CENTRE FOR NURSERY DEVELOPMENT AND ERU PROPAGATION (CENDEP-CIG)

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A Rapid Market Appraisal on Eru in the Support Zone of the Korup National Park

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A RAPID MARKET APPRAISAL ON ERU
IN
THE SUPPORT ZONE OF THE KORUP NATIONAL PARK

By

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ACRONYM

CENDEP	Centre for Nursery Development and Eru Propagation
KNP	Korup National Park
Kg	Kilogram
Km^2	Kilometer square

EXECUTIVE SUMMARY

1. The purpose of this report is to carry out a rapid market appraisal of eru (Gnetum sp.) in the support zone of the Korup National Park (KNP), South West Province, Cameroon.

2. The KNP was created as a forest reserve in 1939 and upgraded to a national park in 1986. This humid forest is endowed with rich biodiversity of local, national and international significance. KNP and its support zone provide land, forest products, water and other ecosystem functions and services to at least 50,000 inhabitants in the area. The main occupations of the local people include agriculture, fishing, hunting and collection of timber and non timber forest products. Most settlements are remote and inaccessible, with limited access to markets and other basic social infrastructure. Local people trek for a day or more to get to the nearest village market to procure basic household needs.

3. Eru is a leafy climbing vine growing in the humid tropical forests of Cameroon and in West and Central Africa. It is a widely cherished delicacy across the nation with very high demand nationally and internationally. Two species of eru are identified in local markets in the study area namely Gnetum buchholzianum and Gnetum africanum, including some morphological and ecological variations.

4. The main actors identified in the eru market chain include harvesters, buyers wholesale- exporters, wholesale-retailers, shredders, Government Officials, municipal councils, traditional authorities, transporters, commissioned middlemen, loaders and off loaders, waterers and counters.

5. Eru was found to be profitable to all actors on the market chain, the least having monthly returns above the poverty line. Small scale exporters have a profit of about FCFA80,000 to FCFA200,000, and a monthly average of FCFA120,000.

6. The main constraints identified include unsustainable harvesting, product spoilage, economic and ecological losses due to frequent excess supplies, poor market structures, poor infrastructure to source areas and markets and artificial barriers created by some government officials.

7. Mitigation measures recommended include exploring low-cost technologies for value adding, community mobilization and awareness raising, promotion of community based conservation and the establishment of sustainable management systems, advocating policy reforms that provide incentives for community based conservation and livelihood improvement, improving market structures and research.

1. INTRODUCTION

1.1 BACKGROUND

The Centre for Nursery Development and Eru Propagation (CENDEP) is a legal entity created in 2000 with its headquarters in Limbe, Southwest province, Cameroon. Its mission is to assist forest communities to achieve forest conservation and improve their livelihoods using the principles of 'Conservation through Cultivation' and enrichment planting. CENDEP's objectives include among others training of forest users on the domestication of non-timber forest products, the most successful and widely disseminated being Gnetum species, locally called eru. Several NTFPs are being grown in farmers' fields in Cameroon such as Irvingia sp., Dacryodes edulis., Recinodendron heudellottii, Piper guinensis and Cola sp. elsewhere and there are indications that field trials have potential for on-farm cultivation for Gnetum and rattans species.

Non timber forest products (NTFPs) are the huge variety of materials derived from forests excluding timber and fuel wood. NTFPs include bark, roots, tubers, corms, leaves, flowers, seeds, fruits, sap, resins, honey, fungi, and animal products such as meat, skins, bones and teeth. NTFPs are harvested from the forest areas and are produced in farmers' fields. They are used for food and medicine and as a source of income. NTFPs are consumed in rural and urban homes, and are traded in local, regional and international markets. Gnetum species (eru) is one of the most important NTFPs in Cameroon with high economic, cultural and medicinal importance, hence the increasing attention to ensure its existence in the long term.

Eru is a leafy climbing vine growing in the humid tropical forests of Cameroon and in West and Central Africa. It is a widely cherished delicacy across the nation with very high demand nationally and internationally. Collection of eru is largely from the wild with women and children providing the greatest labour force. Harvesting methods are reported to be unsustainable and concerns are on the rise as to the rate of depletion of wild stocks to meet the rapid increase in demands locally and internationally. Local people increasingly cover longer distances to find eru as stocks closer to residential and farming areas have been depleted due to unsustainable harvesting, over harvesting and or agricultural expansion. In order to bridge some of the gaps in production, CENDEP has been carrying out training workshops on eru domestication nationally since its creation in 2000. While it is important to train local people in the domestication of non timber forest products to offset any deficits that may arise in demand and supply from production in the wild, it is equally important to make informed decisions to improve household economies of local people engaged in the sector.

1.2 AIM OF STUDY

The aim of this study is to carry out a rapid appraisal of eru trade in the Southwest province, Cameroon.

1.3 OBJECTIVES

The objectives of this study were to:

- provide a detailed description of the eru market chain in the support zone of the Korup National Park
- identify the actors in the market chain

- demonstrate the profitability of eru trade in the support zone of KNP
- identify opportunities and constraints in the marketing of eru in the support zone of KNP
- make recommendations based on results of the survey

1.4 EXPECTED OUTPUTS

The expected outputs include the following:

