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Proximate and Underlying Causes of Illegal Timber Trade in Uganda

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Additional information is available at the end of the chapter

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Abstract

Uganda has policies and laws that can foster legal timber trade. This chapter reviews the key sources of timber and current production channels in Uganda. It describes policies and laws governing timber trade and challenges encountered in the quest for legal timber trade. We also show the underlying and proximate causes of illegal timber trade and its impacts on livelihoods, environment, and economy. The sources of timber in Uganda were previously the government-owned forest plantations and natural forests which have dwindled. There is a timber deficit and this has proliferated illegal trade in timber which affects national and local government revenue and forest degradation. Formal, informal, and a mix of formal and informal systems are the main channels of timber production. The responsible agencies that are mandated to ensure legal timber trade are engulfed by institutional weaknesses and socio-cultural and political landscape that is riddled with dishonesty, impunity and lack of transparency. There is need for more engagements to build momentum for promoting legal timber trade and enforcement of rule of law. This can be attained through improved inter- and intra-institutional collaboration, improved accountability and creating incentives for legal timber trade.

Keywords: Timber trade, illegal logging, Uganda, forest governance, forestry policy

1. Introduction

Trade in illegal timber is one of the major causes of global forest deforestation through illegal harvesting operations [1]. In Uganda, the size of the timber market is difficult to estimate considering that the trade is poorly regulated and much of it is undocumented [2]. Illegal timber trade stands at 80% causing an estimated annual financial loss of 23 billion Uganda Shillings (\$8 million) through unpaid taxes [2]. Based mainly on updated data from an

assessment carried out in 2005 when the forest sector was better regulated and good quality information on the trade was available, the present sawn wood market in Uganda is estimated at 369,000m³. Most timber is consumed on the domestic market by the construction industry and in furniture manufacturing and other wood products. An estimated 80% is used for roofing with around 10% for furniture and 10% for other uses. In the past, the main sources of timber supply were the government-owned forest plantations and natural forests in the Central and Local Forest Reserves [3]. But due to overharvesting of the natural forests and the lack of enrichment planting and implementation of silvicultural practices, the supply of timber from these sources is declining rapidly. Currently, timber trade is increasingly relying on production from trees and forests on private lands.

The trade in timber from trees on private lands outside the forest reserves is poorly regulated by the District Forest Departments. Most of this timber is illegal as it does not comply with official procedures and regulations of Uganda. Regulations are not adhered to due to a combination of factors such as lack of institutional capacity in the District Forest Departments at the local government level and lack of adequate technical support and guidance from the Forest Sector Support Department (FSSD) at the national level. With the increasing proliferation of districts, many district governments in Uganda are recruiting forestry staff that are inexperienced, ill-equipped and are not well grounded in the official processes and procedures for regulating timber harvesting from private forests.

Regulations are often interpreted differently and the fees and taxes charged are not uniform among districts. Furthermore, the official tax rate of 30% of the value is widely perceived to be excessive and is rarely charged. The official forms and marking hammers required as part of the regulatory procedures are not available in most districts. In the past, the FSSD provided guidance on sustainable harvesting levels based on resource information but this is no longer provided. In most districts the role of the District Forest Officer (DFOs) in regulating timber trade is now limited to collection of taxes and fees. For these reasons, most timber originating from forests and trees outside the reserves is illegal as official procedures and regulations are rarely followed and this has negative implication on the sustainability of forests on private land.

The European Union (EU) defines illegal logging as harvesting of timber in contravention of the laws and regulations of the country of harvest. Using this definition, in line with Uganda regulations, illegal logging would refer to mainly timber cut without a licence, use of banned chain saws, and tax evasion. Regulation of harvesting in the Central Forest Reserves (CFRs) is much easier than on private land since the reserves are directly under the control of National Forestry Authority (NFA), a statutory agency responsible for all forests categorized as CFRs.

However, even in the gazetted government forest reserves, much of the timber harvested could be regarded as illegal since the harvesting is not in line with requirements of the National Forestry and Tree Planting Act of 2003, which requires that an approved management plan should be in place and that harvesting should be in line with the plan [4]. Most forest reserves do not have approved management plans at present. Approving of forest management plans is a prerogative of the minister responsible for forestry in Uganda [4]. This chapter reviews the key sources of timber and current production channels dominating the timber industry in

Uganda. We further describe policies and laws governing timber trade in Uganda and challenges encountered in the quest for legal timber trade. We also show the underlying and proximate causes of illegal timber trade and its impacts on livelihoods, environment, and economy.

