

Importance and trade of the Wood in the 21st Century in Africa

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Abstract

Wood is hard, fibrous tissue found in many trees. It has been used for hundreds of thousands of years for both fuel and as a construction material. This paper focuses on some of the challenges of the forests products trade in the Democratic Republic of the Congo to bring out the analysis we would like to make. The existing informations on the forest exploitation in the Democratic Republic of the Congo, based mainly on the bibliographic review were considered. These data are time-series data of secondary source in the range of 2000 to 2015. According to the actual estimations, the population of the DR Congo consumes about 45 million m³ of wood per year. This estimation concerns the industrial wood exploitation, the fire wood, services wood, medicinal wood, house constructions, peasant's fields, etc. Wood can be used as fuel, construction, sports and art material, furniture and utensils. The roundwood is the most exported forest product in the Central Africa for the international trade. Gabon is the first roundwood producing country in the Central with about 53% of the production. Wood and its sub-products have a great importance through the world. International trade in forest products particularly the wood can involve producing forest products, such as paper, in one country, sourcing timber from another country to meet production demand and then exporting the finished products to others countries.

Keywords: Wood, forest, product

Résumé

Le bois est un tissu dur et fibreux présent dans de nombreux arbres. Il est utilisé depuis des centaines de milliers d'années comme combustible et comme matériau de construction. Cet article se concentre sur certains des défis du commerce des produits forestiers en République Démocratique du Congo pour faire ressortir l'analyse que nous souhaitons faire. Les informations existantes sur l'exploitation forestière en République Démocratique du Congo, basées principalement sur la revue bibliographique, ont été prises en compte. Ces données sont des séries chronologiques de source secondaire dans la gamme de 2000 à 2015. Selon les estimations actuelles, la population de la RD Congo consomme environ 45 millions de m³ de bois par an. Cette estimation concerne l'exploitation industrielle du bois, le bois de chauffage, le bois de service, le bois médicinal, les constructions de maisons, les champs des paysans, etc. Le bois peut être utilisé comme combustible, matériau de construction, matériel sportif et artistique, meubles et ustensiles. Le bois rond est le produit forestier le plus exporté en Afrique centrale pour le commerce international. Le Gabon est le premier pays producteur de bois rond en Afrique centrale avec environ 53% de la production. Le bois et ses sous-produits ont une grande importance à travers le monde. Le commerce international des produits forestiers, en particulier le bois, peut impliquer la production de produits forestiers, tels que le papier, dans un pays, l'approvisionnement en bois d'un autre pays pour répondre à la demande de production, puis l'exportation des produits finis vers d'autres pays.

Mots clés : Bois, forêt, produit

Introduction

Wood is hard, fibrous tissue found in many trees. It has been used for hundreds of thousands of years for both fuel and as a construction material. It is an organic material, a natural composite of cellulose fibers (which are strong in

tension) embedded in a matrix of lignin which resists compression (FLEG, 2006)

It is important to underline that wood is a very heterogenic and polyvalent tool; this heterogeneity is more strengthened in tropical wood than in tempered wood. The importance of wood depends on the appreciation of the wood

professional according to its final uses. In this section, I want to discuss about the importance of wood, the main species and production of wood, the use and the trade of wood.

Objectives, description and method of the paper

The objective of this paper is to raise the challenges of the international trade of the forests products in Africa which are barriers of the economic development of the African countries.

This paper focuses on some of the challenges of the forests products trade in the Democratic Republic of the Congo to bring out the analysis we would like to make. The existing information on the forest exploitation in the Democratic Republic of the Congo, based mainly on the bibliographic review were considered. These data are time-series data of secondary source in the range of 2000 to 2015.

Importance of wood

Main species and production of wood

In the Central Africa, there are more than 50 species exploited by population and industries, but about 10 species only are known and dominate the wood market. The most exploited species is Okoumé which represents 32% of services wood in the Central Africa. The used species in the forest plantations are chosen for their technological importance. The main preferred local species in Central Africa are mentioned in Table 1.