- description of the market chain and structure
- recommendations

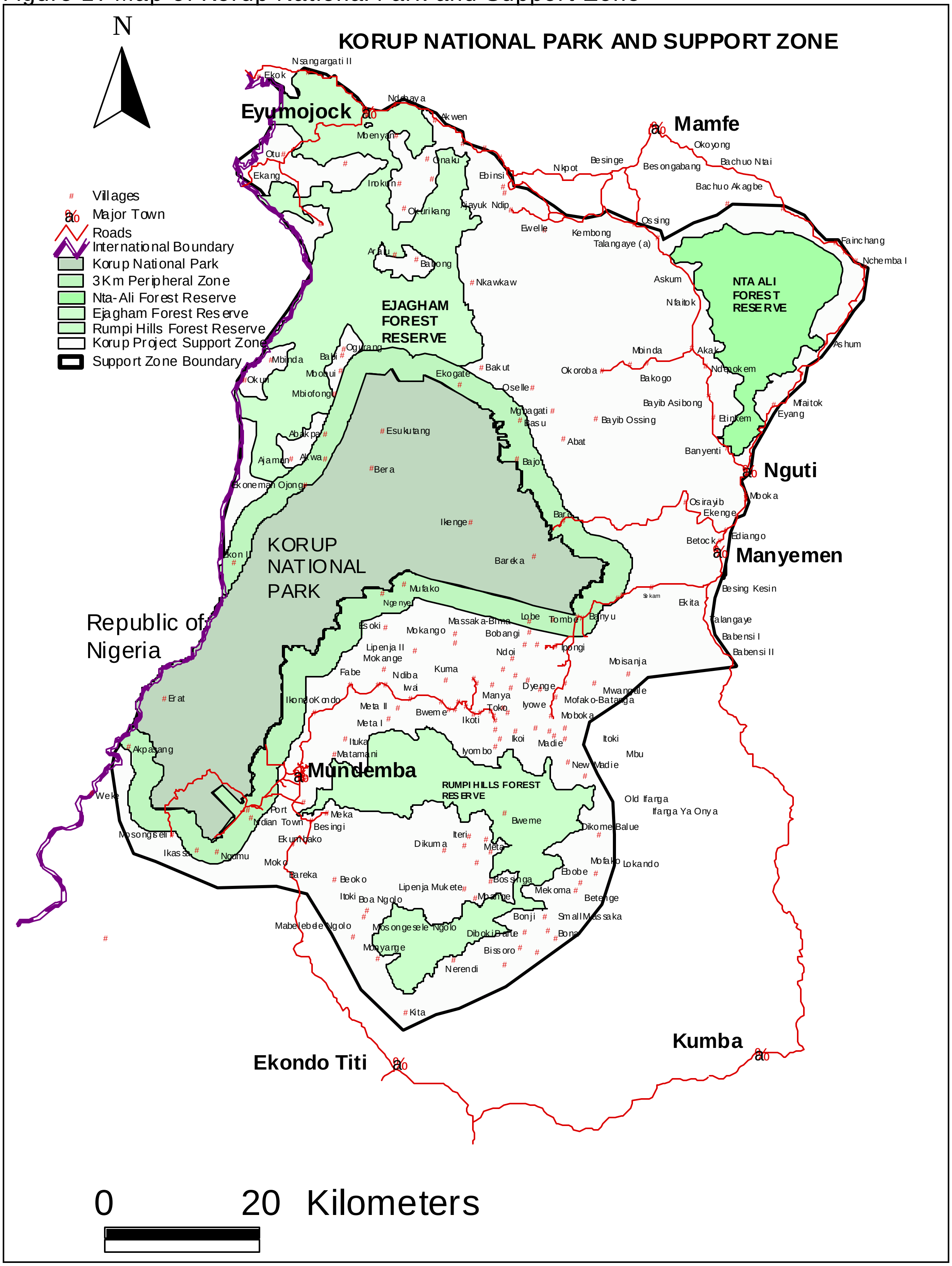
1.5 DESCRIPTION OF STUDY AREA

The Korup National Park (KNP) is rich in fauna and flora of local, national and international significance and has a humid climate with an average annual rainfall of about 5000mm. The park was first conferred a protection status as a forest reserve in 1937 by colonial administration and upgraded to a national park in 1986, with the aim to conserve the park's rich biodiversity as well as maintain the integrity of its ecological and physical processes. KNP is located in the Southwest province, along Cameroon's border with Nigeria and it extends from latitude 4°51? to 5°28? North and longitude 8°42? and 9°16?East. The park covers an area of 1,260 km? while its support zone has a surface area of 5,353 km? (Figure 1).

KNP and its support zone provide land, forest products, water and other ecosystem functions and services to at least 50,000 inhabitants in the area. This population carries out agriculture, fishing, hunting and collection of timber and non timber forest products. Most settlements in the area are remote and inaccessible with poor access to markets and other basic social infrastructure. Access to remote settlements is on foot, with some settlements being cut off for varying lengths of time during the rainy season due to several overflowing streams and rivers. Local people trek for a day or more to get to the nearest village market to procure basic household needs.

The ethnic composition of the KNP area is divers and includes the Oroko, Korup, Ejagham, Balong, Bassossi, Upper Banyang and Mbo. These have strong historical, linguistic and cultural similarities. In addition, Korup and Ejagham ethnic groups have close cultural and historical ties with birder communities in neighbouring Nigeria.

Figure 1: Map of Korup National Park and Support Zone



Source: Draft Management Plan of Korup National Park, 2002

2. METHODOLOGY

2.1 APPROACH AND DURATION

A rapid market appraisal on eru was carried out in the Southwest province, Cameroon by a six-man multi-disciplinary team including a consultant and five CENDEP staff. Tools used in the survey included review of secondary data, direct observation, semi-structured interviews and focus group discussion. A concise checklist of semi-structured questions was developed and used during interviews. Review of secondary data was carried out prior to field visits to designated sites. The field appraisal was conducted from July 14th to August 3rd, 2006. A test run of the semi-structured questions developed was carried out, followed by a debriefing session to analyze the results before staff went out to the field. Regular team debriefing sessions were held during field appraisal for reporting, preliminary data analysis and planning.

2.2 LOCATIONS SURVEYED

Urban, rural and border markets were earmarked and visited during the survey. Urban and semi-urban markets visited included Limbe, Buea, Kumba and Mamfe. Rural markets visited included Wone, Nguti, Manyemen, Mundemba, Mbonge, Ekondo Titi. Border markets visited include Idenau, Bota wharf and Cross River beach in Mamfe. A visit was also made to Ayong village, an outlet for eru from major harvesting centers in the remote areas of the support zone.

2.3 INTERVIEWS

The survey included semi-structured interviews with individuals at different levels of the market chain. In addition, one focus group meeting involving a village chief and 15 female eru small scale harvesters was also held. In total, (111) persons were interviewed including 28 men and 82 women. Interviews were carried out with different actors on the chain as follows: harvesters (21), transporters (6), government officials (8), restaurant operators (4), wholesale buyers/exporters (10) wholesale buyers and retailers (18), shredders (buy and cut) in local markets (27), former harvesters, now shredders (3), commissioned middlemen (2), waterer (1), tiers (5), union leader (1), traditional leader (1) and others (4).

2.4 LIMITATIONS OF STUDY

- The study was carried out during the rainy season when eru related activities in the KNP support zone were negligible. As a result, key actors could not be traced easily.
- Poor access roads in the support zone made it impossible for the team to travel to major source areas and contact harvesters who liaise with the exporters.
- Demographic information was not available for most interviews, therefore data was not segregated based on demography.

3. RESULTS AND DISCUSSION

3.1 PRODUCT IDENTIFICATION

Two main species of Gnetum (eru) were identified in markets in the study area namely Gnetum buchholzianum and Gnetum africanum (Figure 2 and 3). In addition some morphological and ecological variations of Gnetum sp. were identified in the study area by local people. Characteristics used to differentiate the species and varieties include leaf shape, leaf size, leaf colour, inter node length and yields per vine.

