

Evaluation of Non-timber Forest Products in the Amelioration of Living Nyong and Kelle Division in Cameroon

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Abstract

According to Mahongol, 72% of the National territory is covered with forest. This forest is made up of the dense humid and the tropical forests in which we find resources in it made of timber and non-timber forestry products, which are both of vegetative (plants) and animal origin. Research on non-timber forestry products found in most of the forests in Boumnyebel-Cameroon has a focus on the ability to be produced as commodities for rural income and markets as an expression of traditional knowledge or as a livelihood option for rural household needs and as a key component of sustainable forest management and conservation strategies. Most of these resources exploited do not only provide rural income but also contribute greatly for the development of the country as a whole and even those found around the sub regional Africa including the Congo Basin are not left out. The harvesting of these resources is not properly controlled and documented in order to know those that merit exploitation and those that do not. It is through this light that research and studies have been put in place since the past years and up till date in professional institutions for students and researchers to be able to carry out practical work on the field so that what that was thought theoretically in school can be better understood on the field on how the exploitation of forest resources contributes so much greatly for the socio-economic development of the country. The main objective in this study is to identify the most exploited species and their origin. Specifically, it aims at identifying the most exploited non timber forest products, determine the origin of these non-timber forest products and identify the persons involved in the harvesting of timber forest products.

Keywords: Timber, non-timber forestry products, forest, plants, Nyong-et-Kellé

INTRODUCTION

Presentation of the Internship Structure

The area of study is Boumnyebel, situated in the Nyong and Kelle Division in the Centre region of Cameroon. Nyong and Kelle division is limited to the North by Lekie, to the South by Lolodorf (ocean division), to the East by Mefou and Akono and to the West by Sanaga Maritime Dibang.

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This area is estimated of about 965 km² which is located in the extreme south of Nyong and Kelle division, central region is 34 km from national road 3180 km from Douala by road and 153km by rail way as well as 130km from Yaoundé by the road through Boumnyebel and 30km by rail way (Figure 1).

Climate

The area of Boumnyebel is part of the ecological zone known as the equatorial forest and characterized by an equatorial type of climate with

two dry seasons and two rainy seasons of equal length, low thermal differences and average rainfall of 1500 mm.

