4.2 The chainsaw supply chain in Cameroon: the northern trail

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Cameroon

Cameroon (Figure 1) has the largest forest area in Africa. Industrial logging operations export timber products to Europe, America and Asia, and informal chainsaw milling (CSM) operations supply the domestic market and many other African countries. The "northern trail" is an informal supply chain that supplies Northern Cameroon and other African markets as far as Nigeria, Niger, Chad, Sudan, Egypt, Libya and Algeria. This supply chain is organized by ethnic business networks, and represents more than 40,000 m^3/year of chainsawn timber, with a cash flow of more than 6 billion FCFA/year.[1]

Trade Networks are based on ethnic identity and provide a social structure and informal institution. They exist in the context of weak formal institutions, failing administrations and rampant corruption.

Introduction

In December 2003, our team witnessed an event that brought our attention to the Sudano-Sahelian inter-African trade of sawn timber. In the timber yard of a sawmill near Bangui, in the Republic of Central Africa (RCA), a small truck *(bachée)* was loading sawn timber of various species and of low quality (domestic trade quality). The only thing unusual was the final destination of the truck: Mauritania. That Mauritania could be sourcing sawn timber in RCA was almost unbelievable, given the road distances involved. Yet the truck was there.[2] This seemed to have important underlying consequences for forest resource management in Africa. Such distances and probable costs and risks suggested the existence of undocumented domestic and regional trades in informal sawn timber from humid African forests. In 2004 our team launched a study to investigate the existence of this northern trail. One of the authors of this article, Koffi Yeboa, followed a segment of it within Cameroon, from the forest and the chainsaws to the border with Chad (Koffi 2005).

Background

Inter-African trade has been active for centuries (Hopkins 1973) and increased after the colonial period due to improvements in infrastructure and communications (Leplaideur 1989). The trade includes formal and informal activities (Potter and Lloyd-Evans 1998).

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The informal sector is omnipresent in Sudano-Sahelian trade. It can be seen as a tertiary refuge sector,[3] stimulated by ongoing urban development (McGee 1979; Portes, Castells and Benton 1991; Santos 1979).

One of the main features of inter-African trade networks of the Sudano-Sahelian regions is their strong ethnic component. Networks are based on ethnic identity and provide a social structure and informal institution. They exist in the context of weak formal institutions, incompetent administrations and rampant corruption. These ethnic networks can secure trade relationships with the trust necessary to organize trans-national economic exchanges. David (1999), for example, has studied the onion trade from Niger through Burkina Faso to Ivory Coast. The Haoussa ethnic network constitutes of a secure yet informal international institution for dispute settlement, financial support, information sharing and trade facilitation (David 1999).

Figure 1. Map of Cameroon

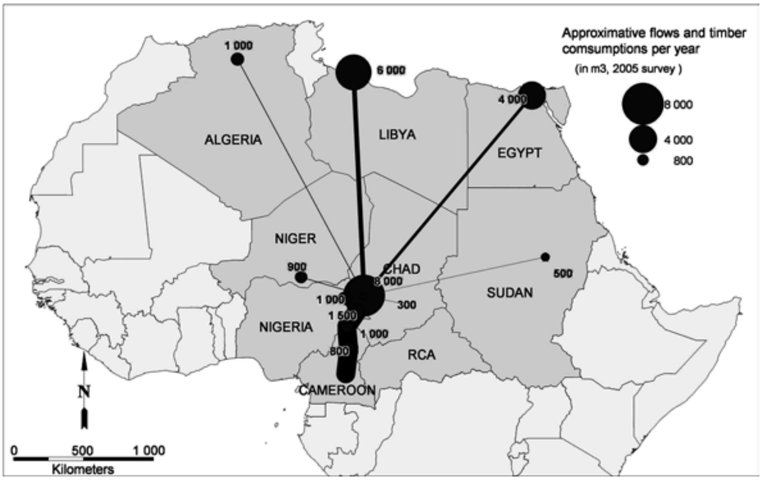
In the case of inter-African trade of wood products (timber or firewood), harvesting is essentially informal. There are many supply chains, relatively easy to identify with the appropriate methods, each answering to specific demand, transportation, production system, resource and functions (Bertrand 1989). In Cameroon, people equipped with chainsaws or mobile saws operate clandestinely in agro-forest zones, forest reserves and even Forest Management Units (FMUs). Although these activities became illegal in 1999 after a ban imposed by the Forest Department of the Environment (MINEF 2003), they did not end.