G. buchholzianum referred to locally by actors in the market chain as 'contry eru or Yaounde eru' has broad leaves (Figure 2) and is the predominant species in the study area. Harvesters, wholesale and retail traders, exporters and restaurant operators reported that this species is preferred in local and international (Nigerian) markets, and for the following reasons:

- it has larger leaves
- it is easier to select (pick) before shredding
- produces relatively larger quantity after shredding
- does not shrink after cooking
- stays longer without shedding leaves
- tastes better than G. africanum
- has higher yield per vine

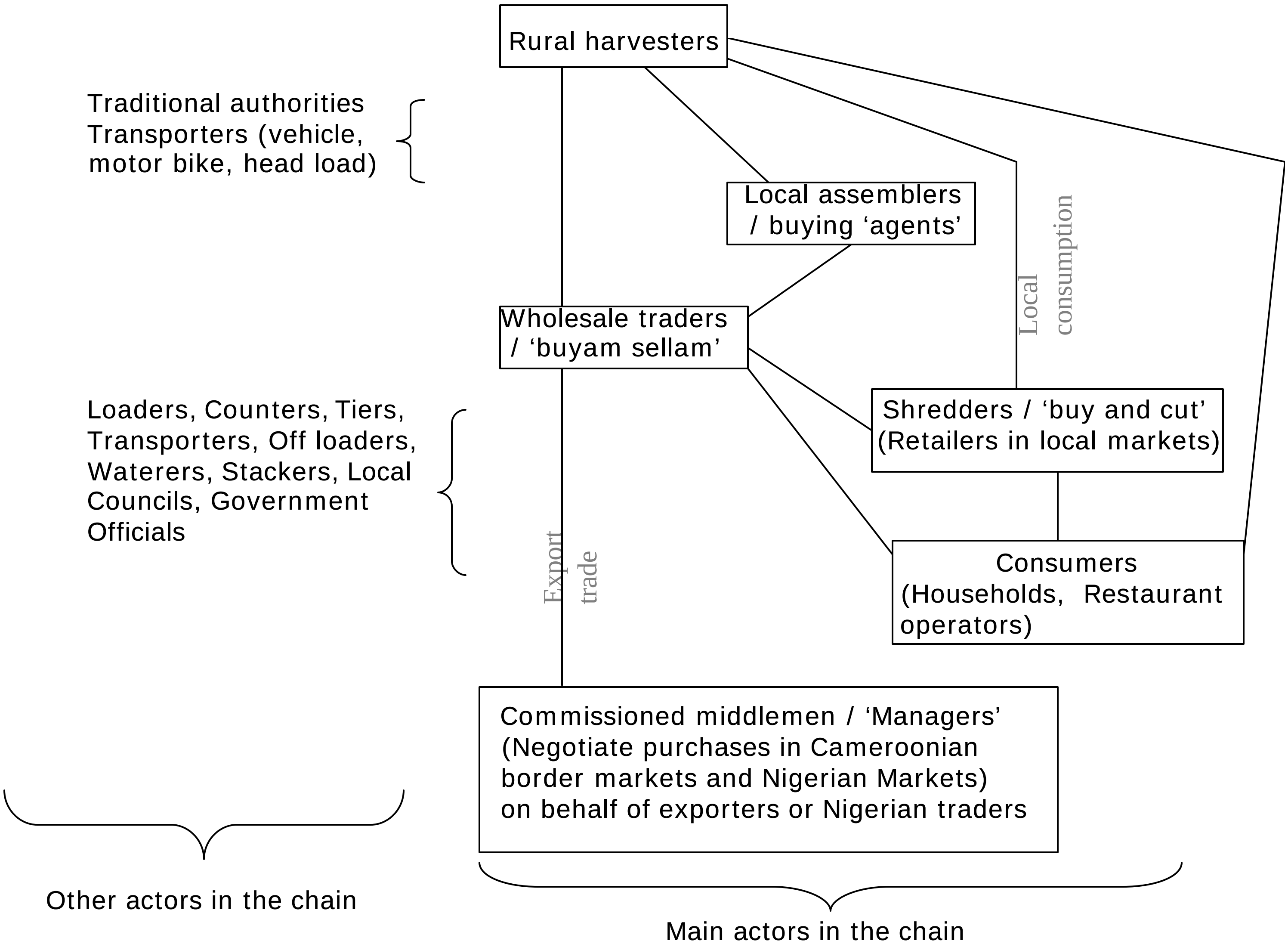
G. africanum is known locally by the actors in the market chain as either 'Souza eru or Kumba eru' and named after the source markets. It is identified by its narrow leaves and is said to originate mainly from the Centre and Littoral provinces of Cameroon. Although it is less preferred by consumers and traders, it constitutes a significant proportion of eru type sold around Kumba, Mundemba and Ekondo Titi and or exported officially and unofficially to Nigeria through Ekondo Titi beach and to an extent, Ekok and Otu borders.

Figure 2: Gnetum africanum

Figure 3: Gnetum buchholzianum

3.2 ACTORS IN THE ERU MARKET CHAIN

Figure 4: Actors in the Eru Market Chain



Eru provides employment for thousands of women, men, youths and children in Cameroon. Actors identified on the market chain (Figure 3) include harvesters, buyers (agents at village level who buy on behalf of wholesale traders, wholesalers, retailers, restaurant operators and commissioned middlemen), workers (loaders and off loaders, waterers, stackers, counters and transporters), traditional authorities, government officials and consumers (households and restaurant operators).

Harvesters harvest eru at the resource base and sell to the different categories of buyers mentioned above at the farmgates. Wholesale buyers buy in large quantities and export directly to international markets in neighbouring countries such as Nigeria, retail to sellers in semi-urban and urban markets or sell to exporters at frontier markets within Cameroon, such as Idenau. Shredders (buy and cut) are retailers who buy either directly from harvesters or from wholesale buyers and then shred the leaves and sell to consumers including households and restaurant operators. Government officials and traditional authorities play more or less supervisory roles while the workers attend to the manual operations to facilitate handling transactions. Details on the identified actors and their activities are presented below as follows:

Harvesters

There is a high demand for eru in the KNP support zone and the adjoining Ejagham Forest reserve and Takamanda Court area in response to local and international market demands. With the increase in awareness on the economic importance of eru and the significant contributions to household economies observed in the source areas there is an increase in the influx of harvesters and traders into the sector as a major activity and source of income, especially during the dry season. Eru harvesting is generally done by women, youths and children in rural areas, most of whom constitute themselves into small groups to embark on forest trips in search of eru. Harvesters sell eru either in rural markets or in informally established collection centers. They either sell opportunistically to buyers in rural markets and villages or in response to orders placed by specific buyers. The latter is true where established informal collection centers and markets exist. Here prices are negotiated prior to harvesting and the buyers are obliged to buy from the harvesters. Most harvesters are either farmers, hunters, pupils or students. No union of harvesters was identified during the survey in the KNP and surrounding areas. The absence of a union or other regulatory structures at the grassroots reduces their bargaining power and poses enormous threat to the integrity of the ecosystem and or resource base. Providing both short and long term solutions to mitigate the threat may be useful before the resource base becomes depleted.