2. Materials and methods

Data was collected through review of documents, key informant interviews, and focus group discussions. Documents were reviewed to determine the supply and demand status of timber in Uganda and assessing the policy and legal regime governing the timber industry. The documents reviewed included reports from responsible Government Ministries and Departments and National Forest Agencies such as national forest policies and development plans, operational plans and procedures, and legal frameworks related to forest harvesting and trade. Key informant interviews were conducted to identify existing regulatory framework describing the formal procedures for timber harvest and trade in Uganda. They were further interviewed to describe the link between framework and practice focusing on rights, obligation, and responsibilities. They were also interviewed to identify the challenges hindering implementation of existing frameworks for legal timber trade. The key informants that were interviewed included staff from state forest agencies (National Forestry Authority and District Forest Departments, Uganda Revenue Authority, Ministry responsible for forestry, statutory bodies with relevant legal mandate on forestry; Owners/managers of private forests, Timber producers associations, timber harvesters, traders and consumers. Focus group discussions were conducted with communities living near forests that are harvested and timber dealers to understand the Chain of Custody for Timber.

3. Analysis and synthesis

Narrative analysis was used to analyse and synthesize the data collected from key informant interviews and focus group discussions while content analysis was used in reviewing of documents.

4. Sources of timber in Uganda

Traditionally, the main sources of timber supply in Uganda were the government-owned forest plantations and natural forests in the CFRs. But due to overharvesting of these natural forests and the poor replanting practice after clearing the plantations, the supply of timber from these sources is declining rapidly. Currently, timber trade is increasingly reliant on production from trees and forests on private lands. The most common species for timber in Uganda are *Maesopsis eminii*, *Melicia excelsa*, *Albizia coriaria*, *Chrysophyllum albidum*, *Lovoa trichiliodes*, *Funtumia*

elastica, *Entandophragma angolense*, and *Podocarpus latifolius* [5-7]. Recently demand for timber from pine trees (*Pinus caribaea*, *Pinus patula*) is on the rise [6].

In Uganda, forest covers approximately 3,554,594 ha, representing about 17% of the total land area and 15% of the total surface area of Uganda [8]. Out of the total forest cover, 64% of the forests and woodlands are found outside the Permanent Forest Estate (PFE), on private and communal lands, and hence managed by private and local community forest owners. About 17% consists of Central Forest Reserves (CFRs) managed by the NFA, 18% consists of National Parks and Wildlife Reserves (NPs & WRs) managed by Uganda Wildlife Authority (UWA), 0.85% is jointly managed by NFA and UWA, and 0.03% is local forest reserves (LFRs) managed by respective Local Governments [9]. Within a period of 15 years, 1990–2005, the area under natural forests and woodlands had reduced from estimated 4.9 million hectares to 3.6 million ha representing a loss of approximately 1.3 million ha or a loss of 27% [8]. There is no timber production allowed in strict nature reserves but only in production zones of the reserves [10].

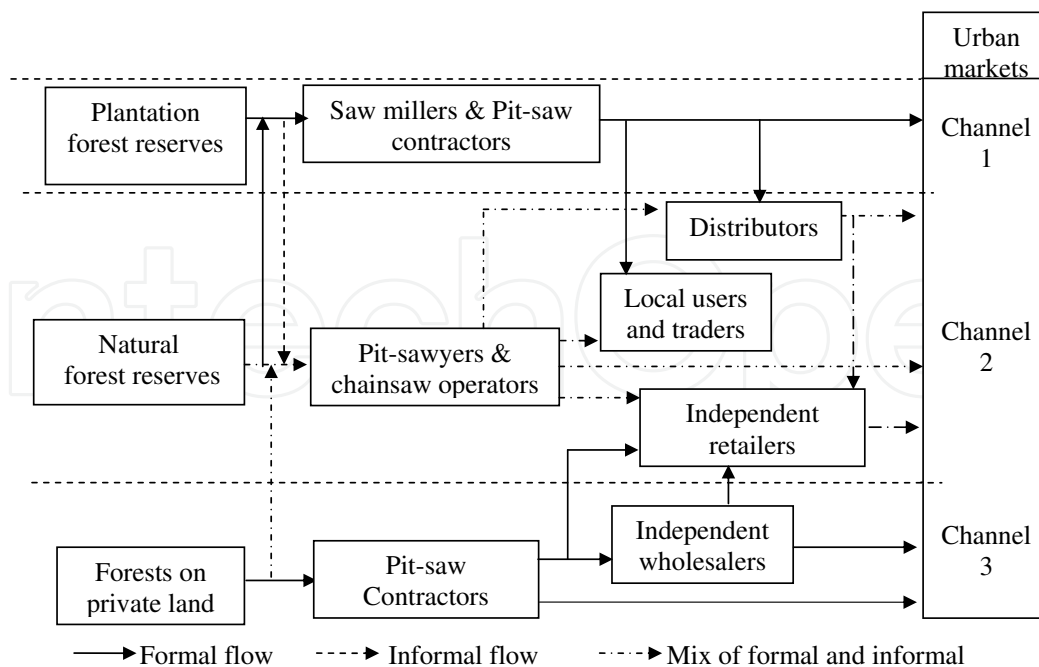
Uganda is experiencing a timber deficit, with the demand for timber and associated products fast exceeding supply. There is an increasing demand and decreasing supply of forest products from Uganda's natural forests. Because of the long rotation period/growth cycles, the supply of hardwood from natural forests cannot be expanded rapidly, resulting in further price increase. It has been estimated that Uganda needs at least 100,000ha of timber plantations just to meet the country's projected internal timber demand by 2025 [3]. According to Odokonyero [10], the size of the local timber was 240 000m³ and this was twice the sustainable annual allowable cut as per the forest plan of 2002. In 2004, replanting resumed and by 2010, approximately 40,000 hectares had been replanted by NFA in partnership with private sector forestry companies and individuals. Increasingly, the private sector is taking over the role of plantation timber production which was traditionally carried out by the Forestry Department and NFA. The plantations established in 2004 will begin to supply the Sawlog market from 2025 onwards, but until then, Uganda faces a shortage in timber supply. NFA records indicate that production from Central Forest Reserves has reduced from a high of approximately 180,000 m³ of round wood saw logs in 2008, to approximately 40,000 m³ in 2011. The figure will reduce even further as the remaining mature plantations are cleared. Assuming sawing conversion efficiency of 25%, NFA's round wood production in 2011 is equivalent to 10,000 m³ sawn wood which was just 3.5% of the estimated market supply in that year.

