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Danish EUTR Sampling Project

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Content

1. Introduction

It has been globally estimated that more than 100 mill. m^3 of timber is harvested illegally every year[1]. Both legislation and the business community are increasingly demanding documentation of the legality of timber. Verification of information from suppliers about timber species could and should be an element in assessments of documentation on the legality of timber. Therefore, recent years have seen increasing focus on analyses to verify species, both from the authorities responsible for combatting trade in illegally harvested timber, and from enterprises looking to comply with statutory requirements and to ensure that they get the wood products they are paying for.

2. The project

The EU Timber Regulation[2] (EUTR) has been in force since 3 March 2013. The Regulation prohibits the placing on the EU market for the first time of illegally harvested timber. Operators must have a due diligence system in place under which they must collect adequate information about timber products in order to conduct a risk assessment of the illegality of the timber and mitigate this risk to a negligible level before placing the products on the market.
Analyses of timber can be included as part of the risk mitigation by an operator, and it can be part of an inspection and assessment by authorities of operators due diligence systems.
In connection with EUTR inspections, a number of operators have shown interest in being able to utilise analyses as an integrated part of their due diligence systems. In exceptional circumstances, analyses of timber species could also be used in cases involving direct breach of the Timber Regulation, for example regarding the content of protected timber species in timber products.

[1] http://www.illegal-logging.info/topics/scale-illegal-logging

[2] http://ec.europa.eu/environment/forests/timber_regulation.htm

3. Methodology

The Danish Nature Agency has no experience from other inspection tasks of sampling timber and timber products, with subsequent analyses. Part of the project was therefore to establish a methodology and relevant procedures for sampling.

Other competent authorities in for example the United Kingdom (UK) and Germany, already apply determination of timber species in connection with their EUTR inspections. In early 2015, the former National Measurement and Regulation Office (NMRO) in the UK published their first report[3] on the lack of accordance between declared timber species and the actual content in plywood shown from wood analysis. The project selected a specific product group for analysis from small and medium-sized enterprises (operators) with inadequate due diligence systems. In Germany samples are taken as a fixed part of routine EUTR inspections.

The methods of analysis applied involve macroscopic and microscopic testing of wood anatomy to determine the timber species. Moreover, fibre analyses are applied when wood-anatomy determination is not possible using microscopic testing, and DNA analyses are used to determine the origin of oak timber.

3.1 Objectives

The Danish Nature Agency decided to complete the "EUTR Sampling Project" to:

- enhance sampling competences and procedures at the Danish Nature Agency with a view to applying these in future EUTR inspections,
- acquire knowledge about the industry regarding possibilities to use samples as part of their due diligence system, and
- assess whether there is a general problem with regard to correct import declarations on products imported from China.

3.2 Imports from China

China is dominant in world trade of timber and timber products. There have been concerns regarding the ability of Chinese producers to secure the traceability of the harvested timber incorporated in products[4]. The UK study states that there are serious discrepancies in the information from suppliers of plywood containing timber species from Africa and China. There can therefore be problems with imports from China in the context of the requirement in Article 6 of the Timber Regulation regarding exact information on timber species in the products. In general, however, the risk of illegally harvested timber species such as poplar, acacia and eucalyptus originating from China has been assessed as less serious[5].

The timber supply chain is often complex. This applies both for low-value products, such as moulded panels (laminate)/plywood for building, and high-value products such as furniture. The raw materials for production can originate several hundred kilometres from the factory itself, they may be imported, or come from local suppliers. Production of products takes place throughout China, but in general it is concentrated in the eastern part of the country, and it depends on access to raw materials. Most plywood production is therefore located in the mid-eastern part of China, while production of oak furniture is concentrated in the north-east. A large number of sub-suppliers of raw materials and sub-components are used by both product

[3] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/402325/Chinese_Plywood_Research_Report.pdf

[4] https://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20141210IllegalTimberChinaWellesley.pdf

[5] http://www.forest-trends.org/documents/files/doc_4931.pdf

groups, and there is a high risk that raw materials can be mixed both before and after arrival at production site.