Harvesters are mostly Cameroonians, with a few Nigerians involved especially those with Cameroonian family ties or those resident close to the Cameroon-Nigerian border. An innovation in harvesting is the recruitment of Nigerian boys and girls to harvest eru on contractual basis for Nigerian traders around the Ejagham Forest reserve area (pers. comm.). Each trader can recruit as many harvesters as possible to camp in the forest from a few weeks to months at a time, especially during the dry season, to harvest as much eru as they can. A female trader /exporter testified to have recruited 10 young Nigerians last January who camped in the forest for 6 weeks in Eyumojock area.

Buyers

Buyers include wholesalers (‘buyam sell’) who buy in large quantities and either retail in local markets and market centres to small scale buyers who shred in local markets (‘buy and cut’) or export directly to Nigeria. Some wholesale buyers sell at frontier markets such as Idenau and Bota wharf to traders who export it to Nigeria. Some wholesalers, especially those who buy from the farm gates carry out this activity as a sole source of income while others combine it with farming or trade in other commodities. Women dominate national and trans-border wholesale eru trade in Cameroon, with only a few men. Both Nigerians and Cameroonians are engaged in national and trans-border trade, with more Cameroonians buying and selling within Cameroon.

Of all the wholesale buyers existing in the province, only two licensed traders with exploitation permits from the Forestry Administration were identified. Unofficial sources reported that they supply 17,000 to 21,000 bundles daily, three times a week (Sundays, Tuesdays and Thursdays) and do maintain a monopoly over the Idenau frontier market (pers. comm.). CALUMBA Company which obtained a license in 2006 to market 200 tons of eru is said to supply between 7000 to 9000 bundles a day, three times a week while Ste. MARGO Sarl with license to market 1000 tons of eru obtained in 2006, sells about 10000 and 12000 bundles a day, three times a week. A bundle of eru at Idenau port is estimated at 1kg of fresh weight. Therefore an estimated 17 to 20 tons of eru is exported from Idenau port to Nigeria trice a week, the equivalent of 51 to 60 tons per week. Where a bundle (equivalent of 1 kg) costs a minimum of FCFA 500, eru worth at least FCFA 25,500,000 is exported through Idenau port on a weekly basis. They supply to about 20 buyers who export it to Nigeria, working closely with about 10 commissioned middlemen and about 100 workers. The supply to Idenau is said to have reduced from about 16 buses in the past to about 5 or 6 buses today, the equivalent of a maximum of two 20-ton trucks per day now in use. The other wholesale traders who are small scale exporters either sell at other frontier markets such as Bota wharf, Tiko wharf, Ekondo Titi Beach or Manyu River in Mamfe or transport product through these waterways to Nigeria. Alternatively they may travel by road through either Ekok or Otu borders in Manyu Division to sell in Nigeria. Table 1 presents the rough distribution of traders in various markets in the study area.

Table 1: Distribution of traders in surveyed markets in the Southwest province

Market / Location	**Buyam sellam**	**Shredders**	**Exporters**	**Managers / Workers**
Limbe -Souza	20			
Bota wharf				
Great Soppo (Buea)	20 (including 4 men)	~45		
Kumba railway station	>70 (including 5 men)		15 women, 5 men	
Idenau port	2 (1 woman, 1 man)		20	10 / ~90
Ekondo Titi	5 women	>10	2 Women, 1 man	
Buea Town	0	12		
Fiango, Kumba	Union members	~30		
Kumba Main Market	Union members	~60		
Manyemen		7		
Nguti			1	
Limbe market		100		

Local assemblers/‘agents’

Local assemblers are ‘agents’, usually residents in villages who buy on behalf of wholesalers or may buy to resell to wholesalers and or ‘buy and cuts’. Quite often agents have specific traders to whom they supply their stock and they make purchases based on orders. Their role in the chain is optional as some wholesale buyers prefer to go to villages and make purchases directly from the harvesters

Commissioned middlemen/ ‘Managers’

Commissioned middlemen commonly called ‘Managers’ play a very vital role in Cameroon-Nigeria trans-border trade. Commercialization of eru is well organized in Nigerian markets, having unions for the different segments of the market chain. Exporters from Cameroon are not allowed to sell eru on Nigerian markets. Each wholesale trader contacts a manager who collects the eru and sells to Nigerian traders either at the frontier markets or in the hinterland, on a commission per bundle collected. Although the exporter specifies the price expected per bundle, it is not uncommon for Managers to give exporters less than the agreed price on the excuse of market failures, especially when there is a surplus in the market. Some Nigerian Managers escape occasionally with the proceeds after sale. In Idenau, there are about 10 managers working with about 20 buyers and each manager selects and supervises a team of workers with whom he buys, ties, counts, pack into bags and then loads the bags containing eru into boats to transport to Nigeria. There exists a union of eru workers at Idenau with about 100 members, and other sub-unions for specific tasks such as tiers, waterers.

Shredders
Shredders are found mainly in local markets and sell shredded eru directly to consumers including households and restaurant operators. About 70% of the shredders in urban and rural areas carry out this activity combined with others including farming, selling other foodstuffs and or selling of cooked food. Some sell daily in the local markets while others sell only on market days. Shredders include Cameroonians and Nigerians, with equal opportunities and privileges. The number of shredders identified in local markets were Limbe (>100), Buea Town market (12), Great Soppo market (45), Wone market (1), Manyemen market (7), Mamfe market (35), Ekondo Titi (>10), Kumba main market (60), Fiango market in Kumba (80). 3 harvesters who also shred were encountered in the survey.

Transporters
Transporters include head loaders, truck pushers, motorized bike riders, vehicle and boat drivers, whose role is mainly to transport eru as negotiated with the owner. No special or additional charges are made for the transportation of eru.

Traditional authorities
Traditional authorities are generally the custodians of forests and are responsible for forest management in villages. Traditional authorities in remote villages were reported to authorize eru harvesting by non natives, non residents and buyers interested in buying from their villages on a fee. Negotiations are made depending on the activity. In some villages in Nguti and Takamanda Court areas, buyers who want to maintain monopoly in specific villages pay FCFA 2500 per week to the traditional council and are compelled to buy all eru that is harvested for that week. In other cases, buyers are authorized to carry out their activities freely in villages for specified durations on a fee of about FCFA 2000 to FCFA 3000 per month, while in others they are required to pay FCFA 5000 per year. In the Eyumojock area around the Ejagham Forest Reserve, some traditional authorities allow Nigerian traders to recruit harvesters from Nigeria and introduce them into their forest to harvest eru on a token sum of FCFA 1500 per person recruited (pers. comm.). The number of harvesters is determined by the trader based on the amount of eru required and how long the harvesters are expected to camp in the forest.