Methodology

The Forest Product Networks methodology for surveys was used.[4] It consists of semi-directed interviews, collection of data on forest products and trade, and in situ observations and measurements. In this case study, the trade chain was limited to the timber flow from Cameroon to Chad over the Kousséry-Ndjamena bridge (Figure 2). Some time was spent studying the main timber and furniture markets of Yaoundé.[5]

Figure 2. Sawn timber exported from Cameroon through the Kousséry-Ndjamena bridge (m³/year)

Source: survey in 2005



Timber trade

The North Cameroon demand for timber is not new and has been documented (Bare 1989). By the end of the 1980s, North Cameroon was a collection point for timber from Bangui and Batalimo in RCA, which then continued on to Chad, Niger, Nigeria and beyond. Nowadays, most timber comes from the humid forests of East Cameroon, supplying North Cameroon as well as the even greater demand of other countries without forest resources.

Timber, mostly from the forests bordering the Sanaga River, travels through East Cameroon to Chad. A bridge over the Logone River, which is the border between North Cameroon and Chad, connects Kousséry and Ndjamena (capital of Chad). From Ndjamena, the timber is dispatched to the rest of Chad, and to other markets as far away as North Nigeria, Libya and even Algeria (Figure 2). The annual volume crossing this border point has been assessed at 40,000 m^3/year of sawn timber, equivalent to more than 130,000 m^3/year of roundwood (Koffi 2005). This assessment is conservative; actual quantities could be higher.

According to our interviews, the domestic and inter-African trade of sawn timber has existed for many years. Before 1998, it was not an informal trade and the wood was officially bought from several forest companies. After the 1998 reform of the Cameroon forest sector, the licensing criteria changed, and since none of the forest companies that supplied the northern trail were able to meet the new conditions, they shut down. Many informal chainsaw operations then developed to meet the demand. The demand for sawn timber in north Cameroon is limited (800 m^3/year in Ngaoundéré; 1,000 m^3/year in Garoua; 1,500 m^3/year in Maroua); the real engine of the trade is the demand from other countries, including Sudan, Egypt, Niger and Algeria. The timber supply is highly seasonal (Table 1), because the rainy season (from June to October) complicates felling operations and transport.

Table 1. Seasonality of the sawn timber trade

season	dates	total annual sales (%)	market price in Belabo (FCFA/m^3)
high	November–January	46–50	50,000
intermediate	February–May	around 30	n/a
low	June–October	16–20	27,000

Source: adapted from Koffi 2005, 38

Three main types of sawn timber are found in the domestic markets of North Cameroon:
- sawn timber rejected from industrial sawmills (low quality);
- dense and semi-dense hardwoods (such as bubinga, niangon, moabi, sapelli, iroko and bibolo) from chainsaw operations; and
- light and white woods (such as ayous, fraké and fromager) from chainsaw operations.

This wood supplies the domestic construction and furniture markets. The northern trail is used almost exclusively for light and white woods. Table 2 compares the prices of white woods (ayous) in eight towns in Cameroon.

Table 2. Prices of light white woods

location	price (FCFA)	species
Douala (before export)	150,000–240,000 FOB	ayous
Yaoundé (domestic trade)	77,000	ayous, fraké, fromager
Bertoua and Belabo (domestic trade)	55,000–62,000	ayous, fraké, fromager
Ngaoundéré (domestic trade)	65,000–70,000	ayous, fraké, fromager
Garoua (domestic trade)	75,000–80,000	ayous, fraké, fromager
Maroua (domestic trade)	125,000–132,000	ayous, fraké, fromager
Koussféry (domestic trade)	135,000–140,000	ayous, fraké, fromager
Ndjamena (Chad)	150,000–156,000	ayous, fraké, fromager

Source: adapted from Koffi 2005, 30

The people

The traditional trading networks of West and Central Africa were, and still are, dominated by the Haoussa, Mandingue, Yorouba, Bamiléké, Peulh, Mourrides, and Alhazaï ethnic groups (Egg, Igué and Coste 1988). This specialization also applies to the informal production system of chainsawn timber in Cameroon. For example, the Ibos originating from Nigeria dominate the domestic market of Douala. The Banens originally controlled the domestic market of Yaoundé, but with the economic difficulties and the increase of informal activities, the Bamiléké, Bety and other people also joined the business (Koffi 2005).

Each segment of the production system on the northern trail is controlled by different groups. Chainsaw operations are conducted by the Maka, Boli, Lossou, Mezimé and other people from the forest. The Aladji traders[6] are the key actors of the transaction system, between the chainsaw and the export phases. They have a prestigious position in their communities.