Many Danish importers (operators) have their own representation in China. This is primarily due to quality aspects, but there is a trend towards increasing use of own representatives to monitor traceability and documentation of the raw materials used in production. Those activities can be used directly in the operators due diligence system.

There is no clear-cut system in the Chinese market for documenting the legal origin of timber, and therefore a large number of different documents are used to document legality, such as logging licences, transport documents, tax receipts, business-registration certificates, import approvals, trading documents, etc. However, the timber species often does not appear on these documents, and direct traceability between documents and raw materials can be hard to determine.

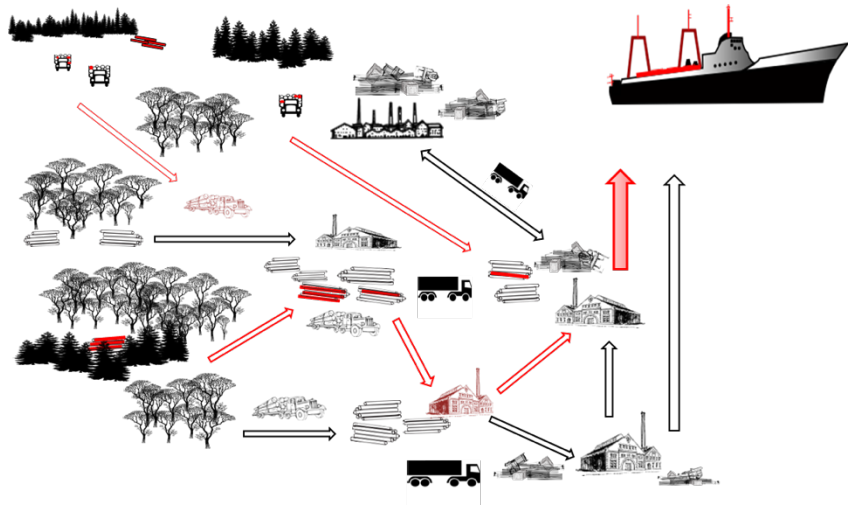

Figure 1: Illustration of the supply chain. The red arrows/symbols indicate potential illegal origin. Source: Danish Nature Agency

Documents are often inadequate to identify the connection between the origin of timber and the end-product, and analyses of the timber species could be a tool to support and strengthening the operators due diligence system.

3.3 Selection of operators and products

The Danish Nature Agency receives import data from the Central Customs and Tax Administration (in Danish: SKAT) about import customs on goods covered by Annex 1 in the Timber Regulation. On basis of these data, it is possible to find operators with imports from China and what kind of products they import. Focus has been on operators with an import from the period from 31 March to 31 August 2015.

Product groups were selected on the basis of import data on operators from SKAT. Plywood (HS code 4412) is only imported directly to Denmark from a limited number of suppliers in China, and therefore it was decided that all types of plywood and veneer could be included in the project.

Operators voluntarily took part in the project and contributed with wood samples. Focus has been on operators that already had been subject to an EUTR inspection, and operators which either had an operational due diligence system, or which had come a long way in establishing such a system. Doing this would either confirm that there was good accordance between decla-

rations and analysis results; or it would demonstrate that both operators and the competent authorities might need to supplement the due diligence systems in order to minimise the risk of importing illegally harvested timber.

16 operators were invited to take part in the project. For different reasons, five declined the invitation. This meant that there was a slight distortion in the types of operators included in the project. The 16 operators belong to the group of large and medium-sized importers in Denmark of products with Combined Nomenclature codes 4408-4412 (panels/sheets/boards) and 94XX (wooden furniture) covered by the Timber Regulation. The 11 participating operators are spread geographically evenly throughout Denmark.