5. Timber production and distribution in Uganda

Currently, there are three main channels for production and distribution of timber: formal, informal, and a mix of formal and informal [11] (Figure 1).

In channel 1, timber producers mainly saw millers obtain trees from forest reserves through a public bidding system, convert them into timber that is then transported into urban markets.

In channel 3, timber producers, who are mainly pit-sawyers and contractors, obtain a one year concession to harvest timber from designated areas on private land within a District Local



Source [11]

Figure 1. Timber production and distribution system

Government that is transported for sale in urban markets. Channel 2 is the conduit for illegal timber produced by independent pit-sawyers operating either on casual licence or illegally and chain saw operators. These actors operate mainly on private land and intermittently in government forest reserves. After conversion, the timber is distributed locally or traded informally in urban areas as it is a target for confiscation by regulatory authorities. Some traders in this channel transport semi-processed wood disguised as firewood from which they extract low grade timber in end markets using saw benches [11]. The key players in timber markets are the suppliers of trees, primary processors, secondary processors, and consumers [12] and most of the timber is used by the building and construction sector. Timber in Uganda is marketed based on species, size, and quality; however, most consumers are not fully aware of the grading system [13].

6. Policies, laws, and regulations governing timber harvest and trade in Uganda

The Forestry Policy (2001) and the National Forestry and Tree Planting Act (2003) are the overarching frameworks for controlling production, movement, and trade of timber. They define the illegal and legally acceptable practices in timber trade [4]. The Act contains several specific provisions relating to timber harvest and trade but also makes provision for development of regulations and guidelines by the forest authorities. These are required to elaborate and operationalize provisions of the Act and to facilitate their implementation. The regulations and guidelines cover issues such as procedures for timber sale, licensing, and fees, the

mechanism in which forest products are to be sold from reserves, the approach and circumstances in which a license may be granted, regulations for the sustainable management or utilization of forests, grading of timber and registration of private forests. Most of these regulations have not been developed since the Act was passed in 2003 and this has been a constraint on operationalizing the provisions of the Act. However, a new system for marketing logs and timber was described in a Ministerial Notice of 2004 and this is the system currently being applied. The license fees and other charges have not been updated since the Act was passed in 2003 and the rates described in Statutory Instrument No. 16 issued in 2000 are still in use.

A number of countries have defined standards which must be complied with for timber to be considered legal. The basic requirements are that timber must be harvested, processed, and traded in compliance with national and local laws and regulations, and that the chain of custody procedures must be followed. The requirements can extend beyond forestry laws and regulations and include other national and local laws and regulations such as taxation laws, environmental regulations, labour laws, and health and safety laws.

There are currently three regulatory instruments describing the formal procedures for timber harvest and trade in Uganda. They are a) the National Forestry and Tree Planting Act, 2003 Act, b) the Ministerial Notice issued in 2004, and c) the Statutory Instrument No 16 (forest produce fees and license order) issued in 2000. It specifies felling fees, sawmilling license fees, pit-sawyers registration fees and includes a list of species and valuation rates on which taxes on sawn timber are based. Timber harvest and trade can be regarded as legal if it complies with the provisions of these instruments. Each of these is discussed in the subsections 6.1-6.3.

