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## Chapter 24: Forests, Timber Sources and Supply Chains of Myanmar: Opportunities and Constraints to Ensure Legal Origin of Timber

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### Abstract

Since the late 2000s, the global timber trade has undergone emerging legality requirements on imported timber products in major consumer countries. For Myanmar, as a key country in supplying tropical hardwood, the potential to participate in expanding regulated markets rests on its capacity to hold accountability for the legal origin of timber products, which requires greater transparency of the supply chain, traceability of products, and supportive proof of legal claims.

Against this backdrop, this study was undertaken to enhance the production and trade of legally harvested timber in Myanmar by examining legal frameworks and measures and identifying challenges ahead. Based on the desk review research, the study discussed forest classification, timber sources (e.g., selective logging, forest conversion, plantation, etc.), and supply chains and examined log marking and paper-based systems to track the legal origin.

The study identified that the current systems help trace logs from log yards of private industries to a township of harvest. In addition, to increase transparency, the government has published production data from main timber sources and opened relevant supply chain documents to the public. Such efforts can promote legal timber production and trade, delivering positive signals to concerned actors. On the other hand, the absence of production data from Natural Forest conversion may undermine the overall efforts of the forestry sector in Myanmar. In addition, the accountability of the legal origin of timber products needs to consider not only locations where timber was harvested but

also focus on the types of timber source and forest since each source and/or forest type may associate with particular risks, considerations, and implications for a legal basis.

### Introduction

Myanmar holds a vast expanse of tropical natural forests and plays a vital role in supplying tropical hardwood, including Teak (*Tectona grandis*), a globally traded high-value timber species. Natural teak forests are estimated to cover 29 million ha globally, of which nearly half are found in Myanmar (Kollert & Kleine, 2017). However, the past economic-oriented forestry sector has led to the over-exploitation of forest resources resulting in the degradation of natural forests in Myanmar. Furthermore, several studies revealed illegal and unsustainable logging and illegal border trade (Springate-Baginski et al., 2016), and conflicts over land rights, especially with customary landowners (Oo et al., 2021). Consequently, the forestry sector in Myanmar has presented challenges in achieving legal timber supplies, and may have difficulty in finding a market in the globally expanding timber legality regime (Forest Trends, 2021).

The crucial question is what we have to consider to enhance the country's capacity that ensures and demonstrates the legal origin of timber. To promote legal timber production and trade, the forestry sector in Myanmar has undergone substantial reforms in the past decade. These include the revision of the Forest Law in 2018 and related regulations, increased reserved areas for forest management, reduced exploitation of natural forests, a ban on exporting logs and products using timber



derived from unsustainable sources, the establishment of plantation resources, and the greater inclusion of local communities and the private sector in forest management (Forest Department, 2020; World Bank, 2020). In addition, the Ministry of Natural Resources and Environmental Conservation (MONREC) published a report entitled the Chain of Custody Dossier (the CoC Dossier) in 2018 to address the transparency in the timber supply chain in Myanmar, which explains detailed steps in producing legal timber from state-managed natural forests.

On the other hand, understanding and ensuring the legal origin of timber is not straightforward, given complex legal frameworks over forests, timber production, and supply chains. Often a country has multiple sources for timber production with different standards and procedures. Moreover, in most tropical countries, the supply chain control is not well established and implemented effectively (Banikoi et al., 2019), which makes it challenging to ensure and demonstrate the legality of timber products.

There have been several studies on timber production and supply chains in Myanmar, such as those of Woods (2013), Springate-Baginski et al. (2016), Banikoi et al. (2019), Rand et al. (2019), Forest Trends (2021), and (World Bank, 2019, 2020). However, there is still a need to elaborate a comprehensive picture, including forest classification, timber sources, and consequent timber flows, to discuss opportunities and constraints for Myanmar with an aim to enhance legal timber supply and trade.

Against this backdrop, this study was conducted under the ITTO project “*Enhancing Conservation and Sustainable Management of Teak Forests and Legal and Sustainable Wood Supply Chains in the Greater Mekong Sub-region*” to enhance the production and trade of legally harvested timber in Myanmar by examining legal frameworks and measures concerning the issues related to the timber legality and

identifying challenges ahead. Two broad questions were posed to guide the analysis:

- Where timber can be harvested, by whom, and how is it produced, distributed, and traded?
- What measures are taken, and to what extent have they been effective to demonstrate the legal origin of harvest?

This chapter is organized as follows: Section 2 below describes the methodology adopted for the analysis. Section 3 provides an overview of the timber legality regime, which is taking place at a global level, and then explores the critical considerations for the timber legality that guides the analysis. Focusing on timber productions, Section 4 discusses the forest land classification in Myanmar and its legality implications. Section 5 identifies timber sources and supply chains. Section 6 identifies current mechanisms and measures to demonstrate the origin of harvest and challenges. Finally, Section 7 elaborates on the findings and concludes with some considerations.

### **Methodology**

The study was conducted based on the desk review research using the publicly available information and data provided by the Myanmar government. Our review includes the Land Use Policy (2016), the Forest Law (2018), the Forest Rules (2019), the Vacant, Fallow and Virgin (VFV) Land Management Law (2012, amended in 2018), and the Community Forestry Instructions (2019), as well as the government’s reports on the forestry sector, and statistical data on timber productions. In addition, the study was developed through discussions with professional members of the Myanmar Forest Certification Committee (MFCC) and email-based questionnaires survey to experts on Myanmar’s timber sector.

On the other hand, the study has limitations. First, due to the impact of the COVID-19 pandemic, the field survey was impossible to conduct. Therefore, our findings and conclusion are drawn on publicly available information and data without field observations. Second, the study focuses on



a technical aspect of institutional design and measures to discuss legal timber production and trade in Myanmar. It is not our intention to glance at the current unrest situations in Myanmar and explore their implications for the forestry sector and timber legality.

### **Key Consideration for the Timber Legality: Emerging legality requirements in major consumer countries**

Since the late 2000s, the global timber trade has undergone emerging legality requirements on imported timber products in major consumer countries. Import restriction of illegally harvested timber products was first introduced in the USA by the Amended Lacey Act (2008), followed by Australia's Illegal Logging Prohibition Act (effective in 2012) and the EU Timber Regulation (effective in 2013). In Asia, Japan enacted the Clean Wood Act in 2017 to encourage importing legally harvested timber products, and the Republic of Korea introduced the legislation banning the import of illegally harvested timber in 2018. Also, Indonesia and Viet Nam have regulated their timber imports along with the voluntary partnership agreement with the EU. As a result, timber imports into those regulated markets account for more than half of global trade in 2019. In addition, China, the largest timber importer, amended its Forest Law in 2019 and prohibited using illegally sourced timber<sup>1</sup>. Consequently, the share of regulated timber markets is expected to increase.