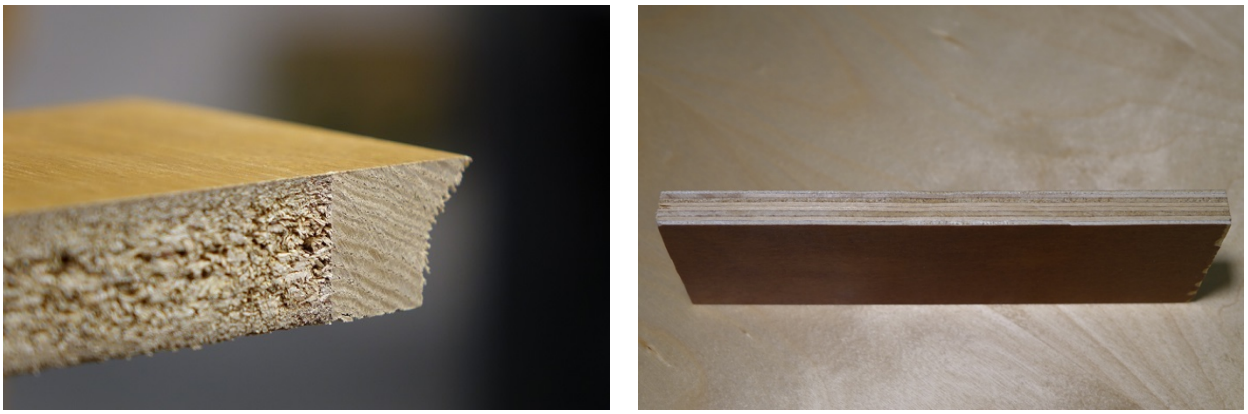

Figure 2: Timber samples. Photo: Niels Bølling

The Danish Nature Agency selected relevant products for each operator. In some cases samples were taken even though it was assessed that there was a lack of information about the product or that the nature of the product made it hard to analyse. This was to assess the range of analysis possibilities.

Furthermore, three samples from Malaysia, Indonesia and Vietnam/Brazil were included.

Communication of the framework of the project was discussed at a dialogue meeting with operator-associations, governmental institutions working with wood analysis and NGOs. The meeting was held on 25 June 2015, and followed up with a preliminary report at a meeting on 25 November 2015[6]. Also attending the November meeting was the UK EUTR authority (the former National Measurement and Regulation Office) and the Swedish EUTR authority (in Swedish: Skogsstyrelsen). The meeting was held in partly Danish and English, and broadcasted simultaneously.

3.4 Sampling

The Danish Nature Agency completed sampling at seven operators, while for logistical reasons, samples were sent to the Agency by four operators. The majority of the samples were taken from central stocks of unbroken batches with clear labelling. In some cases, assistance from the operators was necessary, sometimes to locate the selected products, and sometimes to extract individual sheets for sampling. The samples were taken according to the guidelines in ”Wood samples for DNA testing at the Thünen Institute at the Forest Genetics, 12th May 2015”. Four samples were taken from each product. Two samples for the operator and two for the Danish Nature Agency. The Danish Nature Agency then sent one sample to Thünen analysis institute, and kept one as a control sample.

[6] http://media.mim.dk/nstvideo/ulovligttrae480.wmv (0 - 57:50 in Danish and 57:50 - 1:35:45 in English)

4. Results of analyses

The samples collected were sent for analysis at Thünen Institute in Hamburg[7]. Samples were sent in three batches as they were collected, and any further supplier documentation on specific samples was sent later. Each sample was clearly numbered and packed individually in tightly sealed plastic bags. Thünen Institute received a list of samples with numbering and associated descriptions of the timber species declared by the participating operators. In order to protect anonymity for the operators, no form of reference between samples, operators or suppliers was submitted to Thünen Institute.

The samples were subjected to microscopic wood-anatomy analysis in order to check for correct statement of timber species. It was not possible to analyse a number of samples using this method, due to the quality of the wood-fibre which could not directly be tested. These samples were subsequently subjected to fibre tests and DNA analyses.