6.1. Provisions of the National Forestry and Tree Planting Act, 2003 in relation to timber trade

The National Forestry and Tree Planting Act, 2003 contains general provisions requiring timber harvesting to be sustainable, but leaves the detailed descriptions of procedures, chain of custody system, and guidelines to subsidiary rules and regulations to be developed by the authorities and periodically updated. There are several references in the Act to harvesting according to regulations made under the Act. The Act makes a number of references to harvesting in line with management plans which is the key strategy in ensuring sustainability and adherence to best practices. The following sections are of specific relevance:

- Section 21 (2) specifies that in private natural forests, forest produce “shall be harvested in accordance with the management plan and regulations made under the Act.”
- Section 28 (3) requires that management plans shall be approved by the Minister or a person designated by the Minister for the purpose.
- Section 32 (1a) requires that in a forest reserve or community forest, harvesting must be “in accordance with a management plan or license granted under the Act.”
- Section 41 (1) A responsible body may “subject to a management plan, grant a license” for removing forest produce.

- Section 42 requires “fair, open and competitive process” in applications for licenses under the Act.

6.2. The Ministerial Notice, 2004

Although many of the regulations under the Act have not been developed as envisaged, the Ministry of Water and Environment in 2004, through a Ministerial Notice, described new procedures for harvest and trade in saw-logs and timber and the chain of custody procedures to be followed.

The procedures among others states that harvesting of all forest produce must be carried out under license, issued by a respective responsible body, and volume, weight and length shall be the standard units of measure. The procedure states that forest produce must be well documented and stamped to enable the Forest Produce Monitoring Unit to objectively certify chain of custody and legality of the source. A significant change introduced through this notice was the delegation of responsibility for monitoring the timber trade and law enforcement to NFA. Recognizing the widespread illegal and unregulated timber trade and the lack of capacity in the Forest Sector Support Department (FSSD), the body responsible for formulating policies and regulations of the sector, the Minister delegated the task of law enforcement and coordination of timber trade to the Forest Products Monitoring Unit in NFA. This effectively transferred the functions of timber harvesting and trade to NFA which was well funded and staffed at that time. Through this notice, the unit was designated as a “one-stop-shop” to lead the function of law enforcement with “cross-cutting powers and to serve all responsible bodies, taking into account the statutory duties of each responsible body. The NFA Forest Products Monitoring Unit was to coordinate and work with the FSSD of the Ministry, relevant security agencies, and Uganda Revenue Authority (URA) in regulating the trade. These agencies were expected “to challenge and deter illegal logging and timber trade activities and to implement a system that is simple, easy and cheap to administer, structured, institutionalised, and transparent and to put in place measures that would in due course make the process become self-regulating and self-policing.” The new procedures were expected to be simple and easy to administer and to create a chain of custody based on documentation and associated hammer marks. The procedures are still in force.

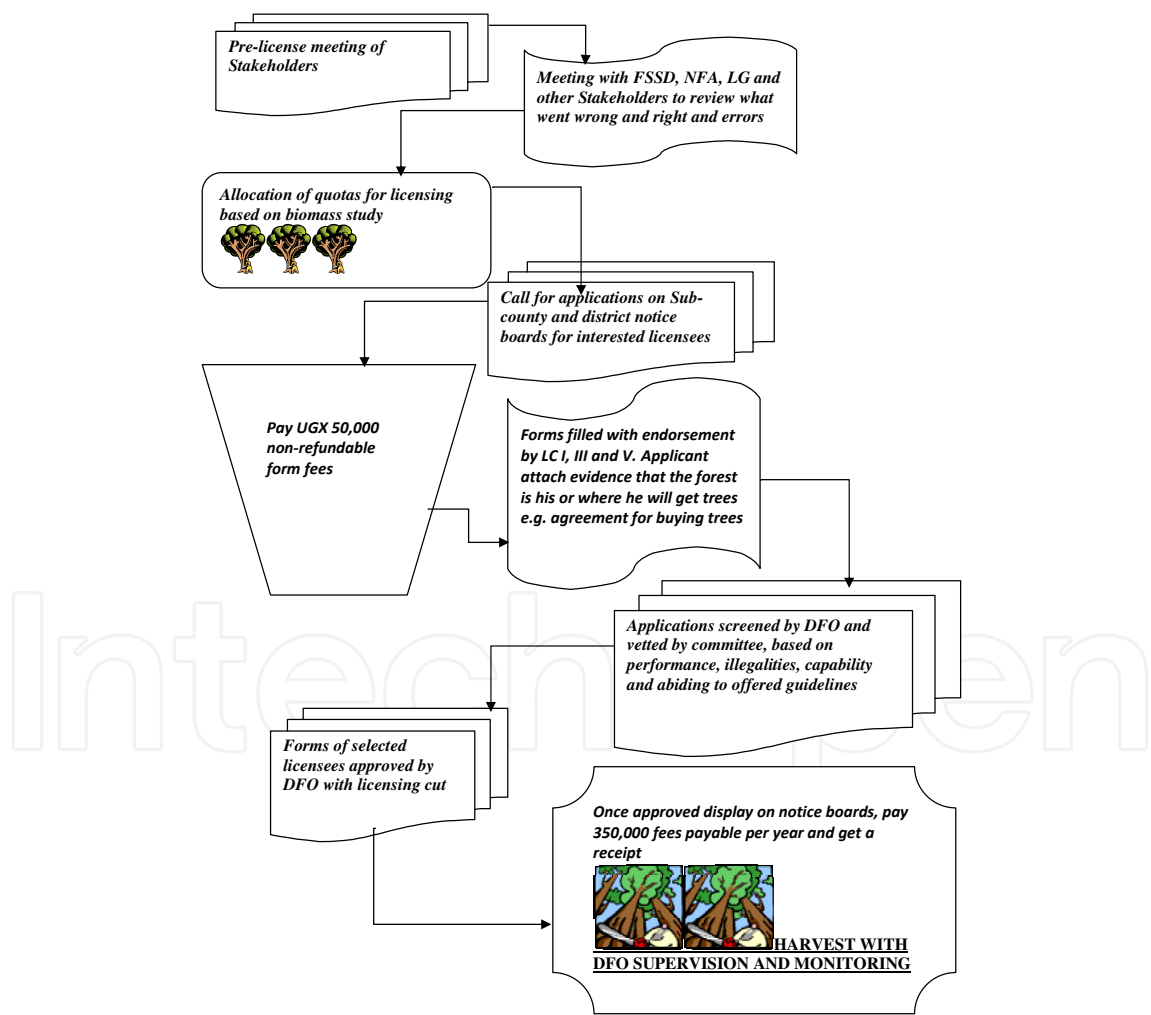
6.3. Statutory instrument No 16 forest produce fees and license order issued in 2000