It is important to note that legality/illegality of timber is a broad term that encompasses not just harvesting but also transportation, processing, and trade (Smith, 2002), and there is no globally agreed single set of rules and criteria for timber legality. Hence, the standards and procedures required to import products into the countries mentioned above vary. However, the critical focus commonly found is accountability for the

legal origin of timber products they have sourced (Bartley, 2014). Consequently, there is growing attention to map the timber supply chains to identify and demonstrate the legal origin of timber products and avoid unknown or illegal sourced timber products. This requires timber producer countries to improve the transparency of the supply chain, traceability of products, and supportive proof of legal claims, in addition to the traditional perspectives of quality, price, and stable supply in the timber trade.

The crucial question is what we have to consider to understand the country's capacity, which ensures and demonstrates the legal origin of timber. Firstly, timber harvest needs to take place from forest areas with a specified legal basis (Springate-Baginski et al., 2016). However, in several tropical countries, competing interests and practices over forested areas, such as agriculture, forestry, infrastructure development, customary uses, small-scale farming, and biodiversity conservation, have been observed, which cause numerous conflicts and insecurity in the legality of activities. Accordingly, the design, demarcation, and maintenance of forests to be distinct from other land use, especially agriculture, are essential in building the legal origin of harvest (Fay & Michon, 2003). Brown et al. (2008) further discuss legal origin as the legal right to harvest, including prior determination and settlement of tenurial claims over a given forest. These discussions highlight that in an attempt to ensure the legal basis of timber products, the forest classification and gazettement have to include procedures to determine harvest areas, considering different land use objectives, interests and claims. Such deliberation is highly relevant to Myanmar's context, given several reports concerning land conflicts with local communities (World Bank, 2019, 2020; Oo et al., 2021).

Another critical element to account for is the traceability and transparency of the

<sup>1</sup>As of writing, implementing regulations of the amended law have not yet been issued.



timber supply chain. Generally, a country has multiple forms to harvest logs, namely legal timber sources, rather than a single form. Then timber is distributed and processed through complicated supply chains, including different governance mechanisms and actors (Banikoi et al., 2019). Accordingly, a system to inform concerned actors about where a product

comes from is the first step to demonstrate the legal origin of timber products while avoiding unknown-sourced timber. In order to build such capacity, traceability studies discuss different measures, such as track & trace, segregation, and mass balance. Table 1 highlights how each measure can support traceability to ensure the legal origin of timber products.

**Table 24-1** Measures supporting traceability of legal origin of timber products

Measures	Function
Track and trace	Include both physical marking and information management methods. A batch of products can be directly traced to its origin, such as the forest compartment where the log was harvested.
Segregation	A batch of timber is kept, traded, processed and distributed separately by source according to the objectives.
Mass balance	Also known as inventory management methods. The volume of timber products is monitored partly or throughout the entire supply chain so that it can be checked whether there are no discrepancies.

Source: Seidel (2011), Mol & Oosterveer (2015) and Arts et al. (2021)

It is critical to consider what supply chain information is generated and communicated along the supply chain so that these measures can be functional (Arts et al., 2021). At the same time, it questions what information is being made transparent and who is entitled to access such information. In this regard, transparency is seen as a prominent subject in demonstrating the legal origin of timber products and making claims reliable.

**Forest Classification and Timber Harvest**

**Permanent forest estate**

Administratively, the land in Myanmar is broadly classified into three categories, which are agricultural land, forest land, and other land. The Ministry of Agriculture and Irrigation (MOALI) administrates the agricultural land, while the Forest

Department (FD), a division of MONREC, is responsible for the forest land and trees on the agricultural land. Forest land is referred to as Permanent Forest Estate (PFE), which is constituted of Reserved Forest and Protected Public Forest.

Reserved Forest is set in areas suitable for commercial timber production with higher commercial value, where the public has no harvesting rights. On the other hand, Protected Public Forest is designed mainly for conservation and local use, while commercial timber can also be sourced. In addition, MONREC designates Protected Areas to preserve diverse ecosystems and species richness of Myanmar and cannot be exploited. Table 2 shows the extension of those designated areas as of December 2019

**Table 24-2** Permanent Forest Estate and Protected Areas in Myanmar (December 2019)

Legal classification	Area	
	ha	% of land area
Reserved Forest	12,020,011.79	17.77%
Protected Public Forest	5,224,273.51	7.72%
Protected Areas (PAs)	3,959,316.61	5.85%

Source: Forest Department (2020)

### Unclassified forests

It is important to note that “the PFE or Forest Land,” legally designated forest land, does not necessarily mean ecological forest (areas dominated by trees). Indeed, large forested areas expand outside the PEF. For example, the REDD+ Programme Myanmar (no date) estimates that 6,916,470 ha of closed forest and 10,331,664 ha of open forest<sup>2</sup> lie outside the PFE. Those forests are referred to as “Forest Covered Land at the disposal of the Government” in the Forest Law (2018) but are generally termed as “Unclassified Forests” (MFCC, 2020a; Oo et al., 2021). Under the current legal frameworks, timber can also be legally sourced from Unclassified Forests.

Unclassified Forests need to be understood in the historical context of the forest gazettement process in Myanmar. During the colonial period, forests were divided into “Reserved Forests” and “Un-class Forests (or Unreserved and Public Forests).” For administrative purposes, Reserved Forests were composed of “Compartments,” and Un-class forests were divided into “Coupes.” Terms have changed over time, and after 1992, some extent of Un-class Forests have formed as Protected Public Forests while others remained unclassified. Possible reasons for this may include a lower value or a less priority from a timber perspective, inaccessibility due to conflict, and remaining strong local customary claims (World Bank, 2019).