The results of the analyses were divided into three categories:

1. OK (blue). Full accordance between sample and supplier information.
2. ERROR (red). 100% discrepancy or discrepancies, where the sample does not contain the declared timber species, or lacks declaration of timber species in the product.
3. OTHER (green). For different reasons the sample does not fall into category 1 or 2.

In all, almost 75% of the samples were OK with regard to the declared contents. About 22% had ERROR. One supplier-declaration could not be obtained for one sample (3 %). The figure below shows the results for the total 32 sample population.

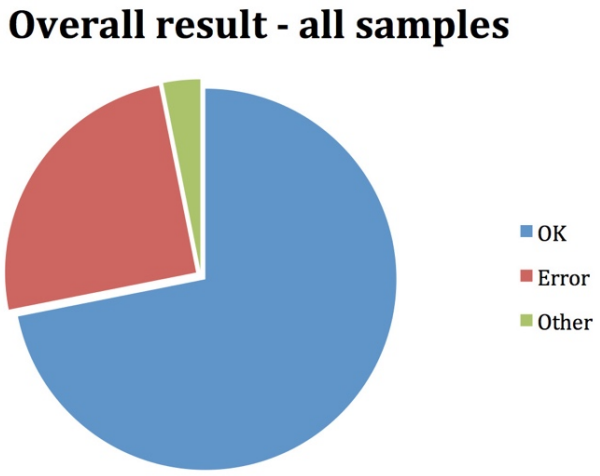

Figure 3. Overall analysis result for 32 samples. 23 samples (75 %) were OK, while there were discrepancies with the declaration in 8 samples (22 %). 1 sample (3 %) had no declaration.

[7] THÜNEN Institute of Forest Genetics, Sieker Landstraße 2, 22927 Großhansdorf/Germany

4.1 Result for moulded panels / plywood

A total of 18 samples of different panels from 15 suppliers outside the EU were analysed. Of these, 14 samples were declared as 100% poplar.

The panels varied in thickness and therefore also in the number of layers. This does not seem to have had an effect on the analysis results.

Almost 75% had correct declarations, and about 25% had incorrect declarations.

4.2 Other results

Six samples with declarations stating White Oak were DNA tested. Because of the quality of the samples, however, it was not possible to extrapolate DNA sequences that could determine the origin of the timber with sufficient certainty.

Three samples were subjected to fibre analysis, including the sample without a declaration of timber species. One sample was in accordance with the declaration. One sample contained six timber species in addition to the species declared. The sample with no declaration contained four timber species, including White Oak.

Because of the limited number of samples and suppliers, it cannot be concluded statistically that some product types have a greater number of discrepancies than others. Neither has it been possible to draw conclusions on the basis of the physical location of the suppliers in China.

4.3 Discrepancies at supplier level

The products from which samples were taken came from 24 suppliers. 33% of the suppliers had errors in one or more declarations, while one supplier would not disclose the contents. Figure 4 below shows the percentage of suppliers with incorrect declarations.

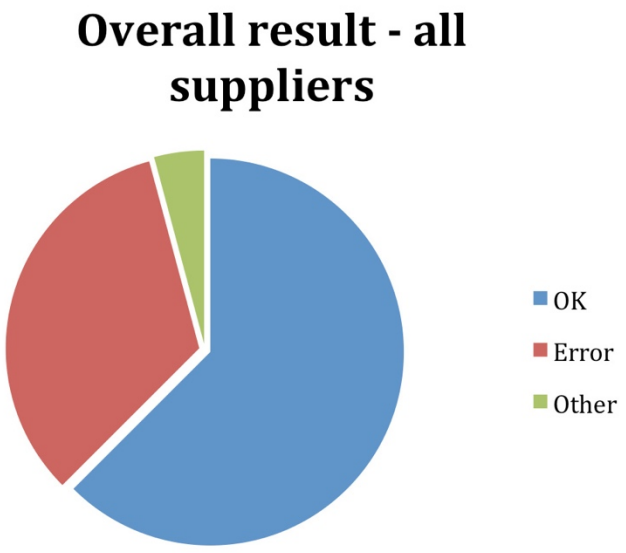

Figure 4. BLUE: 63% OK. RED: 33% Error: Suppliers with one or more samples with errors. GREEN: 4% other.