The Forest Products Fees and License Order describe the forest fees and taxes. This instruction was issued by the Ministry of Water, Lands and Environment (responsible for forests) in 2000 and is still in use. It specifies felling fees, sawmilling license fees, pit-sawyers registration fees and includes a list of species and valuation rates on which taxes on sawn timber are based. The timber valuations on which the tax is levied are significantly below current timber prices. The tax rate is specified as 15% of the value of timber originating outside forest reserves. After the notice was issued, some timber dealers who were also required to pay Value Added Tax (VAT) on timber purchases complained that those below the VAT threshold were exempted from VAT charges and had an unfair advantage. The Ministry decided that an “equalization fee” of 15% would be charged which was not provided for in the Statutory Instrument and issued a directive accordingly bringing the rate of tax up to 30%. The official tax rate of 30% is now

regarded as the standard rate by most DFOs to be charged for timber harvested from trees on private and community lands. These tax rates do not apply to timber from the Central Forest Reserves which is sold by auction by the NFA.

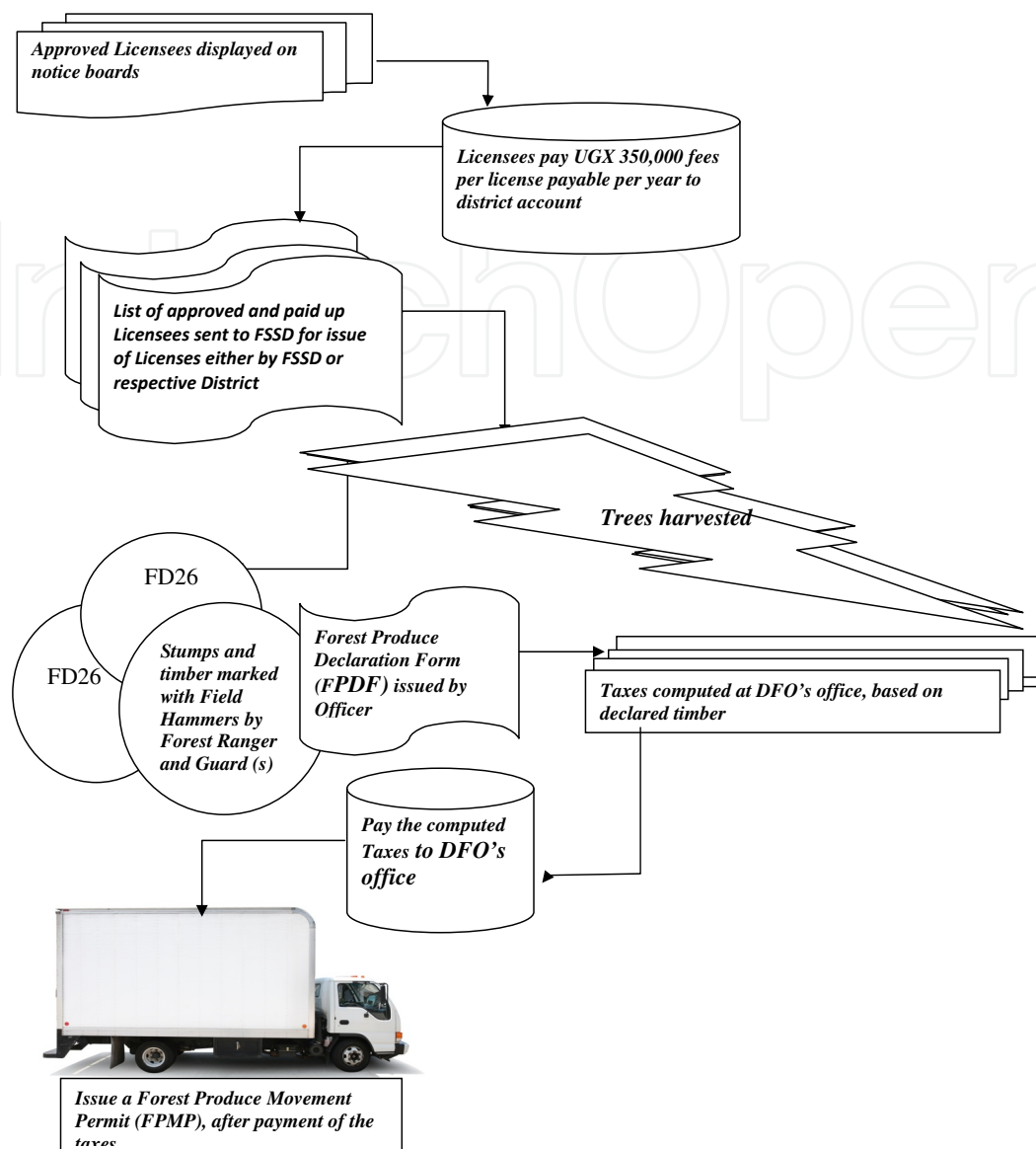
7. The Chain of Custody (CoC) for timber