Also, it is crucial to understand Unclassified Forests from a jurisdictional perspective. The Forest Law (2018) designates the FD/MONREC as the competent authority for Forest Covered Land at the disposal of the government, which may include some Unclassified Forests. However, due to the overlapped land classification systems, land covered by Unclassified Forests is managed by MOALI, empowered by the VFV Management Law (amended in 2018). Because of how VFV land is defined, the term introduced by the VFV Management Law, most Unclassified Forests may fall within the land regarded as VFV land. The VFV Management Law provides MOALI with the authority to use VFV land for agriculture, livestock-farming, mining, and other businesses. In addition, due to the definition of VFV land, the community and customary areas may fall within VFV land. Although the Law stipulates the VFV land to exclude land being used under customary tenure, the frameworks are not yet in place to determine how this type of tenure will be determined and recognized (NAMATI, 2019; World Bank, 2020).

### Forest Classification and its implications for the Timber Legality

By establishing the PFE (Reserved Forest and Protected Public Forest), given areas have a clear boundary with management objectives and are administrated by the FD/MONREC. According to the Forest Rules (2019), in establishing Reserved Forest, MONREC appoints a responsible

<sup>2</sup>The REDD+ Programme Myanmar (no date) defines forests with more than 40% canopy cover

as “closed forests,” while those with between 10% and 40% canopy cover as “open forests.”



government officer and sets up a scrutiny body including local (ethnic) communities and relevant experts to inquire into and determine the affected rights of the public on a given land and to carry out demarcation. The appointed officer is responsible for conducting an inquiry on the claims of local people's rights and is empowered to modify proposed boundaries to exclude the land where the customary rights may be applied.

On the other hand, Unclassified Forests have not yet been reserved by the FD/MONREC, although some may historically have been managed or regarded as "Coupes" under the Myanmar forest governance system. Moreover, under the current legislation, Unclassified Forests are also categorized as VFV lands, which MONLI may regard as suitable for conversion to other land use, such as agribusiness concessions (Springate-Baginski et al., 2016). Overlapped with VFV land and customary land, Unclassified Forests include conflicting objectives and interests with competing jurisdictions and ambiguous tenure. Accordingly, Unclassified Forests may represent a problematic domain for timber production from the legality perspective compared with the PFE.

### **Timber Sources and Flows**

According to the Forest Law (2018), all harvests on a commercial scale require a permit from the FD/MONREC. As sources of commercial timber, MONREC (2018) determines five broader categories (the way of log production), namely (1) Natural production forest under State management, (2) Natural Forest Logging Concession<sup>3</sup>, (3) Natural Forest Conversion, (4) Plantations, and (5) Community Forests. In addition to these sources, (6) timber confiscated by the government enters supply chains after administrative and jurisdictional procedures.

Notably, the legal framework defines destination markets (for export and domestic

uses) and forms of timber products according to the sources. For example, the Myanmar government introduced the log export ban in April 2014, and since then, Teak and other species have to be processed to export. Also, in 2017 the government decided not to use timber products derived from land conversion and confiscated timber for export (Forest Department, 2020). On the other hand, round logs from plantation forests are allowed to export after a case-by-case assessment since May 31, 2020, by Notification No 80/2019<sup>4</sup>.

### **Harvest in Natural Production Forest under State management**

This source is understood as selective logging of natural forests in specific reserved areas, mainly in Reserved Forests, but also in Protected Public Forests and Unclassified Forests under the disposal of the FD/MONREC.

The state-owned forest enterprise (Myanmar Timber Enterprise: MTE) has the sole rights for harvest from Natural Production Forest and sales of logs, as the designated state-owned enterprise for the forestry sector. The FD is responsible for selecting trees to be harvested and monitors the on-site logging activities of the MTE. Also, the FD conducts a post-harvest assessment with the MTE to ascertain the MTE's compliance with the logging regulations.

Under this form of harvest, a reserved area is divided into 30-compartments and harvested annually along with the District Forest Management Plan, following the annual allowable cutting (AAC), which limits the maximum annual exploitation within a given forest compartment. The FD determines the AAC based on the inventory in sampled forests every ten years, a felling cycle of 30 years, and minimum girth limits (Springate-Baginski et al., 2016; MONREC, 2018). This scientific forest management system is termed the

<sup>3</sup> There are no Natural Forest Logging Concessions currently granted (MONREC, 2018).

<sup>4</sup> There is no case of export of the logs from the plantation to date.



Myanmar Selection System (MSS). The specific and permanent number is allocated to each compartment<sup>5</sup>, and all commercial logs extracted under the MSS are marked with necessary information (discussed below).

Logs from this form of harvest (hereafter MSS) are used for export and domestic consumption. Until 2017-2018, the MTE could subcontract the private sector for harvesting based on the in-kind timber allocation system, which is no more allowed. Accordingly, all logs harvested under the MSS are transported to the transit points of log distribution (MTE Agency depots). At the depots, the MTE classifies and separates logs for transporting to MTE Export Department depots in Yangon and for local sales through open tender (auctions). At local auctions, logs are sold for the private-sector wood-based industries that process and sell timber products for domestic markets (Banikoi et al., 2019). At Yangon depot, the MTE measures logs to determine their final sawing grades (SG)<sup>6</sup> and holds auctions for the private industries, mainly for export

purposes. Generally, most harvested Teak is sold in log form to the private industries at auctions. The MTE processes about 25% of the harvested Teak into semi-finished and finished products, then sells them to the private-sector industries (ibid.). The World Bank (2019) reports that the MTE has been involved in direct export until recently.