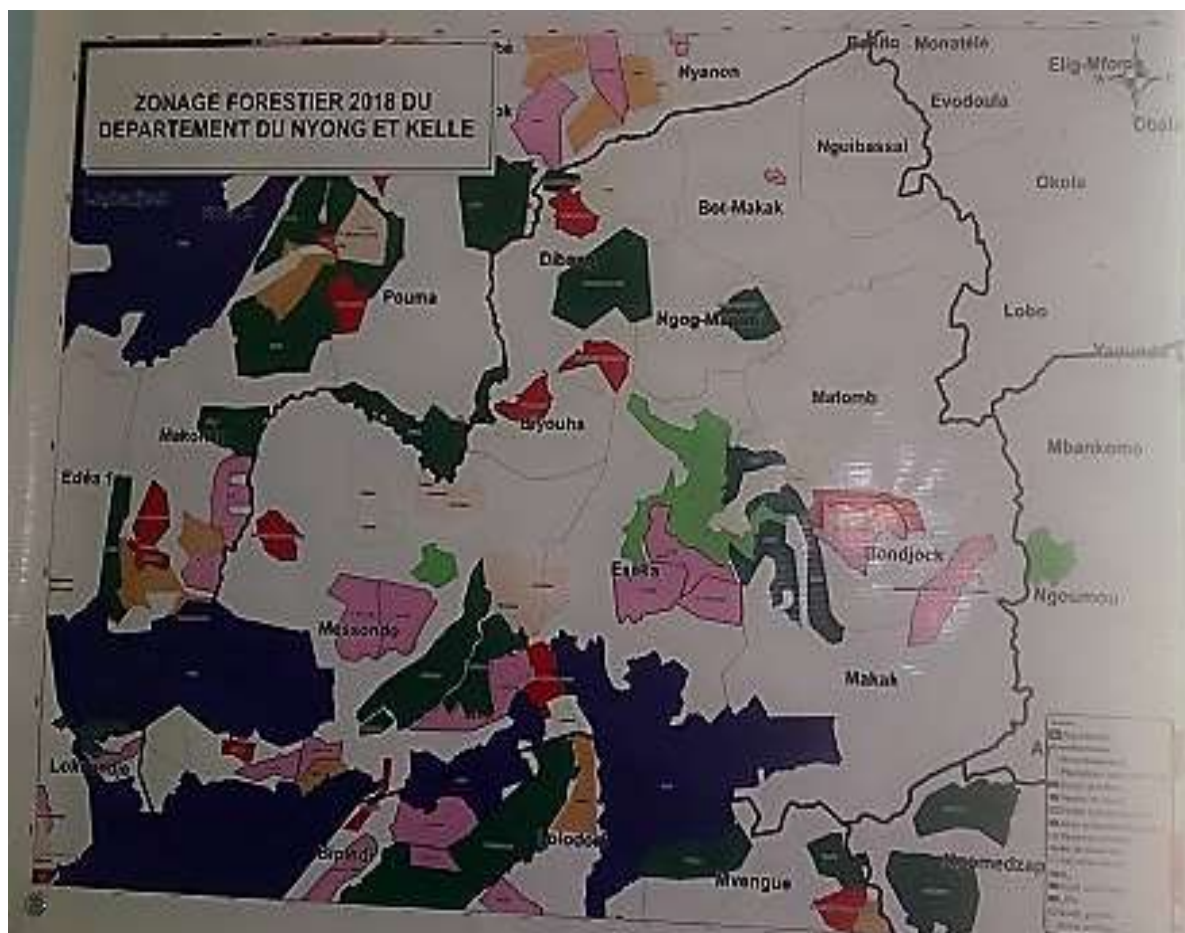


Figure 1. The map of Nyong and Kelle division showing the Boumnyebel sub-division.

Relief

The relief is relatively formed at the level of the urban center of Boumnyebel, which is housed in a basin dominated by two mountains (hikoa pondol and Ngoui Gwet) in the form of belt at the top of one of them are installed several lanterns used for telecommunications, especially telephone [1]. This relief is very rough in the villages of song Badjecks Mahomy Souhe.

Hydrograph

The hydrograph network is very dense with the presence of the Nyong River which crosses the council on about 30km and waters of the villagers, the Kelle River which crosses the villagers of south.

Kelle and Manb-Kelle on 1.5km and which serves as a limit with the council of Ngog-Mapubi and Matomb, from the Matouanda river which serves part of the city of Eseka at the Likabo district and crosses the villager Lininglihog, Bogso, Mauanda, Song Bossong and Eseka village and serves as a boundary with the municipality of Messondo, the river Djogob which water the villages of Djogo and Seng serves as boundary with the area of Messondo [2].

Soils

Boumnyebel's soil is sandy clay with a ferralitic composition, exhibiting color variations ranging from brown to red. These relatively fertile soils in places, allow the practice of a diversified agriculture, whole dominant perennial crops remain the oil palm and the cacao tree in all the villagers [3].

Vegetation

Boumnyebel has a typical savanna vegetation type made up of trees and grassland. This vegetation is very rich in trees species [4]. The Table 1 shows a list of some tree species encountered in Boumnyebel.

Table 1. Trees registered in Boumnyebel.

Common name	Scientific name	Local name	Family
Azobe	<i>Lophira alata</i>	Okoo	Ochnaceae
Iroko	<i>Milicia excelsa</i>	Abong	Moraceae
Dabema	<i>Piptadeniastrum africanum</i>	Assang	Mimosaceae
Moabi	<i>Baillonella toxisperma</i>	Njabe	Sapotaceae
Kolanut	<i>Cola acuminata</i>	Abui beti	Sterculiaceae
Bush mango	<i>Mangifera indica</i>	Ndoo	Anacardiaceae
Paw paw	<i>Carica papaya</i>	Popoo	Caricaceae

Structural Presentation of Nyong and Kelle Division Forestry and wildlife control post of Boumnyebel

The forestry and wildlife control post of Boumnyebel is situated at the center of Boumnyebel toward the road of Yaoundé at the southern part of the town on the road way axes of Eseka. Its organizational chart is illustrated in the diagram in Figure 2.