Export operations are led by the Fulbé and Gouren, who are Showa Arabs originally from Chad. They share a language, religion and a tradition of doing business, forming a trans-national network of trade and finance based on mutual trust and on ethnic conventional rules. This makes it difficult for other ethnic groups to compete. From Belabo to Maroua, legal associations of Aladji traders control the timber economy. The Aladji of each city represents an Aladji from another city downstream, and so on. For example, one Aladji in Belabo represents a chain of 106 people who make a living from informal sawn timber, from the forest to the Chad border (Table 3). We estimate that around 2,000 actors directly depend on the sawn timber trade between Belabo and Ndjamena (Koffi 2005). This does not take into account those who are indirectly involved (services, transport, administration, etc.).

Table 3. Chain of actors directly dependent on one Aladji in Belabo

location	categories of actors	number of actors
village	1 lineage chief and his family	20
forest	1 sawyer, 1 assistant sawyer, 4 porters, 3 loaders	9
road transport	1 truck owner, 1 driver, 1 apprentice	3
Belabo	1 Aladji trader, 1 Aladji assistant, 4 unloaders, 6 timber graders, 6 loaders, 2 porters	20
Ngaoundéré	1 Aladji trader, 1 Aladji assistant, 6 unloaders, 6 loaders, 2 timber graders, 2 porters	18
Garoua	1 Aladji trader, 1 Aladji assistant, 6 unloaders, 2 timber graders, 2 porters	12
Maroua	1 Aladji trader, 1 Alaji assistant, 6 unloaders, 2 timber graders, 2 porters	12
Kousséry	1 Aladji trader, 1 Alaji assistant, 6 unloaders, 2 timber graders, 2 porters	12
Total		106

Source: adapted from Koffi 2005, 51

The value chain

When they receive an order from northern customers, the Aladji traders give an order to the chainsaw operators and partially finance them. This enables the operators to purchase the standing trees from villagers in the forest, and buy fuel, food for the workers and other necessary items (Table 4). The villagers do not take any risk, and just collect the "rent" from the natural forest. The chainsaw operators do not take a big risk either, but can lose a lot of money if the government seizes the timber and tools. The Aladji are the most vulnerable, because they pre-finance the operations, and because the timber is not entirely secured until it is locked down in a rail wagon in Belabo, or, in case of road transport, it arrives in Ngaoundéré. Seizure of the timber by the government results in the trader's bankruptcy. Therefore, the members of the value chain easily accept an informal taxation that averages 10% (Table 4).

Table 4. Value chain of one load of 87 m^3 of chainsawn timber on the northern trail

place	operation	costs (FCFA)	informal taxes (FCFA)	cumulative production cost (FCAF/m^3)	market value (FCAF/m^3)
forest	purchasing trees sawyer fees porter fees lubricant and fuel food chainsaw rental	130,000 805,000 483,000 605,000 348,000 260,000	130,500	31,700	—
Belabo	transport	700,000	43,500 126,000	33,690	55,000–62,000
Ngaoundéré	rail transport	1,000,000	200,000	47,483	65,000–70,000
Garoua	transport	1,000,000	100,000	60,126	75,000–80,000
Maroua	transport	1,200,000	350,000	77,943	125,000–132,000
Kousséry	transport	1,400,000	60,000	94,724	135,000–140,000
Ndjamena	customs fees	1,800,000		115,414	*150,000–156,000

Source: adapted from Koffi 2005, 47

* By comparison, the value of sawn ayous (a light whitewood typical of the trade to Ndjamena) was between 150,000 and 240,000 FCFA in the same period in Douala harbour, FOB.

In Kousséry, the trade is formalized through Chadian custom procedures. Five different official documents are filed;[7] a total of 60,000 FCFA is paid to obtain these papers. It is one of the paradoxes of this production system: informal timber receives official documents in order to cross the border. The most expensive administrative procedure is custom clearance in Ndjamena, Chad. Clearance costs are 1,800,000 FCFA for one truck, independent of the quantity of timber imported (Table 4). Trucks of 30 to 35 tonnes, meant to carry a load of 50 m^3 of timber, are regularly loaded to a minimum of 80 m^3 and sometimes up to 95 m^3 in order to deliver in Ndjamena at a profit.