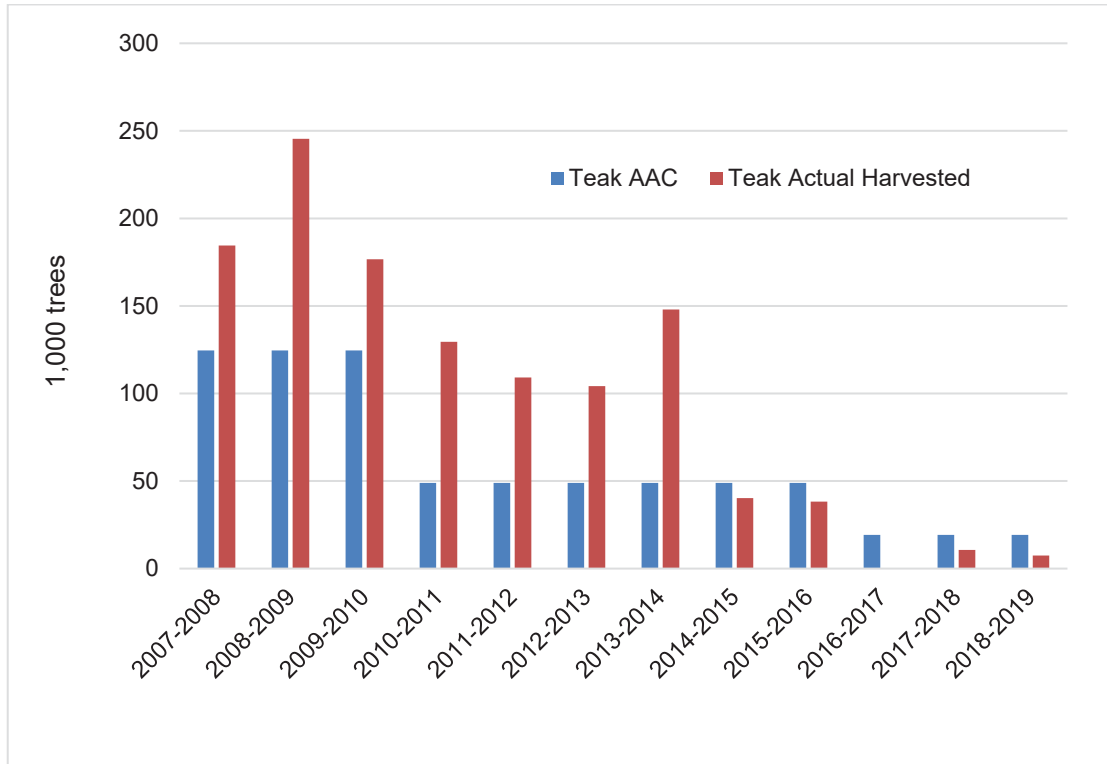
Notably, the FD periodically publishes the AAC and annual logging outcomes under the MSS to the public. The AAC and logging data are divided into Teak, and other hardwood species. Figure 3 indicates serious over-extraction of Teak above the AAC until 2013-14<sup>7</sup>. However, a lack of commercially available Teak due to the past over-harvesting and the policy shift towards sustainable forest management led the FD to reduce the AAC substantially. The MTE also lowered the harvesting amount within the AAC from 2014-2015 (Figures 1 and 2). The current AAC is set at 19,210 trees for Teak and 592,330 for other hardwoods, and the MTE harvested 9,454 trees (corresponding to 14,943 hoppus tons) of Teak during 2017-18, reaching solely 49% of the AAC

<sup>5</sup> An example of the compartment number is "Sanda RF (89)". RF stands for Reserved Forest, and this compartment is numbered as 89th compartment within the Sanda Reserved Forest.

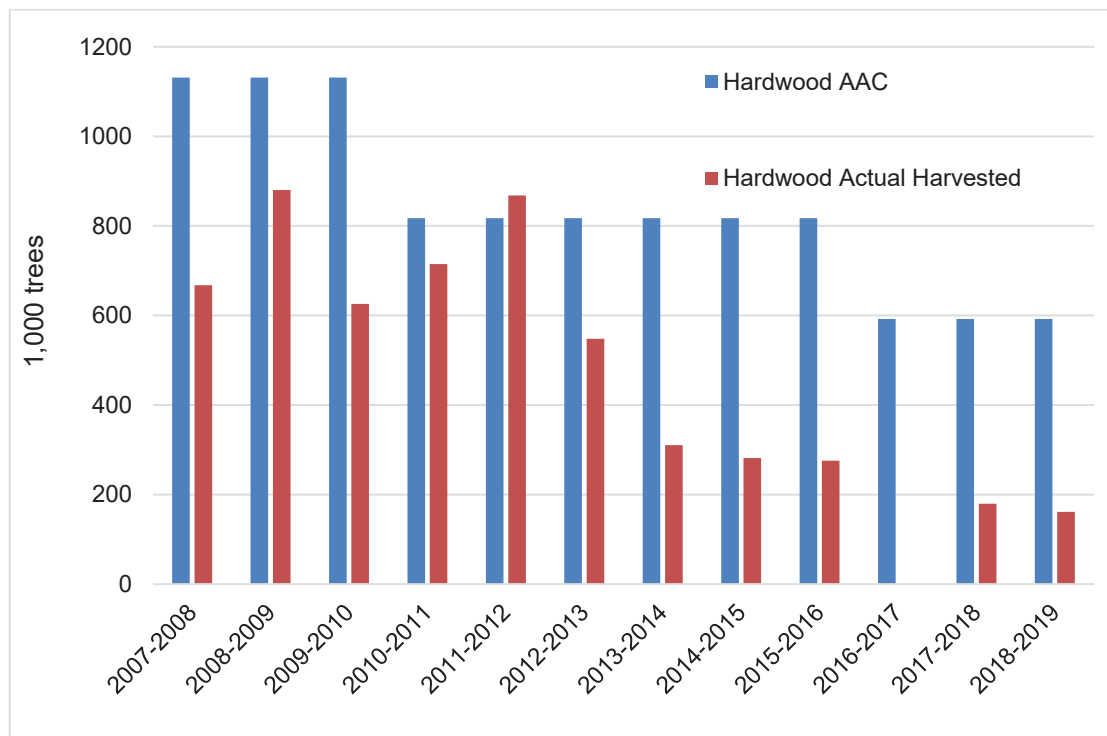
<sup>6</sup> Grades vary from SG7 to SG1, while the highest grade nowadays is SG4

<sup>7</sup> This large gap between the AAC and actual harvest volume might be caused to some extent as the harvest from Natural Forest conversion (development land-use projects) was counted into the total production, although the logs under such development projects were outside the AAC frameworks.





**Figure 24-1** AAC and actual harvested teak trees in number  
Source: Forest Department (2020) and Than (2020)



**Figure 24-2** AAC and actual harvested hardwood in number  
Source: Forest Department (2020) and Than (2020)



### Natural Forest Conversion

Timber is produced by converting natural forest land for other land use objectives, such as oil palm plantations, mining, and infrastructure development. Such forest conversion is allowed within the PFE and Unclassified Forests, but presumably, it has occurred mainly in Unclassified Forests. The VFV Management Law regulates land conversion in VFV land, allowing up to 50,000 acres (20,234 ha) to be leased up to 30-years to private-sector investors, government entities, etc.