The Figure 2 shows the structural presentation of divisional delegation of forestry and wildlife which is from the biggest to the smallest meaning the delegate, the general affairs; chief section of forestry, chief section of wildlife and nature protection, chief section of transformation of energy wood, chief of post and the elements that is made up of delegation [5].

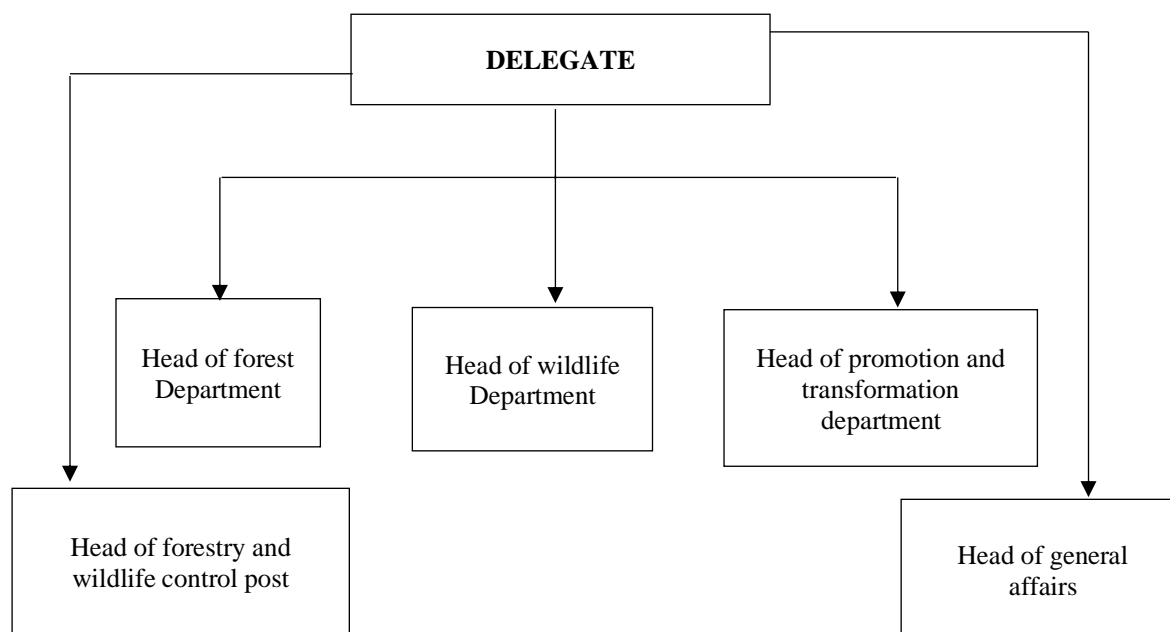


Figure 2. Organization of the forestry and wildlife control post of Nyong and Kelle.

Source: Forestry control post of Boumnyebel.

This Figure 3 shows how control post is organized, from the chief of post, the chief of equip, and the elements which lead to the organization of control post.

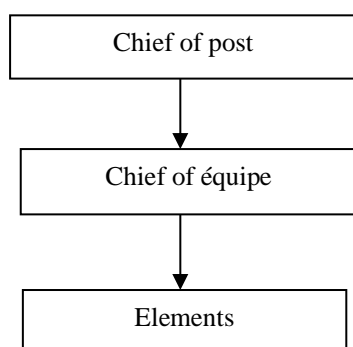


Figure 3. Structure of forestry and wildlife control post of Nyong and Kelle.

Source: Forestry Control Post of Boumnyebel.