5. Evaluation of results

Statistically, the number of samples is too small to draw any definitive conclusions from the analysis results.

Almost 75% of the samples were in accordance with the declared contents. It was expected by the Danish Nature Agency that this percentage would have been higher, as the samples were taken at operators with operational due diligence systems in place or from operators well on the way to establish such a system.

If an operator does not get the correct information on the timber species, the operator cannot conduct an adequate risk assessment at timber-species level. There is also an issue with regard to the validity of traceability information on raw materials that follows products when they are placed on the market.

Moulded panels declared as containing 100% poplar were also not in full accordance with the analyses. If products that are declared as comprising 100% of a single timber species turn out to contain other timber species, this indicates a lack of control in the supply chain for the raw materials or in the production process.

For fibreboard and MDF (Medium Density Fiberboard) the timber species cannot be determined through anatomic analyses. On the basis of the analysis results of this project, it can be extremely hard for operators to assess the credibility of information on timber species, and thereby in reality complete a risk assessment of the products at timber-species level.

5.1 Use of analyses as part of a due diligence system

The project demonstrates that analysis may be relevant for both operators and competent authorities in order to minimise the risk of illegal imports of harvested timber, and analysis should be considered as part of, or a supplement to, operators due diligence systems.

The project also shows that products could not be analysed using just anatomic microscopic testing, which is a relatively cheap analysis method. Fibreboard and MDF can require other analysis methods than microscopic testing to achieve a complete analysis of the timber species content.

Overall, the Danish Nature Agency concludes that sampling and subsequent analysis of timber species could be a good and relatively cheap tool for operators in assessing the validity of information from suppliers on the timber species used.

The costs of the different analysis methods in this project are described in table 1 below.

Table 1. Analysis methods and unit prices in this project. 1 € ~ 7,5 DKK

Method of analysis	Product type	Price per sample
		DKK
Wood anatomy	Solid wood	725
	Laminate/plywood	1100
Fibre/DNA	Mixed	1850

Fibre and DNA analyses in particular require certain time consumption, depending on the type of product, number of timber species, origin, etc. and therefore they can vary. The value of the sampled product, time consumption and delivery costs should be added to the prices in the table.

Operators with employees or representation in China could benefit from using their own staff for sampling at suppliers before shipping to the EU.

6. Conclusion

The aim of the project was to improve competencies at the Danish Nature Agency in sampling and analyses as a part of a EUTR inspection on Danish Operators. On the basis of the project, the Agency has developed internal guidelines for sampling. The procedures also contain guidelines for handling samples to ensure uniform identification from product to analysis result.

Another goal of the project was to obtain knowledge about methods and costs of timber-species analyses that could be utilised by the operators to test declarations on imported products. Information about the project and its results has been communicated through public meetings and will also be communicated on the website www.eutr.dk.

The third goal was to assess possible problems with timber products from China. Because of the limited number of samples, this project has not resulted in statistically solid results. It can be concluded that there are discrepancies in product declarations in about 25% of the samples in the product, but no conclusions can be made regarding the product type in general.

Operators, suppliers and the competent authorities in the EU member states should consider to include timber-species analyses in their due diligence systems or as part of their inspections. Analyses can be used as a supplement to an existing due diligence system, in order to minimise the risk of importing illegally harvested timber, as required by the EU Timber Regulation.

Danish EUTR Sampling Project
This project has been carried out by The Danish Nature Agency in cooperation with Danish operators.
The aim was to establish sampling procedures and use timber analysis and thereby provide a tool for operators and competent authorities as part of being in accordance with the EU Timber Regulation (EUTR) against trade in illegal timber.

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