MONREC authorizes forest conversion, and the FD assesses the number of trees and volumes in a given area. Like harvest under the MSS, the MTE is responsible for the harvest and sales of logs (MONREC, 2018). However, timber production from natural forest conversion is not subject to the AAC framework. After harvest, commercial logs are marked to collect royalty. In 2017, MONREC decided not to use timber from the forest conversion for export. Since then, timber from this modality has been used only to feed domestic markets.

Our survey could not identify how many logs have been produced from the conversion of natural forests. Notably, Woods (2015) points out that the Myanmar government does not systematically collect the amounts of timber produced from agribusiness concessions, with a few exceptions. On the other hand, several studies suggest natural forest conversion as an important timber source. For instance, FAO-EU FLEGT Programme (2017) estimates that timber from land conversion accounted for around 16% of total extracted volumes in 2014-2015 and 8% in 2015-2016. Furthermore, the World Bank (2020) identifies more than 3 million m<sup>3</sup> in 2018 as a gap between harvested volume under the MSS and apparent total consumption (exports plus domestic use). It points out that forest conversion for agriculture and other development projects and informal and illegal harvests filled mostly this supply

gap. Also, Springate-Baginski et al. (2016) estimate that nearly 10,000 trees (more than 25,000 hoppus tons) were harvested to convert Unclassified Forests in Kachin state in 2013-2014.

### Plantation

About 30,000 ha of plantations have been established annually since 1984 for commercial, industrial, village supply, and watershed management objectives (Forest Department, 2020). Recently the government has strengthened promoting commercial timber plantations to reduce timber extraction from natural forests while meeting the demand. Since 2019-2020, annual Teak production has been targeted at 50 % from natural forests and 50% from plantations (MFCC, 2020b).

Commercial plantations need to be registered and harvested under the FD's approval and procedure. After harvest, commercial logs are marked to collect royalty. There are two types of commercial-scale plantations according to ownership types:

#### *State-owned commercial plantation*

State-owned commercial plantations have been established within Reserved Forest or Protected Public Forest. Annually, the FD and the MTE decide the number of Teak and other species to be harvested from State-owned plantations. As administrated separately from Natural Production Forests under the MSS, plantations are not subject to the AAC setting. The MTE has sole rights to harvest and sell logs. Those logs are distributed under the control of the MTE, the same as the timber flow from the MSS.

The Forest Department (2020) reports that the area of state-owned commercial plantations amounts to 491,403 ha as of 2018. However, its production was started recently from 30 years of age and above plantations. According to the MTE's



presentation<sup>8</sup>, Teak log production from state-owned plantations reached 1,509 hoppus tons (equivalent to 2,720.73 m<sup>3</sup> or 1,258 trees)<sup>9</sup> in 2018-2019 and 2,992 hoppus tons (equivalent to 5,394.58 m<sup>3</sup> or 1,995 trees) in 2019-2020. These amounts correspond to 13% in 2018-2019 and 59% in 2019-2020 against Teak production from the MSS, respectively.

#### *Private plantation*

In 2006, the government allowed the private sector to establish Teak and other hardwood plantations to accelerate the forestry industry. The legal frameworks have created the rights and opportunities for the private sector to harvest timber, transfer, produce value-added products and commercialize them.

Land for private plantations is available either by the PFE and VFV land lease or in large private lands under the authorization of the FD. As of 2018, the private sector has established 13,127 ha of Teak plantations and 16,220 ha of non-Teak forest plantations (Forest Department, 2020). However, private plantations are still at an early age, and exports have not yet been realized.

#### **Community Forests**

The revised Community Forestry Instructions (CFI) issued in 2019 has granted the community forest users groups (CFUGs)<sup>10</sup> trees and forest land tenure rights for an initial 30-year period, including harvesting and commercializing timber for export purposes. The scheme includes managing existing natural forests and establishing new plantations.

The community forests are found mainly in Protected Public Forest while being allowed within Reserved Forest, the buffer zone of Protected Areas, and even Unclassified Forests on VFV land. Since its introduction in 1996–1997, the scheme developed slowly, amounting to 49,216 ha in 2013-2014. Then the area has drastically increased, resulting in the establishment of 289,161 ha, covering 5,426 CFUGs (138,179 members) as of December 2019 (Forest Department, 2020). However, no community forests have begun commercial harvesting for exports to date.

#### **Confiscated Timber**

Confiscated timber can enter legal supply chains to fulfil the domestic need for timber but cannot be used for export purposes since 2017. The FD keeps the confiscated timber until the court determines the sentence (Rand et al., 2019), then it is delivered to the MTE or sold by the FD to the public.

The FD/MONREC has made efforts to prevent and prosecute illegal forestry operations and trades, and the FD reports all confiscated cases of illegal logging.<sup>11</sup> Between 2016 and 2020, more than 40,000 hoppus tons of timber were seized annually by the FD and other related departments (Japanese Forestry Agency, 2019).