METHODOLOGY

Material

The following are the materials used in the collection of data in the field:

- A block Note Book: this book was used in the for the taking down off notes.
- Pen and Pencil: I was using the pen mostly especially during days of good weather to collect data and when weather conditions are bad, I always used the pencil.
- Plastic paper: this was used to cover the block note book during rainy days.
- Motorcycle: it was used to facilitate movement around the locality.
- A digital Camera: In other to take some necessary images.
- Rain boot: this rain boot is used during the day of raining day.

Method

Identification of most exploited non-timber forest product

This is done by survey in the market, by observation in the forest, also going to the pack of selling point.

Origin of non-timber forest product harvested

This is done by asking people the source of eru.

Identification of the persons involved in the harvesting of non-timber forest products in Nyong and Kelle division precisely in Boumnyebel

This is done by seeing someone with eru and asking him or her that can make you to better understand them.

RESULTS AND ANALYSIS

List of Some NTFPs Found in Boumnyebel Locality

The Boumnyebel locality is a very important point for the collection of data on the exploitation of NTFPs. It is like a transition zone for NTFPs. Here we have four main types of NTFPs and many others that were seen on the field [6]. The Table 2 shows examples of some NTFPs that were seen on the field. The Table 2 also shows the types of non-timber forest products found in Boumnyebel sub-division.

Table 2. List of NTFPs exploited in Boumnyebel.

No.	Local name	Scientific name	Common name	Parts used
01	Andok	<i>Irvingia gabonensis</i>	Bush mango	Grains and fruits
02	Akoue	<i>Iragia benthouri</i>	Ngongo leave	Leaves
03	Okok	<i>Gnetum Africana</i>	Okok (Eru)	Leaves
04	Abuel	<i>Cola acuminata</i>	Cola	Grains

Source: Personal inquiries on the field.

Concerning the non-timber forest product seen in Boumnyebel, I specialize in *Gnetum africana* commonly called Eru, this are the leaves growing in the forest naturally on its own, it can be grown by people but it will not be good like the one in the forest, and it will also take time before it grows.

Harvesting of *Gnetum africana* (Eru)

The harvesting of eru can be done at any time of the day, using a machete, scissors, or by hand. The eru can either be plucked off the tree or cut at the stem. When the tree is too tall, the harvester may be forced to cut the tree to make the harvesting process easier. The eru plant can grow up to a height of 2m.

The packaging of eru at the selling point and the slicing of eru for sale are shown in Figures 4 and 5, respectively.



Figure 4. Showing the packing of eru.



Figure 5. Showing the slicing of eru.

Table 3. The table showing the months and quantity of eru collected.

Months	Numbers of bags	No. of bundles	Price/bundle	Observation	Cost
January	40	600	300	Perishable good	180000
February	13	195	300	Perishable good	2535
March	15	225	300	Perishable good	67500
April	30	450	300	Perishable good	135000
May	15	225	300	Perishable good	67500
June	30	450	300	Perishable good	135000
Total	143	2145	1800	/	587535

Source: Divisional Delegation of Nyong and Kelle.

The Table 3 shows the number of bags and bundles of eru collected per month in a year.

Concerning the Table 3, eru is one of the perishable goods like any other vegetable, stored in a cool and dry place, at a favorable temperature.

If each bag contains 15 bundles, then 40 bags will contain 600 bundles and if each bundle costs 300F CFA, therefore 600 bundles will be multiplied by 300 to have the real price is 180000F CFA which made the local population to have a high standard of living [7].

Season of Eru

Eru has its particular time of production; in the period of rain, the rate of eru is low due to high rain fall hence leading to the production of soft leaves; while in dry season, the rate of eru is high due to low rain fall hence leading to the production of strong leaves.

Chain of Collection and Sale

Four groups of persons are identified in the chain of collect and sale at different prices.

Local Population or Primary Collector

These are those living in the various villages such as Song Mbong, Ndogbesol, Badjob, Sokelle and Socapalm that made up this division.

They are the primary collectors who enter the forest and collect in small quantity; the eru is tied in bangles or packets and sold at different prices that vary from 300 to 700FrS depending to the seller, this is to the first buyers from those coming out of the forest, and the second buyers will come in either from Douala, Limbe, and Edenau. He or she will make now a fixed price which will favor everybody which can be 100 to 1300FrS.