There are no regulatory mechanisms at the grassroots by traditional authorities to control off takes, a condition which seriously threatens the integrity of the resource base. This may be due to ignorance on the impact of such activities in the long term, lack of alternative strategies to combat poverty and the lack of information and capacity in biodiversity conservation and sustainable natural resource management.

Government Officials

Although actors in the chain stated that the Forestry Administration was the main government agency charged with control of eru and collection of fees, reports of harassment and extortion by Customs, Police and Gendarme Officials abound. A major constraint identified by all traders interviewed was the numerous control posts requiring 'settlement' during transportation of eru. One eru exporter counted 18 control posts that needed to be 'settled' between Kumba and Ekok. Intimidations and seizures were reported where traders failed to comply with the requests from the Government Officials, resulting in huge losses in some cases. Tips are established informal norms in the trade and would only require serious policy implementation strategies to erode such practices in the system.

Others

Other actors carrying out additional activities on the market chain, operating specifically at the frontier markets at Bota wharf and Idenau port include counting eru bundles as they are offloaded from the trucks and also as they are being stacked in bags (counters), watering of eru (waterers), re-tying of bundles (tiers), packing eru bundles into large bags containing about 500 to 600 bundles each (stackers) and loading these bags into boats destined for Nigeria (loaders). Workers in this segment of the chain are well organized and constitute themselves into unions. Each 'Manager' supervises a set of workers and purchases eru for a single trader at a time. The suppliers also contract managers and workers to off load eru from the trucks and negotiate the sales with the buyers.

3.3 SOURCES AND DESTINATIONS

Several sources of eru were identified in the survey (Table 2) supplying both local, national and international markets. The greater proportion of eru supplied to urban and semi urban markets as well as other rural markets in the support zone such as Mbonge, Ekondo Titi and Mundemba originate from Centre and Littoral provinces and to a much less extent from other sites in the Southwest province. Similarly, eru sold in Mamfe town originates from surrounding forests in Mamfe and the Takamanda Court area. Eru from outlets in the Nguti area, which is closest to the KNP support zone is either consumed locally or exported to Nigeria. Major harvesting sites identified in the support zone are Mboka, Ekenge, Mbinda, Maiti, Mokwalibe, Baro, Osele, Okoroba, Etinkeng, Akat, Bayib Asibong, Talangaye, Sicam, Sanbaliba, Ayong and Bafou. Unconfirmed reports from traders indicate that some of the eru exported to Nigeria is further exported to Europe and America by Nigerian traders.

Table 2: Main sources and destinations

Market surveyed	Source(s)	Local destinations	Export market
Limbe urban	Yaounde, Limbe peri-urban, Yabassi, Muyuka, Souza	Limbe, Buea	
Idenau port	Makenene, Souza, Sa'a, Obala, Monatele	Idenau	Nigeria
Bota wharf	Yaounde, Pouma, Souza	Limbe, Buea	Nigeria
Buea semi-urban	Yabassi, Douala, Yaounde, Kotto, Muea, Yoke, Ekata, Kuke, Muyuka, Banga Bakundu, Ediki, Malende, Bombe, Mautu,	Buea, Great Soppo	

Market surveyed	Source(s)	Local destinations	Export market
	Ekona, Modeka, Pendamboko		
Kumba urban	Mbanga, Souza, Kompegna, Penja, Nkondjock, Maleke, Njombe Loum	Kumba, Ekondo Titi, Mbonge	Nigeria
Mbonge rural	Kumba, Mokoko River Forest Reserve area	Mbonge	
Ekondo Titi rural	Mbanga, Kumba, Bafaka, Bole, Mabonji	Ekondo Titi, Bekora, Mundemba, Mbonge	Nigeria
Mundemba rural	Kumba, Ekondo Titi	Mundemba	
Nguti rural	Nguti, Mboka, Ekenge, Mbinda, Maiti, Mokwalibe, Baro, Osele, Okoroba, Etinkeng, Akat, Bayib Asibong	Nguti	Nigeria
Manyemen rural	Manyemen, Talangaye, Sicam, Sanbaliba, Ayong, Mokwalibe, Bafou,	Manyemen	Nigeria
Mamfe semi-urban, Cross River beach	Takamanda Court area (e.g. Kesham, Eshobi, Bombay), Baro, Okoyong, Bachuo, Kumba, Kendem	Mamfe	Nigeria

Although harvesting is done on a small scale by numerous harvesters in the KNP support zone the number of buyers are on the increase. A lot of eru exists in the wild in the Mundemba – Ekondo Titi flank of the support zone but unconfirmed reports state that harvesting by women for commercial purposes has been disallowed by traditional authorities as a punitive measure. Women were said to be arrogant towards the men when they became financially viable from income earned through eru harvesting and therefore banned from harvesting eru for commercial purposes. It may be interesting to probe into this situation to establish the facts and to advocate for sustainable solutions. It was also reported that large populations of eru can be found in the Korup National Park around Esoki, Ekonama ojong arrey, Ngenye, Mokango-Masaka, Bima and Baro (pers. comm.). Most of these areas may be unexploited due to far distances to market centers or collection sites, difficult access and poor road infrastructure into the park and its support zone. In addition, local people in these areas may not be aware of the significant contributions eru could make towards improving their livelihoods like those in the Centre and Littoral provinces who have more or less adopted eru harvesting as a way of life.

The distribution and availability of eru in the wild in Cameroon is unknown and it was not possible to quantify the volume of eru from the KNP support zone during this survey. Although harvesters recognized the fact that there was enormous pressure on the resource base in order to meet demands from buyers, and that there was a decline in availability of eru in surrounding forests no efforts were being made to regulate harvesting or put in place sustainable management systems. The numerous sources of eru identified in this rapid survey confirm the high demand for eru for both national and international markets and the urgent need for consideration towards informed decision making for the sustainable management of this resource.

3.4 MARKET STRUCTURES

While Cameroon has a widespread and important internal market for eru, Nigeria is recognized as a very important international market for eru. Most of the eru marketed in Cameroon is traded in the informal sector. Existing operators cannot bar the entry of new traders and there are no legal prohibitions on entry and exit into the trade.