#### **Timber Supply Chains and Control**

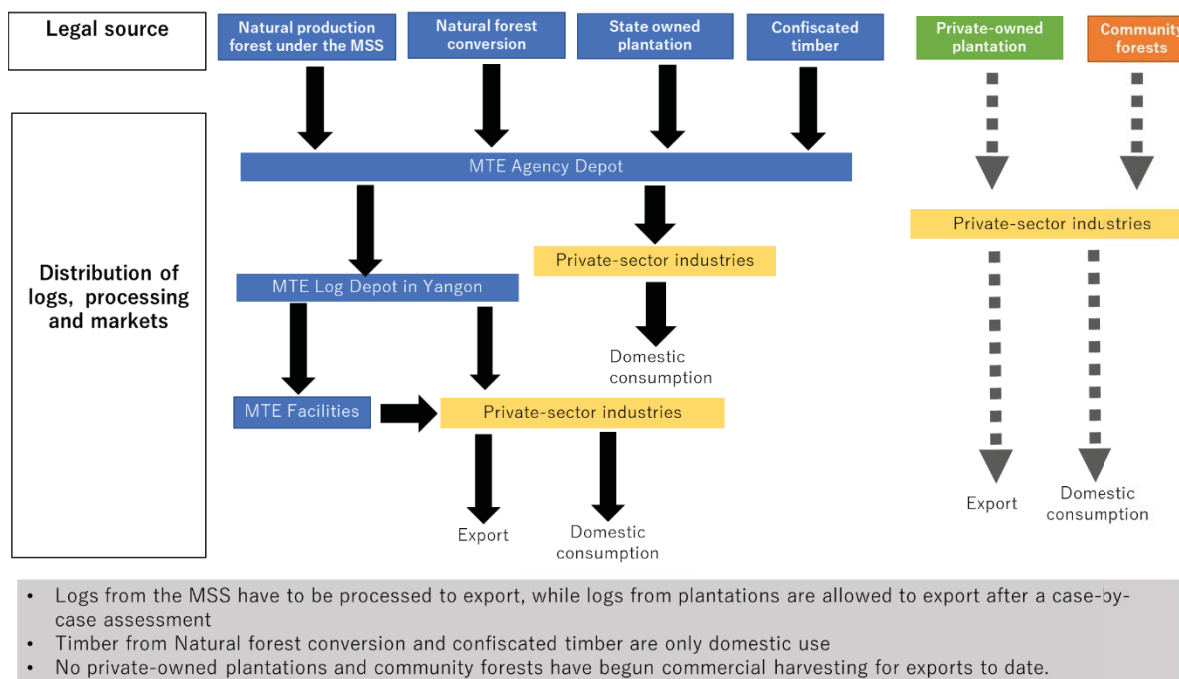
Based on the previous section, Figure 3 illustrates timber supply chains defined by the legal frameworks, including timber sources, actors, and how logs are distributed and used (i.e., domestic consumption or export purposes).

<sup>8</sup> MTE (n.d) Teak Marketing, Exporting & Market Situation (Provided from the MFCC)

<sup>9</sup> MTE's conversion rates: 1.8027 m<sup>3</sup>/hoppus ton; and for teak 1.2 hoppus tons/tree (prior to 2018) and 1.5 hoppus tons/tree (since 2019)

<sup>10</sup> CFI (2019) determines CFUGs as a group formed by households who have lived continuously for five years in or within 5 miles of the periphery of the forest.

<sup>11</sup> <https://www.forestdepartment.gov.mm/>



**Figure 24-3** Timber sources and supply chains in Myanmar

Source: MONREC (2018), ICIMOD (2019) & Japanese Forestry Agency (2021)

### Overview of Current Timber Sources and Supply Chains

For commercial purposes, the current timber sources are Natural Production Forest under the MSS and State-owned plantations and probably Natural Forest conversion. The MTE is responsible for the harvest, distribution, and sales of logs from these sources and processes some portions. Private industries process logs purchased from the MTE and export processed products or sell them for domestic use.

Notably, the destination market and the forms of products are different by source. For example, logs from Natural Forest conversion are domestic use only. On the other hand, logs from other sources are used for both export and domestic consumption. Notably, logs from the MSS need to be processed for export, while those from plantations can be exported case-by-case assessment.

To assist traders in demonstrating that the timber was legally sourced, MONREC published the CoC Dossier in 2018 as a part of efforts to establish the timber legality assurance system. It describes 30 detailed steps of the timber supply chain under the

MSS, from the AAC setting to product export, and gives examples of documents/forms used at each step with English translation. By making information on supply chains and associated documents to the public, the CoC Dossier can be viewed as a strong commitment of the government to promote transparency in timber supply chains. Also, the transparency is addressed by the publication of the AAC and the actual harvest volume from the MSS and plantations. While some studies such as Forest Trends (2021) and the World Bank (2020) point to uncertainty or discrepancies in production data, the periodic disclosure of production volume helps to demonstrate the government’s efforts to account for their forest management and monitoring towards legal and sustainable forest management.

On the other hand, harvest volume from Natural Forest conversion has not been opened to the public, which undermines the government’s efforts to improve transparency in timber production and supply chains. Furthermore, the fact that issues of Natural Forest conversion are not well determined in the provision of the Forest Law (2018) and the Forest Rules



(2019) also can increase concerns. International stakeholders may see the absence of production data and unclear framework as a lack of transparency and weakness of the government control over timber production and flows.

### **Mechanisms and tools to control and monitor timber supply chains**

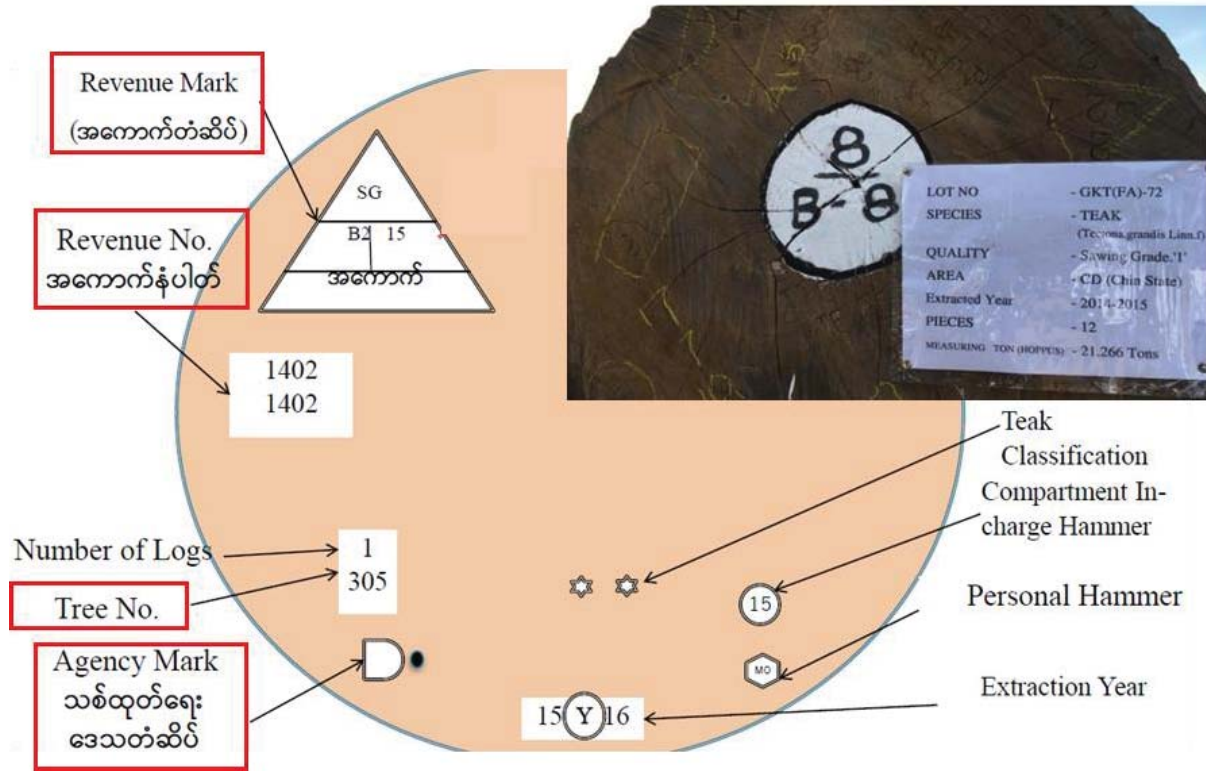
Currently, Myanmar applies physical marking and paper-based systems that monitor and control the timber production and supply chains.