The transportation of this product is with the help of a waybill belonging to ERIMON company.

These groups have two days of active selling in a week that is Saturdays and Wednesdays' evening; they are not made up of only Basa community, but also communities like, Anglophone and Pygnies. Here, the notion of prior authorization of collector is not well known; for them, eru is a given from God it needs no papers or authorization before collecting it; at times the primary collectors used train to bring out the goods collected when they are in much quantity and sell it to the retailers.

The Groups of Suppliers from the Sub Divisional Head Quarters

These are those living mostly in the sub-division headquarters such as Messondo, Makak, Bok Makak, Matomb, Dibang that enter the various villages using bike, and car or truck on Saturday and Wednesday evening as from 4pm to buy the already collected bundles from the primary collector at

price that ranges from 300–700Fr to take it to Boumnyebel which is the biggest point of selling. Here, the notion of prior authorization is not well known.

But the efforts are being put in place by the division delegation of forest and wildlife of Nyong and Kelle to sensitize these groups of collectors at different control points within the division on the procedure of acquiring permit for the collection of eru.

Here, a file is opened at the divisional chief of section for the transformation, registering those involved in the collection and selling of eru in Boumnyebel; for the sensitization as they are identified whenever they pass at the control points.

Retailers at Boumnyebel Sale Point

They are those buying from the suppliers coming from the sub divisional headquarters and they buy bundles of eru at prices that range from 1000–1300Fr evening of Saturdays and Wednesdays.

Two categories of retailers exist at the level of Boumnyebel retailers without papers that take the product in Douala and Edenau for consumption and retailers with special authorization of collection from the minister as *Ets Essama Et Fils*, that buy and take their products to Edenau in the South West region. These companies have a given quantity in tones authorized to collect in the Center region, Littoral and South.

After signing their authorization, the minister issues them a document called WAYBILL. This is a document that permit individual or company having exploitation permit to transport his collected products to his destination.

This document is often signed by the divisional delegate and the chief of post where the product is collected; this document is filled by the collector himself, the chief of post of the locality where the product is collected comes, verifies the information filled, and signs under showing that he has collected in this zone.

The Waybill shows the volume collected in tones, matriculation of vehicle carrying it, the destination, name of the driver, name of the company as the case of *Ets Essama et Fils*.

Apart from these companies that collect in Boumnyebel, other individuals equally buy and sell to the Douala for internal consumption within the country and others go as far as Edenau to sell to Nigerians that buy and take to Nigeria where it is consumed; and other sources say that it is used for the fabrication of whisky and coloring of dresses.

Some Laws and Decrees on NTFPs

According to MINFOF law No. 94/01/ of 20th January 1994 that governs the management of NTFPs based on the forest, wildlife and fisheries.

The decree No. 95/53 PM of 23rd August 1995 based on forest regimes and also aspects for the management of NTFPs.

According to action 963 that dresses a collection form for collecting data of NTFPs because of their importance.

Access to *Gnetum africana* for Commercial Purpose

Law No. 948/01 of 1st January 1994 lays down modalities of getting access to this resource for commercial purposes. This product is classified under this law as special product and as such its exploitation for commercial purpose deserves special license issued by the minister in charge by forestry and wildlife.

This license is called special collection license which lays down rules and modalities for the collection and transportation of the good collected. This law fixes the quantity in tones to be collected and taxes to be paid according to quota collected.

To be granted this special license, the following papers are required:

- A stamped application at the current tariff, addressed to the minister of forest and wildlife indicating the name, home address of the applicant if it is a natural person.
- The company name, the articles of incorporation, the registered office and the name of the director if it is the legal person.
- A technical sheet issued by divisional delegate of the collecting locality wishes to specify the harvesting species.
- The quantities of product, the places and the method of harvesting.
- A certificate of non-royalty where applicable.

The authorization of collection is valid for duration of one year backed the fiscal year. A certified copy of national identity card for natural person.