Table 1. Main species for the wood production in Central Africa

N°	Countries	Species
1	Cameroun	Ayous, Sapelli, Tali, Azobé, Iroko
2	Congo Brazzaville	Sapelli, Sipo, Bossé, Iroko, Wengé
3	Gabon	Okoumé, Azobé, Okan, Mouingui, Ozigo
4	Equatoria Guinea	Okoumé, Tali, Azobé, Ilomba
5	DR Congo	Sapelli, Wengé, Sipo, Afromosia, Iroko
6	CAR	Ayous, Sapelli, Aniegré, Iroko, Sipo

Source: Report on the state of forests in Africa (2011)

According to the report on the state of forests in Africa (2011), the table 1 presents the list of the most exploited wood in the Democratic Republic of Congo in 2007. The *Sapelli* (*Entandrophragma cylindricum*) is the most traditional dominant species for the production because it is present everywhere in the rainforests.

Table 2. Main species exploited in 2007 in the Congolese industries (DR Congo)

N°	Essences	Volume (m ³)	%
1	Sapelli	60 910	19,6
2	Wenge	52 000	16,8
3	Afromosia	31 140	10,0
4	Sipo	27 000	8,7
5	Tola	24 130	7,8
6	Iroko	24 040	7,8
7	Acajou	13 600	4,4
8	Bomanga	13 400	4,3
9	Tiama	11 000	3,5
10	Tchitola	9 400	3,0
11	Total of other essences	43 510	14,0
	Total (54 essences)	310 130	100

Source: FAO, Report on the state of forests in Africa, 2010.

As we can notice in the table, the five following woody types: Sapelli, wenge, Afromosia, Sipo, Tola and Iroko are frequently exploited in DRC.

Use of wood

According to the actual estimations, the population of the DR Congo consumes about 45 million m³ of wood per year. This estimation concerns the industrial wood exploitation, the fire wood, services wood, medicinal wood, house constructions, peasant's fields, etc.

Wood can be used as fuel, construction, sports and art material, furniture and utensils.

Fuel

Wood has a long history of being as fuel, which continues to this day, mostly in rural areas of the world. Hardwood is preferred over softwood because it creates less smoke and burns longer. Adding a woodstove or fireplace to a home is often felt to add ambiance as warmth.

Construction

Dominant uses of wood are for furniture and construction. Wood has been an important construction material since humans began building shelters, houses and boats. Nearly all boats were made out of wood until the late 19th century, and wood remains in common use today in boat construction.

In the developed countries as Canada, new domestic housing today is commonly made from timber-framed construction. Engineered wood products are becoming a bigger

part of the construction industry. They may be used in both residential and commercial building as structural as aesthetic materials.

In the developing countries, specifically in the Democratic Republic of Congo, more than 80% of people use sticks (young trees trunks) for the wall and the roof construction of their houses.

In buildings made of other materials, wood will still be found as a supporting material, especially in roof construction, in interior doors and their frames, and as exterior cladding.

Furniture and utensils

Wood has always been used extensively for furniture, such as chairs and beds. Also for tool handles and cutlery, such as chopsticks, toothpicks, and other utensils, like wooden spoon, wooden plate and shoes, etc.

Wood can be cut into straight planks and made into a wood flooring. Engineering wood products, glued building products “engineered” for application specific performance requirements, are often used in construction and industrial applications. Glued engineered wood products are manufactured by bonding together wood strands, veneers, lumber or other forms of wood fiber with glue to form a larger, more efficient composite structural unit.

Engineered wood products display highly predictable and reliable performance characteristics and provide enhanced design flexibility: on one hand, these products allow the use of smaller pieces, and on the other hand, they allow for bigger spans.

Arts, Sports and recreational equipments

Wood has been used as an artistic medium. It has been used to make sculptures and carving for millennia. Examples include the totem poles carved by North American indigenous people from conifer trunks, often Western Red Cedar (*Thuja plicata*), and the Millennium clock tower, now housed in the National Museum of Scotland.

Wood is used in some types of musical instruments such as violin family, the guitar, the clarinet and recorder, the xylophone, the “mokoto” and the harp in Africa. It is used also in the initiation stools making in some African tribes such as Mbanza, Ngbaka, etc. in the north of the Democratic Republic of Congo.