Discussion and conclusion

Conservative assessments (MINEF 2003) estimate the Cameroon domestic consumption of sawn timber to be around 300,000 m^3/year in 2003. No one can consider it a small-scale activity; the northern trail organized by the Aladji traders represents an annual cash flow of six billion FCFA (Koffi 2005).

The influence of the African domestic timber trade on the management of natural forests has been neglected for years. Many African and international institutions, as well as NGOs and other bodies, saw the African timber sector through the lens of international exports dominated by big foreign companies[8] (Roda 2005). The dominant vision was that the domestic timber trade was a local affair, especially in the humid forests of Africa. Unlike the international trade by sea, the domestic sawn timber trade was supposed to produce little profit margins by international standards, which would certainly not allow international trade by road transport over long distances.

It appears now that, against all apparent logic, sawn timber — as well as other agricultural products (David 1999) — is shipped over long distances, crossing many borders and bearing substantial transport costs and financial risks. Effective trade networks are at work. They display evident abilities to adapt to regional political contexts, which change rapidly. They are an important part of the process of regional integration through a more or less[9] informal trade. The progressive weakening of the states of the region, the increase of conflicts in the last decades and economic uncertainties may have helped these networks succeed.

Another important factor is the increasing demand for wood in the Sudano-Sahelian regions. Two simple indicators demonstrate this demand: the large distances that are involved, and the price. What are the forces that can create such a demand, despite low average purchasing power? Demographic forces and urbanization are important drivers. Africa is one of the less urbanized continents and has one with the fastest urban growth rates.

There is a need to study how demographic dynamics, regional inequalities, and an increasing need for shelter and construction materials have an impact on forest resources. Wood is one of the most versatile construction materials, but also one of the scarcest in Sudano-Sahelian regions. None of these areas can produce the five-metre beams that are one of the most demanded products along the northern trail (Koffi 2005).

What are the long-term consequences of these trends on forest resources in Africa? Existing international regulations and initiatives focus on market tools such as log bans, eco-certification, FLEGT, REDD, etc. These tools have no direct effect on the domestic trade, although they can influence it in some unexpected way, as in the case of European bans boosting the illegal trade of domestic teak wood in Indonesia (Guizol et al. 2005). Structural measures aiming to protect the forest can produce unintended effects when states do not have the means to enforce their policies (Karsenty 2003). The existence of the northern trail after the forest reforms of 1998 is one example.

What kind of institutional or market tools should be invented in order to steer the African domestic trade in a sustainable way? What new mechanisms could be designed in order to ensure forest sustainability, fair regulation, and fair material supplies in the context of poverty, when the inter-African trade is fostered by the increasing need for wood? These questions call for African and international institutions — as well as NGOs and other bodies — to cease seeing the timber sector through the reductionist lens of international exports dominated by big foreign companies. Further research as well as policy debates should reconcile the demands of local and regional populations and the protection of tropical forests.

Endnotes

1. The rate of exchange is €1 = 657 FCFA.
2. According to the driver of this truck, his boss used to travel regularly from Mauritania to Ivory Coast in order to buy "good tropical timber," which is scarce in Mauritania but in great demand, at an excellent price. After the start of the civil troubles in Ivory Coast, it became much safer for him and other merchants to go farther east, up to Cameroon and, at that time, up to RCA through Chad, because of increasing difficulties caused by the Cameroon's administration.
3 The term "tertiary refuge sector" refers to heterogeneous informal activities, including informal trade and services, small-scale workshops, street vendors, etc.
4. It synthesizes three methodologies already practised by various scientists for forest products and capitalizes on the methods developed by Bertrand for Sudano-Sahelian Africa (Roda 2004; Bertrand 1990).
5. For the markets of Messa and Oléoza, see Koffi 2005.
6. "Aladji" is a phonetic derivation of the Arabic term "El Hadji" (meaning "one who made the Mecca pilgrimage").
7. These are *Sauf conduit international*, *Bordereau de route*, *Quittance de transport*, *Certificat de circulation* UDEAC, and *Déclaration en douane* D6 or D15 or D16.
8. As an example, in 2006 the fiscal audit of the forest sector ordered by the Government of Cameroon focused on big industrial companies of the forest sector, paying little attention to the domestic trade (Karsenty et al. 2006).
9. The chainsaw timber trade documented in this paper is mostly illegal, since forest regulation 0944/D/MINEF/DF of 1999 bans the individual harvesting authorizations that constitute the basis of most chainsaw operations. At the same time the forest administration and other government services collect fees and deliver official documents for the products. The trade becomes formal at a certain point, even if the statistics do not exist.

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