In Uganda, the responsible bodies have in place a systematic tracking mechanism for timber products from their origin in the forest to their end-use. The systems are supported by implementation with institutional arrangements in the Forestry and Tree Planting Act and related policies and legislation. For the ease of breaking the bulk of the system, this book chapter presents it in two parts: at the stage of assessment, and offer of licenses and actions during the harvesting, declaration, and transport of the produce (Figures 2 and 3). However, the chain of custody is continuous and linked and is implemented in totality.



Source: [14]

Figure 2. Prescribed chain of custody during assessment and offer of licenses for timber



Source: [14]

Figure 3. Chain of custody along the harvesting, taxing and movement of timber

7.1. Conditions applicable to a license

Licenses are recognized as formal documents at the harvest and production level and are used throughout the chain of custody to certify that the products were harvested after authorization. The following conditions hold for forest produce licenses:

- i. License should be personal to holder;
- ii. The license should not be for sharing and use by more than one person;
- iii. The license is limited to use in one sub-county;

- iv. For timber harvest, use is limited to hand saws and chain saws are outlawed;
- v. The Authorized Officer should hand a list of labourers to District Forest Officer and District Internal Security Officer, for security purposes;
- vi. One license should not exceed harvest of 500 cubic meters of round wood, expected to produce 150 cubic meters of timber at about 30% recovery rate.

7.2. License fees

Issue of licenses is subject to payment of fees that are normally fixed through a statutory instrument of Parliament. Currently, payment for license fees is subject to a statutory instrument gazetted in 2000 (Table 1). The fees are relatively too low, given that the forest produce prices have increased more than three times, over the last 15 years.

Type of Fees	Computation Basis	Amount in UGX	Remarks
Non-refundable application fees	Per applicant	50,000	To eliminate unserious people
Pit-sawing license	Per licensed pit-sawyer	350,000	Abused through having one licensebeing shared by different pit-sawyers
Tax on harvested timber	Based on value of timber produced	30%	Not charged in some districts
Re-afforestation fees	Annually for each licensee	300,000	Used for purchase of seedlings a, regardless of where the income was generated. Not charged in some areas
CESS Tax	Charged per piece of timber produced	UGX 50 for soft woods	Some transporters mix up the timber and it becomes hard to differentiate types
		UGX 100 for hard woods	

Source: [15]

Table 1. Fees charged on licensing for timber in Uganda

8. Formal and semi-formal administrative systems in place for tracking legal timber

In line with the National Forestry and Tree Planting Act, 2003, a number of administrative systems have been put in place for tracking legal trade in forest products in Uganda. The

different administrative systems are outlined in the chain of custody in Figures 1 and 2. These include:

- i. Licensing the timber dealers and receipting the payments done in relation to the timber trade
- ii. Hammer marking of the tree stumps and timber after harvest
- iii. Verification of the quantities of timber harvested on a declaration form
- iv. Payment of the taxes with proof of the general receipt
- v. Clearing of the timber by giving timber movement permits
- vi. Constant patrols in the forests by district staff from the natural resources sector
- vii. Reports by Local Communities in case of any illegality.

