methods together, reporting results, …). Where common guidelines for all methods are not possible (because of a difference in variability f.ex.) specialists would need to develop method-specific guidelines.

Concerning a guideline for sampling, a first version was already made during the first phase of GTTN that can be used as a base. In addition, the existence was mentioned of a sampling protocol that was drafted in the frame of a workshop on identification techniques for *Dalbergia* and *Diospyros* that took place in Hamburg in 2014 (both documents can be found in the WG1 workspace). The possibility of a sample database, with metadata on samples that are available to be used by someone else than the collector, will be discussed in WG2. Here an example from the medical field of how this could look like.

Possible pilot studies mentioned by WG1 members:

- Sapelli (or Iroko?) (samples collected in the frame of an ITTO project)
- Douglas fir (samples collected by Kristen Finch and Richard Cronn)
- Cedrela spp. (samples collected by Kathelyn Paredes?)
- A European species from the GENTREE project could be provided samples of as well (see list here).

[WG1 members: please amend where necessary and if you would propose another pilot study then please add the names of collaborators you are already working with and their expertise or if you would like GTTN to launch a call to the network to find researchers who would like to analyse those samples with the complementary methods]

In practice: After we have a final list of possible pilot studies for which collaborators of the different methods have been identified, the coordination of each study will need to be discussed. The GTTN secretariat can help with this. Concerning funding, GTTN cannot fund any extra analyses that would be required. However, travel funding is available for a limited set of expert workshops. During pre-meetings of the pilot study collaborators (via email or Skype) it can be discussed what material exactly everyone would like to see from each other to enable the evaluation of method combinations. Then a workshop can be planned with concrete goals and hence delivering tangible results that can be finalised afterwards.

To extend the number of workshops that could be funded by the GTTN, please inform us about any meetings (in your field or any GTTN related field) you know of that at least some of your pilot study colleagues will attend anyhow. GTTN could then arrange the workshop back-to-back.

➤ A GTTN developing countries team/platform

As members from developing countries are so far in the minority in GTTN we want to set up a specific work group and/or platform where they can bring forward and discuss all GTTN relevant issues and opportunities that are not of interest to the other GTTN members or for which there is a need to discuss them first among peers. This would act as a capacity building tool where one can learn from each other as well as a way to develop strategies to optimise collaborations within the global network of timber trackers. This issue is suggested to be addressed by WG3, as part of its focus on capacity building a.o., and could include a GTTN forum on the website, as well as group discussions during future GTTN events (especially during regional workshops).

➤ GTTN minimal standards for service providers

It was proposed to develop minimal standards for all researchers/laboratories that want to be mentioned as "service provider" on the GTTN website (currently the

website reflects the survey data, i.e. self-identification) and want to be included in the future GTTN-WRI expert database (the expert database will be a common effort between GTTN and the World Resources Institute). This would be needed to safeguard the credibility and good reputation of the GTTN service providers. Possible min. standards would be participation in ring tests, publications in peer-reviewed journals or ISO 17025 accreditation.

Alternatively, a set of indicators could be developed indicating the expertise and specifying the qualities of service providers and be used as a traffic light colour code (an example for data, but the same can be done for people, can be found here under *Data quality tests*). This would allow all timber tracking service providers to be recognised as such but at the same time to be stimulated to improve on the weak points.

The wish was expressed to have the ability to specify ones "service provider" profile with broad key-words (to make it stand the change of time). Currently there is only the map on the GTTN website indicating merely the timber tracking method the lab is specialised in. We noted also that there should be a possibility to differentiate between individual and company level of detail.

➤ This requirement will be handed-over to WG2 that is building the expert database.

➤ **Q&A forum on the GTTN website**

There was a request to set-up a forum as part of the GTTN website where questions and answers could be exchanged to support each other (f.ex. with statistical analyses in R). A public forum next to the already existing *ResearchGate* project page (where articles can be shared but also questions posted, and answered) was thought to be a useful awareness raising tool in-one-go as everyone Googling could find out about GTTN in this way.

➤ **Virtual Index Xylariorum**   Done

While fresh material is needed to develop reference data for timber tracking via DNA, small wood samples from a wood collection can do for spectrometry. With The Australasian Virtual Herbarium in mind, it was therefore judged as important to transform the existing Index Xylariorum that only exists in a pdf format in a more accessible global map.

4 How this can be translated into Task Forces

After collection of all task force ideas, the registration form (see Annex 2) will be finalised and send to all WG1 members to identify their final interest (to contribute/& lead) and to then connect team members and commence the task forces.

> **NOTE** For all Task Forces (TF) the first job to be done will be to review the existing information. For WG1, a list has already been compiled of existing standards and guidelines that can be found [here](#). In addition, internal project reports should be made use of as they often contain "lessons learned" sections (f.ex. [here](#)).

Issues for consideration by WG1

- Set up a few **pilot studies**, bringing together experts in the different timber tracking technologies, **to assess which method combinations can answer which questions, which guidelines/standards would then be needed and what should they comprise** for:
    - Sampling
        - ➤ bring parts of the UNODC document to the attention (f.ex. §7-9, 12)
        - ➤ develop a sampling guideline for consideration by f.ex. FSC foresters (incl. info on what taxonomic source to use) and a more extended one for researchers (with the potential future sample database in mind and to support junior researchers)
        - ➤ evaluate implications of varied taxon naming on timber tracking and develop a strategy on how to deal with it. Transform the European standard into an international one? (EN Standard 13 556 "Nomenclature of traded timbers")
    - Data analysis and interpretation
        - ➤ bring parts of the UNODC document to the attention (f.ex. §14-16)
        - ➤ develop guidelines for combining analyses and interpretation of different timber tracking methods?