The marketing of eru is not organized, as is the case in Nigeria. Activities are not being regulated at all levels on the market chain with the exception of Kumba and Idenau markets where there exist unions for buyers and to a lesser extent Bota wharf. Of these, unions in Idenau are the most organized, although their degree of effectiveness is to be verified. The absence of unions in eru trade in Cameroon is a serious handicap as it renders Cameroonian traders vulnerable in the market, resulting in enormous economic and ecological losses. Where the unions exist, they introduce artificial scarcity and barriers to keep prices and profits high by regulating activities. For instance, setting quotas for quantities traded within defined periods, restricting the number of traders operating at a given time, placing restrictions on who buys or sells as well as harmonizing prices by the use of commissioned middlemen as in at Idenau and Nigerian markets, establish high registration fees to discourage influx of people into the trade, purchases by credit (zero or part payment) systems, among others. These strategies are geared towards creating scarcity which results in higher prices and keeps profits high.

Excess supplies are frequent occurrences at Ikom frontier market (Nigeria) for eru going through Ekok border in Manyu Division, where traders are free to buy and sell and supplies are not regulated. Although there are Nigerian eru traders unions on Nigerian markets, no union of suppliers exists. The absence of suppliers' unions accounts for the vulnerability of the suppliers from Cameroon, the frequent market surpluses and huge losses encountered by the traders. Previous attempts to organize the trade have failed for various reasons. Traders are free to either begin the trade or leave and may be requested to pay a token sum to existing unions at the frontier markets to be allowed to sell. Many traders have quit eru trade after encountering huge losses, while others think it is good business to embark upon since others are able to break even occasionally.

Prices are known, fairly uniform and relatively stable within and between markets. Although prices are fairly stable there exist slight variations based on quality (degree of freshness) of leaves, the sizes of the bundles traded at a given period and from a given location and seasonal variations. Prices are generally set by the suppliers but are negotiable. Farm-gate prices are not necessarily influenced by exchange rates at the frontier markets. Prices generally change in response to the underlying conditions of demand and supply. For instance, prices do fall whenever there is excess supply at any level of the market chain, from the farm-gate in Cameroon to the frontier market in Nigeria resulting in both ecological and economic losses but when shortages occur, prices rise resulting in higher profits. The systematic adaptation to changes in supply and demand by the suppliers is not consistent since most supplies from Cameroon are not organized. Repeated cases of excess supply may be observed consistently over a period because supplies are not regulated, resulting in spoilage, price falls and losses.

3.5 VOLUMES TRADED AND PRICES

Quantities of eru traded depend on the scale of operation of the actor. Harvesters in the support zone collect between 5 and 50 bundles a week, with prices ranging from FCFA100 to FCFA150 per bundle in the dry season to FCFA150 to FCFA300 per bundle during the rainy season. The size per bundle differs with location, collector, species and season however, it is estimated that an average bundle weighs approximately 1 kilogram (kg). Survey results confirm that relatively less eru is available during the rainy season than in the dry season.

Shredders buy between 20 and 60 bundles a week during the dry season depending on frequency of activity per week, shredding on the average 10 bundles per day in larger settlements and 5 bundles in villages. In the rainy season, they buy between 20 and 30 bundles per week. Cost per bundle ranges from FCFA 100 to FCFA 250 at farm gates and FCFA 300 to FCFA 500 in urban and semi-urban centers. They in turn sell at between 60% to %100 profit.

Wholesale traders who sell locally buy between 600 and 1000 bundles per week at the cost of FCFA 100 to FCFA 250 at farm gate. They in turn sell to shredders at the cost of FCFA 300 to FCFA 500 during the dry season and FCFA 600 to FCFA 700 during the rainy season. Prices go up to FCFA 1000 in December during Christmas. Traders normally say ‘eru business is gambling’ you either make profits amidst slight price variations or complete loss.

3.5 VALUE ADDING

Shredding eru

The most common ways of value adding to eru are shredding and cooking. Eru shredding provides employment to numerous women and young girls in the province with over 350 shredders recorded in nine markets surveyed in the province, with some women having spent over 30 years in this trade. It is a major source of livelihood for some households, with some women spending six days in a week on this activity and income from shredding eru educating children up to the university level as well as contributing to payment of residence permits for some Nigerians.

Cooking eru

Besides being a regular menu in most Cameroonian households and parties, cooked eru is served in restaurants, providing employment to several women as well as youths who are mobile eru vendors. It is customarily served with variants of processed cassava such as water fufu and garri. Some women who specialize in eru cooking have earned nicknames such as ‘Mammy Eru’ in Limbe and ‘Mammy 12’ in Mamfe.

Storage

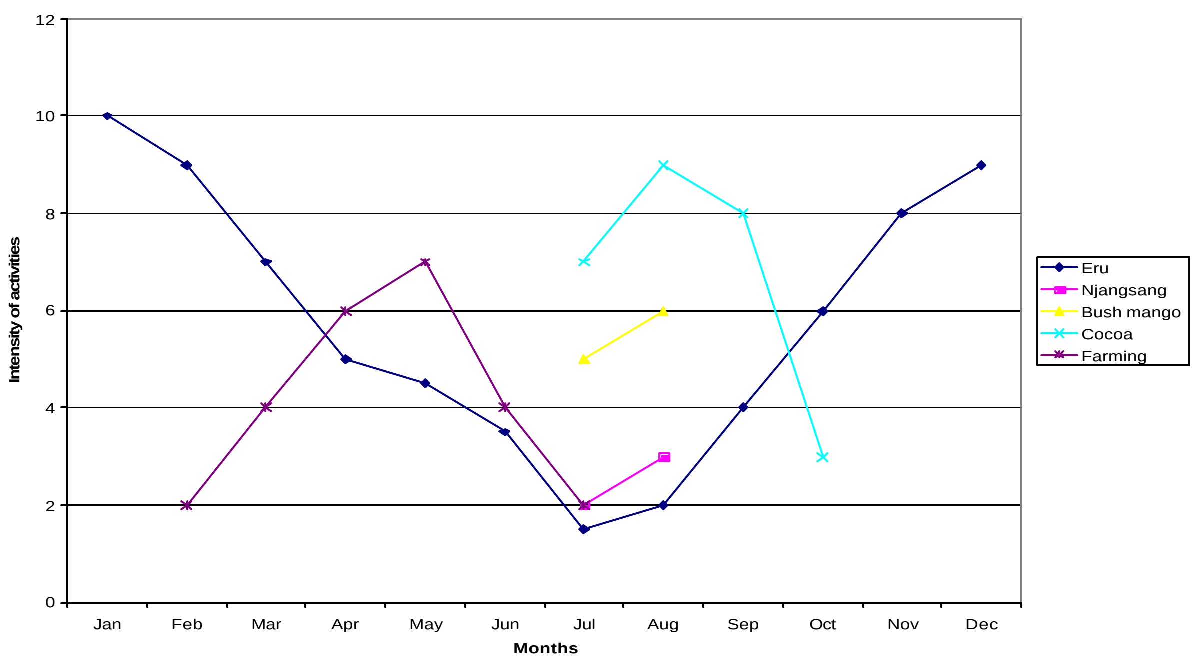
So far preservation of eru remains a major challenge to actors in the chain. Eru is highly perishable with the greatest losses incurred by traders resulting from spoilage, either drying up (burning) during the dry season or rotting during the rainy season. Harvesters and traders reported that eru scarcely lasts more than 5 days after harvesting if not adequately preserved and huge losses are usually encountered where circumstances necessitate that eru stays longer without proper aeration. A female trader reported the loss of eru worth FCFA 300,000 excluding transport and other expenses incurred on the Kumba-Ekok road, due to vehicle breakdown. Other traders reported varying levels of losses incurred in the trade due to delays in marketing stocks, leaving some traders either in huge debts or abandoning of trade. Wholesale buyers therefore schedule purchases and travels following specific market days and would remove any artificial barriers at any cost in order to get the eru to the market in good condition. Another female buyer reported that she abandoned about 300 bundles of eru to some Gendarme Officers over a FCFA 10,000 difference in 'settlement' while others have abandoned varying quantities of eru either on the road or at control points where they foresee spoilage before they reach the market.