Many types of sports equipments are made of wood, or were constructed of wood in the past. For example, cricket bats, baseball bats, etc. It is the same thing for many recreational equipment such as skis, ice hockey sticks, lacrosse sticks, etc.

Employments

In 2000, 35% of woodland areas were used to produce timber. The surface area of productive plantations increased by 25 million hectares between 2000 and 2005. Each year, the demand for products made from wood increases by 2.7% and the forest surface area shrinks by 0,2% (7,9 million hectares). The felling of primary forests has led to their disappearance, as in Western Europe, or to their decline in the tropical countries of Africa, Latin America and Asia. The sylviculture sector as a whole provided employment to about 13 million people in 2000. Closely dependent on the human societies that practice it, sylviculture has been regarded in recent years by the UN’s Food and Agriculture Organization as a potentially effective means of fighting against poverty, given that poverty is the main cause of deforestation in sub-Saharan Africa.

In Africa whereas getting formal employment is very difficult, wood production provides many small employments to the African people chiefly in the rural zones. For example, the making of baskets, artistic materials, trade of charcoal, caterpillars, wild and bush meat, fishes, wood cutting, etc. These small informal employments are the income resources of several million people and their families.

Trade of wood

The roundwood is the most exported forest product in the Central Africa for the international trade. Gabon is the first roundwood producing country in the Central with about 53% of the production. The second forest product is the sawn wood. Cameroun is the bigger sawn wood producing country. Most of wood produced in the Central Africa are exported to the European Union countries.

Table 3. Quantity and types of exported forest products (formal sector) in the Central Africa

Exported products	Cameroon	Congo	DRC	CAR	Gabon	Eq. Guinea	Total
Roundwood	266,000	522,497	208,087	193,213	1,938,079	547,299	3,675,175
Sawn wood	613,000	209,122	30,382	76,042	157,856	600	1,087,002
Unrolled veneer	64,286	15,307	0	4,300	144,135	31,101	259,129
Veneer slice	3,204	0	1,392	0	1,889	0	6,485
Plywood	22,000	1,755	6,762	740	28,384	0	59,641
Planed sawn wood, parquet floor, molding	3,205	0	1,152	0	0	0	4,357
Log pulp	0	250,746		0	0	0	250,746

Source : FAO (2017)

The main importers of African wood are, Europe, North America, China, CIS, and other. The wood imports and the wood exports are presented as on this table:

Table 4. Percentage of wood imports and wood exports in 2008

Region	% of imports	% of exports
Europe	54	59
North America	19	20
China	9	8
CIS	2	4
Other	16	9

Source: United Nations, 2009

The market for wood and forest products was worth 327 billion dollars in 2007 with a production of 3,832 million m³ that breaks down into 1,644 million m³ of roundwood, 422 million m³ of sawn timber and 1,766 million m³ of energy wood. In 2005, 54% of the total surface area of productive plantations were in Asia, 75% of which were in China (54 million hectares), and 24% in Europe, of which 36% in Russia (11.9 million hectares). Europe continues to be the world's largest importer with 47% of trade in 2004 and Russia the largest exporter of industrial roundwood with 35% of world trade. The main actors in the industry are the companies that utilize roundwood (sawmills) and energy wood (in Europe) and the companies that manufacture paper and boards, along with traders in tropical timber (worldwide), although this trade has been going downhill since the introduction of strict regulations. The energy wood industry is currently booming in response to

the demand for substitutes for fossil fuels. In developing countries, wood is the main, if not the only, source of energy for heating and cooking; in Africa, it covers 90% of these needs.

In 2008, the total value of world imports of forest products was \$253,3 billion and the total value of world exports of forest products was \$246,9 billion.

Conclusion

Wood and its sub-products have a great importance through the world. International trade in forest products particularly the wood can involve producing forest products, such as paper, in one country, sourcing timber from another country to meet production demand and then exporting the finished products to others countries. This distributed pattern of production and consumption of forest products has implications for managing forests ecosystems.

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