#### *Physical marks on logs*

The Forest Law (2018) stipulates that "*a person who has obtained permission for extraction of forest produce shall affix the mark after measuring in the manner prescribed or affix the property mark which has been registered.*" Indeed, each MTE Extraction Agency has its hammer registered by the FD. Also, the Forest Rules (2019) defines that the private marking hammer or the stamp of the community forest shall be affixed on the logs respectively in the extraction of timber from private plantations or community forests. In addition, several other marks are

placed on logs harvested commercially, which help identify logs, such as species, grade, district of origin, and extraction year.

Figure 24-4 shows an example of such marks on a log produced from the MSS. In addition to the MTE Agency Mark, the revenue mark and tree number provide essential information to track the origin of harvest. As mentioned above, logs harvested commercially are subject to levy. For this purpose, after the FD and the MTE jointly measure logs at log landing points, the FD places the revenue mark and number, and records them. An example of the revenue mark is given in Figure 24-4 as "SG/B2/15", whose first two letters (SG) stand for "Sagaing" region, the following letter and number (B2) indicate "district" and "township", and the last number (15) represents "the year 2015 (harvest year)". The revenue number (e.g., 1402 in Figure 24-4) is allocated consecutively for all logged compartments within a given township. The standing tree number (e.g., 305 in Figure 24-4) is sequential for all marked trees to be harvested per compartment.



**Figure 24-4** Marks on bucked log  
 Source: FAO-EU FLEGT Programme (2017) and the picture taken by the MFCC

The marks are visible until processing logs. In other words, supply chain actors, including the private-sector industries that buy logs from the MTE, can visually identify the origin of harvest at a township level. However, the marks may sometimes be difficult to read due to being partially visible or missing (FAO-EU FLEGT Programme, 2017).

*Paper-based information system to monitor supply chain*

Based on the CoC Dossier published by MONREC (2018), Table 24-3 summarizes key documents/forms used at each step in the timber supply chain originating from the MSS. It describes types of recorded information that help identify the origin of logs and indicates how these are transmitted to the next step along the timber supply chain.



**Table 24-3** Key documents and information included in timber supply chain from log landing to private processing facilities

Step	Document/ For	Description	Species name	Log dimensions	Revenue Mark	Tree no.
Log measurement at the log landing points	Measurement Book	<ul style="list-style-type: none"> <li>Record measurements of harvested logs</li> <li>Sent to the MTE Agency Depot prior to the log transportation</li> </ul>	Yes	Yes	Yes	Yes
Transportation of logs to MTE Agency Depot	Transportation document	<ul style="list-style-type: none"> <li>Accompany to logs</li> <li>Revenue mark is not included, but contains information of the MTE Agency and the compartment in which the logs were harvested</li> </ul>	Yes	Yes	Unidentified	Yes
Receiving logs at MTE Agency Depot	Register Book	<ul style="list-style-type: none"> <li>Register log information by truck, compartment and species</li> </ul>	Yes	Yes	Yes	Yes
Log transportation to MTE Depot in Yangon	Transportation document	<ul style="list-style-type: none"> <li>Accompany to logs</li> <li>Trucking slip is used for transporting logs by truck, while AT, AU, and AS forms are for other transport means (barge, raft and train)</li> <li>Revenue mark is not seen in Trucking slip, but it includes information of the MTE Agency and the compartment</li> </ul>	Yes	Yes	Unidentified	Yes
Receipt of logs at MTE Yangon Depot	Register Books	<ul style="list-style-type: none"> <li>Register serial number of transportation documents, Depot entry number, Depot of origin, and lot number which logs are assigned for sale</li> </ul>	Yes	Yes	No	Yes
Sales of logs to the Private sector	Specification and other sales documents	<ul style="list-style-type: none"> <li>Prepared by the MTE for log sales and attached to logs</li> <li>Include lot number, Depot, Agency of origin, and buyer.</li> <li>Since 2017, include information on the revenue mark and the tree number</li> </ul>	Yes	Yes	Yes	Yes

*Author's own compilation based on the CoC Dossier (MONREC, 2018)*



Species names and log dimensions are recorded at each step, from log landing points to sales of logs to private buyers. Recording such information at each step enables the FD to monitor the overall movement of logs based on a systematic understanding of inputs, outputs, and accumulations at each point.

The revenue mark informs the township where a given log was harvested, and the tree number indicates individual tree identification within a given compartment. While the revenue mark may be missed in some documents/forms (Table 24-3), notably since 2017-2018, the revenue mark has been recorded in "Specifications," which is used for the sales of logs at the MTE Log Depot in Yangon to private industries. This means that currently, private industries can identify the origin of logs at a township level.

It is important to note, based on on-site visits, Sloth & Htun (2020) conclude that it is possible to trace back from log depots at sawmills to the district of origin using the relevant forms and documents combined with the hammer marks on logs. Nevertheless, it may be necessary to ensure that all documents and forms register the revenue mark to hold the accountability of legal origin at each step and show links between them, from transporting logs from forests to sales to private buyers.

The revenue mark system is applied to commercial log extraction from all sources, identifying the origin of harvest at a township level. However, the revenue mark (e.g., SG/B2/15) does not distinguish the source (i.e., Natural Production Forests under the MSS, State-owned plantations, and Natural Forest conversion) where logs were harvested. Indeed, Sloth & Htun (2020) report that it was impossible to confirm whether the logs originated from plantations or natural forests. This may be

explained that the revenue mark system was developed to collect harvest royalties as its name suggests and does not intend to trace the origin of harvest.