Generally eru from the forest lasts longer than eru from fallows, under all conditions and are preferred in the market. Eru from secondary forests are distinguished from forest eru by their light green colour and softer leaves, compared with forest eru which are dark green with harder leaves. The light green and soft leaves may be more of a function of the age of the plant instead of an ecological variation. Local harvesters arrange the eru bundles close together in a cool dry place, with the cut ends on fresh plantain leaves and another fresh leaf placed over the bundles. It can last in this condition for up to five days after harvesting. Shredded eru is spread out on a dry surface for a day, after which the shredded leaves lose their sheen. In the city centres refrigerated storage is used by some restaurant operators, but this is not sustainable in the long term given the frequent and intermittent power supply, and the limited distribution of the national grid.

3.6 SEASONALITY

Eru trade is highly influenced by its growth pattern and other livelihood activities in the KNP support zone. Trade generally flourishes in the dry season when growth is luxuriant as growth is activated from October with the reduction of soil moisture content and rains, resulting in abundance of eru in the forest. Growth peaks in January but reduces remarkably during the rainy season between July and September resulting, in scarcity of eru in the forest.

Figure 5: Seasonal variations in eru trade in the support zone of KNP



The quantity of eru at the farm-gates and in local market increases significantly between October and March with a peak between January and February and declines slowly from

April to June as farming activities intensify. Quantities decline further between July and August when local people engage in other more lucrative income generating activities such as collection of bush mango (Irvingia sp.) and harvesting of cocoa. In September however, there is a rise in quantities as more women and children go in search for eru to raise money for school needs. Significant increase in quantities are experienced between October to March when there is abundance in the forest and farming activities are on a low key, with a sharp rise in December to respond to increased demands from overseas travelers and Christmas festivities.

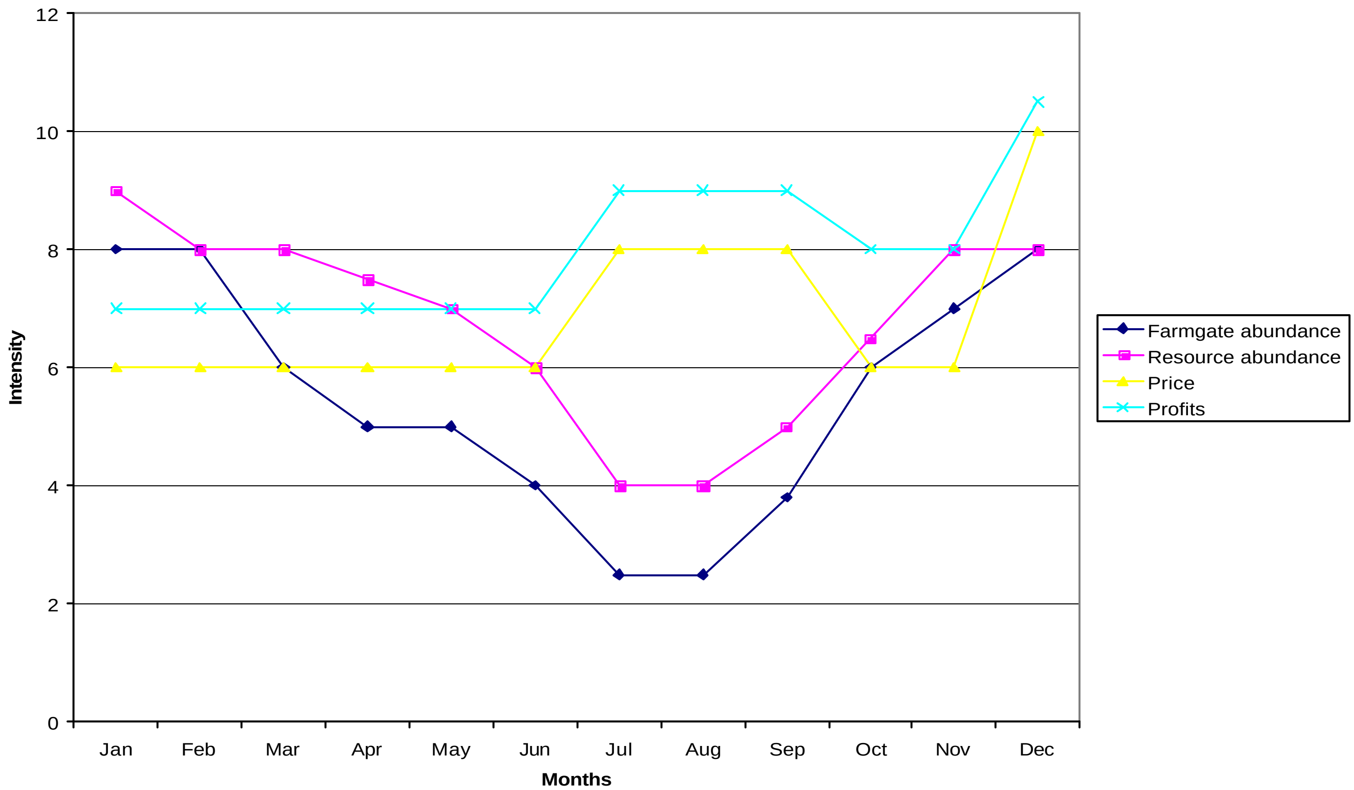
Fluctuations in prices are significant between the rainy season and dry season but not across the months. There is generally a FCFA 50 to FCFA 100 price difference between dry season and rainy season prices at the farm-gates and a FCFA 150 to FCFA 300 difference at the urban and semi-urban centers. However, in December, a price difference of between FCFA 300 and FCFA 500 was recorded. For instance, a bundle of eru generally sells for FCFA 100 to FCFA 150 during the dry season and FCFA 150 to FCFA 250 during the rainy season at the farm-gates, while in urban and semi-urban centers it sells at FCFA 300 to FCFA 400 in the dry season and FCFA 500 to FCFA 600 during the rainy season. The same bundle will sell at FCFA 700 to FCFA 1000 in December, during the Christmas period.