Despite the existence of a well-defined theoretical chain of custody; the trend of events in practice changes. Some weaknesses exist within the system that renders a set of challenges to the efficiency and effectiveness of implementation arrangements. The key weaknesses include:

- i. Recommendations from Local government Council officials give blanket approval which are not realistic, for example, most indicate that the applicant is excellent and highly recommended and no disapprovals are received or suggestions for weak areas for improvement. This is because these officials do not appreciate the value of legal timber trade and those who are aware are “silenced” through rent seeking and bribes from concessionaires.
- ii. Letters of evidence of availability of trees is not accurate and realistic, as evidenced for some few cases, where field verification has been attempted.
- iii. Most Licensed pit-sawyers are dishonest. For example, one person fronts an application, which after being successful the license is used by a number of harvesters abusing the provision of licensing being from person to holder and this is exacerbated by poor monitoring of the licenses by the responsible agencies.
- iv. Most times, the evidence submitted on ownership of trees for harvesting has been found to be forged.
- v. Most often, politicians make directives that applicants have to be issued licenses, irrespective of technical guidance disqualifying or limiting some applicants.
- vi. Attempts by some harvesters to evade taxes.
- vii. Under declaration of quantities harvested to reduce on taxes to be paid.
- viii. Before, the list with licenses would be sent to FSSD, who would issue the licenses and monitor harvesting with DFO. Currently districts issue licenses with no direct involvement of FSSD and therefore there are no checks and balances in the processes.
- ix. Charcoal burning/production not taxed/licensed.

- x. No field staff based at sub-county, so no marking of trees at harvest.
- xi. Computation of taxes is a highly technical process, which makes it difficult to be delegated.
- xii. Forest agencies still use rates of the year 2000, even when the prices of forest products have more than tripled over the 15 year period.
- xiii. Limited staffing and lack of forest rangers for field verification and declaration to District Forest Officer (DFO). The DFOs relies on *good faith* of the driver/owner of timber, declaring to DFO on what he/she is carrying.
- xiv. In some districts field hammers are used for their role and that of a seal, since the district have no seal and at times shares with other districts.
- xv. License issuing officials in most cases issue licenses without knowing the biomass available in the sub-county allocated, resulting into harvesters going to other sub-counties to avoid incurring losses.

9. Weaknesses and challenges

The administrative systems for timber trade can contribute a lot to curbing illegalities of trade in forest products if they have been implemented successfully. However, some challenges are often faced in the process of implementing the different measures and they include the following:

- a. Low staffing in forestry sector and particularly the District Forest Departments.
- b. No staffing in the field to monitor activities related to harvesting of the resources.
- c. Most of the illegal timber harvesters and transporters work and transport produce at night or over the weekends, which is hard for the staff to monitor the activity, since there are no provisions for remuneration for working over weekends and beyond office hours.
- d. Local Governments do not share the revenue collected from products revenue collections and therefore their teams have no motivation to monitor illegalities of forest products.
- e. Budgetary allocation to forestry sector is low at national and local level.
- f. Inadequate funds to fuel police vehicles in case a need arises to arrest illegal timber traders.
- g. Interests by some politicians in forest produce trade, who influence the licensing process.
- h. Licensing instructions and receipts being controlled by FSSD from Kampala and sometimes causing delays.
- i. Weak laws on private forest management, while private forests have wider coverage compared to forest reserves.

10. Drivers of illegal timber trade and its impacts

Economic opportunities and jobs are limited in Uganda but timber is still available and there are traders willing to pay for the opportunity to harvest and supply lucrative markets all over East Africa. Typically, timber dealers bring the power-saws from Uganda and the local communities benefit through various administrative fees and charges and through the employment that the trade creates. Compared to other economic opportunities such as mining, timber harvesting is a relatively easy enterprise for small-scale operators to engage in.

The high demand for timber from Uganda in neighbouring countries is one of the major drivers of the trade. Through their timber trading and procurement policies, neighbouring countries therefore have the ability to improve regulation and governance of the trade by imposing a chain of custody requirement or through procurement policies and trading policies that exclude illegal timber. Procurement policies that exclude illegal timber can have a very positive impact as can be seen with the EU timber law which is already having a positive impact on the activities of the industrial concessionaires in Uganda. Since the ban on the chain sawmilling in Uganda without popularizing alternative efficient options such as timberley, logo sol, guided chain saw, etc., timber trade has continued to be dominated by illegal actors.

The main drivers of the illegal trade are:

- i. Weak institutions (in terms of human resource and finances) responsible for regulating the trade, particularly the District Forest Departments that are responsible for regulating timber harvesting from private lands and the Forest Sector Support Department which has overall responsibility for regulating the forestry sector
- ii. Obsolete and often difficult to interpret procedures and chain of custody systems that are difficult to follow at present
- iii. Lack of appreciation of the official procedures of legal timber trade at district level
- iv. Pressures from district local governments to maximize tax revenues from local forest resources
- v. Weak law enforcement at district level

Illegal timber trade has been reported by various authors [e.g. 16, 17] as one of the primary causes of forest degradation in natural forests. In Uganda this has mainly been on forests on private land where timber dealers are offered concessions to cut trees that can be converted for timber and the land is opened up for agriculture. Land owners and timber dealers rarely follow the provisions in the law and guidelines of the forest sector department hence rendering most of these forests susceptible to degradation. Concessions offered through illegal means often result into unsustainable levels of forest harvesting which may eventually lead to unprecedented biodiversity loss [18].