#### *Segregation at MTE depots*

Generally, logs are sorted, compiled, and traded according to their quality (grade). In Myanmar, one lot consists of logs of the same grade composing a minimum of ten pieces<sup>12</sup>. Notably, the MTE (2017) declared that "*logs from same harvesting area would be piled to one lot in order to clarify the source of timber origin for logs which would be extracted in 2017-18 and forward*". This statement gives a positive signal to buyers who want to ensure the origin of logs. Nevertheless, it should be noted that the MTE's focus is on "harvest location" and not "timber source (i.e., the MSS, State-owned plantations, and Natural Forest conversion). In addition, the MTE's efforts may face the following challenges. First, as mentioned above, to guarantee a better economic return, one lot needs to be made up of logs at the same grade. Secondly, valuable species of larger size, such as Teak, are found in relatively small proportions in natural forests (Kollert & Kleine, 2017). Thirdly, the FD has drastically reduced the logging intensity under the MSS (see. Figures 24-1 & Figures 24-2). These make it challenging for the MTE to compile lots of quality logs from one area. Accordingly, the MTE likely has to gather logs of different grades, which lowers the grade of lots on average, leading to an economic disadvantage for the MTE. In addition, this attempt may also present a problem for buyers in obtaining quality logs.

#### *Monitoring and control of processing at private industries*

The CoC Dossier describes the procedure at the stage of processing logs in the private industries as below. First, the FD inspects the logs against the attached documents

<sup>12</sup> In the Myanmar Grading System, Sawing Grade (SG) 1 is the highest log quality, followed by SG2, 3, and the lowest 5 to 7.





when private industries receive logs from the MTE. Then, private industries have to obtain a permit to process the inspected logs from the FD. Notably, MONREC has determined the conversion ratios from round log to product per Teak and other species. After processing, private industries have to report the production amount to the FD. In addition, when private industries export their processed products, the FD examines the products to determine whether possible unspecified logs have entered production.

These procedures enable the FD to observe the movement of logs and timber products to the point of export. By systematically monitoring and registering incoming logs, outturn products, and accumulating volumes at all private industries, the FD can have overall mass-balance control to avoid entering unknown-sourced logs in the timber supply chain.

However, the CoC Dossier does not explain the procedures and control measures at the secondary processing stage (e.g., transporting sawn timber from an industry to a downstream one and processing it into finished products such as furniture). Indeed, the FAO-EU FLEGT Programme (2017) concludes that tracking input materials through production to the final product is not addressed in the Myanmar system. Also, it does not describe the procedures for processing logs at the MTE facilities and sales of their semi-finished products to the private industries.

## Conclusion

For producer countries, the potential to participate in expanding regulated markets rests on the national ability and commitment to hold accountability for the legal origin of timber products. Given this understanding, the Myanmar study has discussed its forest classification, timber sources, supply chains, and measures to support tracking and ensuring the legal origin of timber and explore opportunities

and constraints to promote legal timber production and trade.

In Myanmar, timber is legally harvested in the PEF and Unclassified Forest. While the harvest volume from Unclassified Forest is likely smaller than from the PEF, Unclassified Forest may represent a problematic domain for timber production from the legality perspective. First, overlapping jurisdictions and competing objectives over Unclassified Forest may hamper effective forest management, monitoring, and law enforcement. Second, the lack of robust demarcation procedures and opportunities to consider local people's rights may weaken claims for the legal basis. Hence, the current measures to control and trace supply chains focusing on the origin of harvest by location (at a township level) may need to consider the forest types.

The current timber sources at a commercial scale are Natural Production Forest under the MSS and State-owned plantations and probably Natural Forest conversion, all of which are managed by the MTE. The issue of transparency in timber production in Myanmar has been enhanced by the disclosure of planned and actual harvested volume from the MSS and State-owned plantations. On the other hand, the absence of available production data from Natural Forest conversion and its unclear framework compared with other timber sources may undermine the overall efforts of the forestry sector in Myanmar to increase transparency over timber production and distribution.

Currently, Myanmar applies physical marking and paper-based systems that monitor and control the timber production and supply chains. The study has identified increased efforts and several measures by the government to improve transparency and traceability along the timber supply chain. For instance, the publication of the CoC Dossier is remarkable in this regard. Also, the MTE's attempt to implement a segregation system and include the revenue



mark in the sales document helps track the legal origin of timber. However, the study has also identified issues to be considered. First, given the difference in the markets and allowed product forms to export by timber source, it is crucial to distinguish and demonstrate the origin of harvest not only by location (i.e., township) but also by timber source and forest type from which timber was harvested. Secondly, the current system enables trace logs from log yards of private industries to a township of harvest. However, it may be necessary to enhance these ongoing initiatives and measures. For instance, the scope of the CoC Dossier could be broadened from the current focus on the MSS to other timber sources, as well as coverage of products (from the current focus on logs to processed and finished products). Such effort can promote legal timber production and trade while enhancing transparency and traceability of overall timber supply chains and delivering positive signals to concerned actors.

These findings and discussions include lessons for producer countries to enhance the production and trade of legally harvested timber products. Firstly, the accountability of the legal origin of timber products needs to consider not only locations where timber was harvested but also focus on the types of timber source and forest since each source (e.g., selective logging, forest conversion, and plantations) and/or forest type may associate with particular risks, considerations, and implications for a legal basis. Also, Myanmar's case illustrates several measures to increase traceability and transparency of legal origin. However, the case indicates that such efforts may need to be undertaken with the ongoing forestry sector reform and business practices. Generally, the distribution and sale of timber are based on quality and quantity and not on legal origin. Hence, the supply chain management was not originally designed to trace the origin and inform concerned actors, especially downstream businesses, about from which a product comes. At the same time, demand-side countries need to understand the situation

and challenges that producer countries may have to address these issues.

Lastly, there is a growing demand for not only legal timber products but also those that are sustainably harvested in the context of achieving sustainable development goals and climate change mitigation, resulting in more attention paid to the origin of the product (e.g., from which forest and how timber is harvested). Accordingly, together with legal and sustainable forest management, establishing transparent and traceable timber supply chains will provide timber producer countries with more opportunities to participate in global markets while addressing global environmental issues.

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