It should be noted that in Nyong and Kelle division, access to these resources are illegal at the grass roots level where the suppliers go to the interior of the villages and buy without any authorization to sell those in Boumnyebel who buys either for Douala and Edenau, whereas Nigeria buy and take to their country.

Uses of Eru

Eru can be used as follows:

- Used as home consumption where it is cooked and eaten with cassava and water fufu.
- It is harvested in Boumnyebel and sent to Nigeria where it is used for the fabrication of whisky.
(Source from buyers in Nigeria)
- Used in fabrication of liquid helps in the coloring of dresses.
- Medicinally used when eaten after snake bites; it prevents the evolution of venom in the body.
(Source from the local population)

Social Importance

- The feeding on NTFPs is so much that good and varies depend on the type of NTFPs.
- More so, these NTFPs are used by the local population in fighting against certain diseases.
- The presence of NTFPs also helps the local population to be much more self-employed.
- Briefly, also on the social plan, NTFPs play an important role in nutrition, decoration of houses, construction, medicine etc.

Economical Importance

- NTFPs help in income generation to the local population and the country as a whole.
- Most of the revenue generated from the sales of NTFPs is used by parents to pay their children's school fees, health care etc. This helps to reduce poverty alleviation in the locality.

Method of Conservation

Eru, as other vegetables, are stored in a cool place, at a temperature which is favorable. Eru is a perishable good, it can be cut any time during the day; but it is kept beside water for the leaves to be fresh and strong till the time of consumption.

After harvesting, it is taken home and kept in a cool and dry place being water for one time so that the leaved should remain fresh and strong till selling to the suppliers.

Difficulties Encountered

During the internship, two major difficulties were encountered:

Difficulties of Having Access to Information

The population involved in this activity for fear being seized as they were not having papers, hesitated to give information. At times there were many cases, where it needed deep sensitization and explanations before information was given.

Difficulties of Displacement to the Different Divisional Barriers at Boumnyebel, Song Mbong

The divisional delegation lack means of transportation vehicle and motorcycles of the delegation are having constant break down because of the bad state of roads in the division in the rainy season. This seriously hampered fieldtrips.

CONCLUSION

It was a question here to carry out studies on the evolution non timber forest product (NTFPs) on the topic, Evaluation of non-timber forest product in Boumnyebel subdivision. Case of *Gnetum africana*. The collection and commercialization of NTFPs in this locality is an important economic activity in the Boumnyebel locality. Examples of NTFPs in this area include: *Irvingia gabonensis*, *Jong Leaves*, *Gnetum Africana*, *Cola cauminata*, and Njansang, more so, implicated actors involved in this activity include the rural population, who collect this product from the farmlands and sell them to buyers of 1st, 2nd and 3rd order or category.

However, the analysis on the evolution of non-timber forest products to the population of Boumnyebel brings out clearly the role it plays in its consumption, pharmacopeia (such as its use in traditional medicine), generating revenue and satisfies the needs of the population.

From the statistics collected on NTFPs in this locality, it was seen that 40 bags are made up of 11000 packets which is made up of 11 tones. *Gnetum africana* was collected from the month of May. NTFPs in the Nyong and Kelle occupies an important role within this locality and the country in general. It is important to take into serious consideration the organization and management of this population so that the revenue generated from the sale of these products can significantly improve the living standards of families in the area and contribute to the development of the country.

Recommendations

- Good roads should be constructed to facilitate easy access from the areas where these products are harvested to their intended destinations.
- Farmers should look for better means in the conservation and a favorable temperature.
- More so, exploiters should make good research on better species of *Gnetum africana* and other NTFPs which can also reproduce in the dry season so that two seasons can be found to help improve production in the locality.
- Encourage collaboration between the ministry of forestry and wildlife, environment, agriculture, and territorial management to better coordinate the PFNL sector.
- Integrate forest and land code to facilitate domestication of PFNL and access to land.

List of Acronyms and Abbreviations

- NTFP: Non-Timber Forest Product.
- DO: Divisional Officer.
- ENEF: Ecole Nationale des Eaux et Forêts.
- IHC: Integrated Health Center.
- NFS: NATIONAL FORESTRY SCHOOL.

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