Illegal timber trade can lead to losses to the local and national government from under-collection of taxes and fees [19] and this may contribute indirectly to increased poverty because governments fail to have funds to support triggers of development. This is evident in many districts of Uganda such as Kibale, Kyenjojo, Hoima, and Masindi that were previously endowed with natural forests on private and reserved land but the local communities are now living in abject poverty.

The unregulated environment makes investment in efficient sawmilling machinery risky, prolonging the current inefficient and wasteful conversion of round logs to sawn wood. It also puts law abiding loggers, timber traders, and wood users at a disadvantage and cannot compete with illegal loggers and tax evaders and this may result into distortion of timber markets [18] hence reducing the economic viability of operating legally [20]. Illegally traded timber also increases the risks for investors, reducing their willingness to invest in timber processing or timber production and shrinks export market for Uganda's timber.

11. Ecological impacts of illegal timber trade

It is difficult to determine the impact of illegal timber trade in Uganda because of lack of data on the types and scale of illegal activities in the timber industry. Nonetheless, illegal timber trade has been cited as one of the drivers of deforestation and forest degradation especially forest reserves which were gazetted mainly for their high biodiversity value and provision of other environmental services [21]. In some parts of Uganda especially in the Albertine rift, illegal logging has facilitated agricultural encroachment into forest land causing loss of biodiversity and the associated ecological benefits especially sequestering carbon and water catchment protection from both private forests and reserves [22]. Primate diversity has been reported to reduce due to illegal timber trade in some forests [23]. In her studies Baranga [24] found that illegal timber trade was contributing to habitat loss and forest degradation in central Uganda. The population structure and abundance of tree species used for timber have been affected by illegal timber [25].

Trade in forest products was deemed to negatively impact on the forest through illegalities that lead to anarchic exploitation of different products, which in turn lead to deterioration of forest resources. The deforestation rate in Uganda is estimated at 1.9% annually, leading to a loss of 90,000 ha of forests per year [8]. This loss is threatening the future of Uganda's economy, which depends a lot on its natural resources for agricultural production, construction, and manufacturing various commodities. Forests are important in the protection of water catchment areas and forest degradation in the Lake Victoria Catchment Areas has resulted in the reduction of water levels in the lake, which has, in turn, led to lowering of hydro-power output at the Bujagali and Kiira power stations, Uganda's major hydro-electric power sources. This was noted to have severely affected industrial production, with growth in industrial output declining from 10.8% to 4.5% for the period 2004–2005 to 2005–2006 [26]. In turn, most manufacturers were forced to use generators, which are environmentally unfriendly and at a higher unit cost. Furthermore, degrada-

tion of forest areas directly affects the communities in the area, for example, through decline in water resources, water pollution and fuelwood, thus making the population incur other costs related to water use. This has an impact on women and children who spend a lot of valuable time searching for water and firewood instead of utilizing the time for agricultural production and other income generating activities.

12. Conclusion

Uganda has a plethora of policies and laws that can foster legal timber trade. However, most timber on the market can be described as illegal. This has implications on not only revenue in form of tax but loss of livelihoods for millions of people and the environment. The source of timber has over the years plummeted and this creates more room for illegal timber trade since the demand has also grown astronomically. The responsible agencies and duty bearers who are mandated to ensure legal timber trade are engulfed by institutional weaknesses and challenges and socio-cultural and political landscape that is riddled with dishonesty, impunity, and lack of transparency across scales. There is need for more engagement among stakeholders to build momentum for promoting legal timber trade and enforcement of legal provisions. This can be attained through improved inter- and intra-institutional collaboration, improved accountability from duty bearers, and creating incentives for legal timber trade.

13. Recommendations

- i. There is need to review systems, processes, and regulations for harvesting and trade in timber to be in tandem with the current socio-economic, cultural and political situation.
- ii. There is need to review procurement policies and laws of Uganda to provide for incentives of dealers in legal timber and sanctions for illegal timber dealers.
- iii. Ensure responsible agencies and duty bearers are transparent and accountable to the public in all timber trade activities.
- iv. Advocate for certification of timber in Uganda to promote responsible timber trade
- v. Strengthen the capacity of the forest sector department and district forest departments and other enforcement agencies to enforce the regulations and guidelines for promoting legal timber trade.
- vi. Improve inter- and intra-institutional coordination and collaboration in the enforcement of regulations and guidelines for legal timber trade.
- vii. Mobilize support of local communities and local leaders to guard against illegalities in timber trade.

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