- Building further on what was learned from the discussions combining experts in the different tracking tools, develop a discussion paper on a strategy to (advance towards being able to) **distinguish natural forests *vs.* plantations** (making use of complementary timber tracking methods?)
- **To guarantee quality of species/origin identification** and as a requirement to be listed in the future GTTN expert database (that can be linked to the reference database), develop (i) a set of min. standards, or alternatively (ii) a set of indicators linked to a colour code. Assess if questions mentioned in the UNODC document in the chapter *"Communicating with the timber identification service provider"* can be used to this purpose.
- If a **sample database** is going to be developed:
  - Set-up a strategy on how to manage samples that are not collected by researchers themselves (f.ex. by FSC, if they decide to realize their plans to include sample requirements for FSC certified forests; or other certification schemes if they would decide to do so.)
  - Work out a grading system for samples to allow quick screening of the sample database against the question being asked (in some cases even a bad sample can be useful if nothing else is available but the grading system should allow one to check the database for suitable samples for the intended method)
- Write an **awareness raising paper for the scientific community** (following the two earlier papers by Lowe *et al.* 2015 and Dormontt *et al.* 2016, available in the WG1 workspace) for a Journal of broad scope (f.ex. Solutions) to show the importance of the timber tracking research in its wider frame (species and provenance identification have a wider use than legality checks) and to show that timber tracking research fulfils two goals at once: (i) broadening our insight in the genetic, chemical, structural variation of wood, and (ii) developing reference data and optimising timber tracking tools.
- Write a **paper on everything what was tried before but didn't work** (in f.ex. the Negative Results journal or the special PlOS collection) to speed up further developments and facilitating collaborations also across disciplines.

In practice: First, drafts can be made by the first pilot study that is ready for a workshop. Then, these drafts can be fine-tuned by the following pilot studies.

Some of the tasks will be suitable to be drafted by a small group, to then be fine-tuned by sending them to everyone for their amendments.

Tasks for the secretariat

- ▪ **Update task force followers** of the progress being made as a way of capacity building and of informing end-users.
- ☑ Set up a **learning platform** as part of the GTTN website where questions can be posted and learnings, approaches, successes and failures can be shared. The *ResearchGate* project page can be used to ask questions to the group. Successes and failures will be shared via a review paper.
- ☑ Transform the **Index Xylariorum** into a global map on the GTTN website
- ▪ Start a **GTTN dictionary** containing all terms used in the field of timber tracking (using all already existing glossaries), make it available on the GTTN website and add a link to an email address where people can make us aware of still other words that would need to be included in the glossary.
- ☑ Explore existing lists of scientific areas where international collaboration would be required. > Ideas from these lists have been included in the **drafted guidelines** the working groups will further work on (see WG1 workspace).

Issues forwarded for consideration by WG2

- ▪ Develop a **sample database** containing information on the kind and quality of the sample (taken by FSC or a single researcher), where it is stored, who can apply to have a piece, ... (example).
- ▪ Develop a **reference database** with traffic light indication for the questions mentioned in the UNODC document in the chapter *"Resources for acquiring reference data"* and including the online databases mentioned in Annex 16 of the same document.
- ▪ Develop a **GTTN members' database** with a selection of the survey information to allow members to search for collaborators.
- ▪ Develop the **expert database** with the possibility for experts to specify their profile with broad key-words (allowing specific questions to be addressed to researchers with a specific expertise, f.ex. to exchange protocols and start collaborations) and with traffic light indication for the questions mentioned in

the UNODC document in the chapter *"Communicating with the timber identification service provider"*.

- Make a **global map overlaying reference data sets** of all service providers to identify gaps and to allow collaborations (also beyond disciplines as timber tracking data can also be useful outside the legality frame)

Issues forwarded for consideration by WG3

- **Awareness & Fund raising**
  - Write a consumer awareness raising paper for the broader public (being aware of the GTTN1 info material)
  - Write an awareness raising paper for the end-users of the timber tracking tools (being aware of the existing NEPCon manual and the info provided by the Timber Investigation Centre)
  - Develop a strategy on how to portray arboreal DNA to make it attractive for funders (diseases linked to deforestation, link with climate change, link with air pollution, ...)
  - Depending on the outcome of the WG1 task force on taxonomy (see above): Develop a policy paper informing on the need to use only scientific names along the timber supply chain.
- **Species prioritisation**
  - Do a survey to get on the ground information from timber trackers, companies, INTERPOL liaison offices and law enforcement authorities to assess where the needs are highest (raw wood/wood product, resolution of identification needed, country, species)
  - Update the species priority list prepared during GTTN1 (available in the WG1 workspace) to the current/future (foresight needed as method development takes time and timber trade is fugitive) state of the most internationally trafficked species.
- **Reference samples**
  - In relation to IPR (intellectual property rights) and ABS (access and benefit sharing), develop guidelines for the consideration of governments to maximise access to reference data and sample material in an equitable manner.

- Ensure effective sharing mechanisms of samples and reference data, by private as well as by public timber trackers, to enable as widely as possible the capabilities to test trade claims.

- **Capacity building**
  - Facilitate a GTTN developing countries' discussion to identify and elaborate upon common issues and opportunities, learn from each other and to develop strategies to optimise collaborations within GTTN.
  - In regional workshops, attempt to bridge the traditional divide between civil society and law enforcement. Have participants prepare answers to the questions posed in § 22 under "national capacity" of the UNODC document.
  - Support educational centres in promoting wood anatomy studies (as the start of all wood identification) and in wood identification in general as wood anatomists have a potentially critical role in acting as advisors on what (if any) other forensic identification techniques are available and/or required.
  - Develop metrics for wood anatomists doing IDs to improve recognition of their value.

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