Given the premium place eru has in the culinary habits of Cameroonians and the high local demand, the number of consumers generally does not reduce across the seasons. Profits are fairly stable during the dry season, in the absence of spoilage or market surplus which usually results in significant losses, especially on Nigerian markets. During the rainy season demand remains high but the number of harvesters, buyers and shredders reduce considerably resulting in price hikes and more profits. The numbers above reduce because of difficulties in collecting, storing and transporting eru during the rainy season, presence of other more lucrative activities and marked increase in price of eru. Prices usually double during Christmas although the quantity of eru in the market is high, resulting in higher profits. Between January and March there is usually excess of eru in the market without a corresponding increase in demand, resulting in lower prices and lower profits for the sellers.

Profits

Eru trade provides employment to women, men, youths and children both in urban and rural areas, depending on their position on the chain and their activities. Local people along the chain do not consider their labour input as a cost when calculating their profit, rather they consider the sales income earned for a specified transaction or period based on prevailing market prices, after costs have been deducted. Workers consider the wages earned for specific activities. Although actors state that the trade is commercially viable, the sustainability of the profits is uncertain, considering the highly perishable nature of eru. There are variations in the profits between the two seasons. Although activities are low key during the rainy season, prices are high and the number of actors drop significantly, resulting in a rise in profits by the few who brave the rains and inconveniences.

Figure 6: Seasonal variations in prices, profits and resource availability



Use of income from eru

Income earnings from eru harvesting and selling make significant contributions to household economies both in the KNP support zone and in the rural and urban areas. Incomes were used to provide educational, health, household needs, rents and payment of resident permits for some foreigners. Over 90% of the interviewees (male and female) reported that it contributed to the education of their children as well as supplemented household needs.

Reasons for starting and staying in the eru business

Harvesters, shredders, wholesale traders stated that the most important reason for entering eru harvesting and/or trade was that it requires little or no start up capital investment. Some small scale exporters started selling eru in order to have foreign currency to make purchases in Nigeria for commodities they were trading prior to engaging in eru trade. Although some traders quit the trade after experiencing huge losses due to product spoilage, fall in prices due to market surpluses and exploitation/theft by commissioned middlemen, others have remained in business because profits can be easily made to cover up previous losses. Others have stayed on because it is their occupation. Shredders earn 60% to 100% profit for every bundle of eru bought and shredded. Some restaurant operators stated that there is a ready market and high preference for eru among consumers.

Perceptions on the current state and future of eru in Cameroon

The future of eru in Cameroon is of concern to the conservationist but also to the local people whose livelihoods are intricately tied to its continued existence and its relevance for future generations. Evidence of changes in the availability of eru in the wild were recognized through increases in distances to be covered and time spent to collect eru, conversion of forests for agriculture and other development schemes, scarcities in markets and absence of eru in former source areas. Excerpts from interviews with different actors in the market chain are presented below to substantiate the concerns as follows:

- ‘eru has gone very far so people trek very long distances’
- ‘eru may one day finish, my mother used to harvest eru around, now she must go very far before she can see eru’
- ‘trekking distance and time has doubled compared to last 3 years when I started collecting eru’
- ‘we have to spend nights in the forest in order to have a good quantity due to much harvesting’
- ‘more buyers will join the business’
- ‘the next generation may not know eru’
- ‘number of harvesters are increasing’
- ‘too many harvesters in the area which may lead to a shortage of eru in the future’
- ‘former harvesting sites are now farmland so we have to go further into the forest’
- ‘amount of eru in the forest is reducing because harvesters now take more time to get eru and at times you have to wait for them to return from the forest when you get to the collection site (farmgate)’
- ‘quantity of eru in the forest is reducing; in the past buyers meet us in the market, today we have to go to other markets to buy eru’
- ‘harvesting of eru should be controlled to avoid harvesting premature leaves’
- ‘supply hardly meets demand in the village market’
- ‘we need to increase the quantity we harvest in order to increase the income we get from our sales’
- ‘more and more people are eating eru, it is good business’
- ‘eru is reducing, my former buying sites no longer have eru and if nothing is done, present sites will not have eru in the future’
- ‘eru gets rotten when it is much in the market, resulting in loss of income’
- ‘eru pays highest among the foodstuffs I sell’
- ‘if there is forest, there will always be eru’
- Eru is always available
- ‘as long as there is forest, there will be eru, because it regenerates’
- ‘eru will always be there, my mother shredded eru for 15 years and retired, I am continuing from where she stopped and there is still eru’.

3.7 COSTS AND PROFITS

Costs identified in eru trade include taxes to bcal councils, procurement of shredding materials such as chopping boards, bags, knives and files to sharpen knives, transport, tips to Government Officials, tokens to community leaders to obtain permission to exploit or purchase eru in the locality and fees to Forestry Administration. Over 95% of interviewees stated that one major reason for entering into eru trade was the low start-up capital investment. Labour costs are usually not included by local people in calculating costs.

The highest costs in eru trade are borne by the traders who transport eru from farmgates to markets. The highest cost centers include transport and tips (settlement) to Officers. An exporter in Nguti spent FCFA 47,000 on transport and tips for eru worth FCFA 40000 sold in Calabar, Nigeria and made a profit of FCFA 25,000. Another exporter from Mamfe reported that she makes about FCFA 20,000 to FCFA 40,000 every week from eru and spends about FCFA 60,000 on transport and tips for FCFA 90,000 worth of eru sold in at Ikom, Nigeria. Another buyer from Kumba lost FCFA 465,000 being the cost of eru and transport from Kumba to Ekok during the rainy season due to spoilage resulting from vehicle breakdown in a single rainy season.

Traders encountered in the survey reported that they make between 60% and 100% return on amounts spent on purchasing eru irrespective of the market location, that is, rural or urban. Generally exporters buying 600 bundles of eru a week and make a profit of between FCFA 20,000 and FCFA 50,000 per week, with an extreme case of FCFA 120,000 reported in 2003. An average FCFA 30,000 weekly profit implies FCFA 120,000 a month and FCFA 1,440,000 per year. Shredders in rural markets make a profit of FCFA 2,500 to FCFA 4000 per week and FCFA 10,000 to FCFA 16,000 a month while shredders in urban and semi-urban markets make a profit of at least FCFA 12,000 per week on average, with a range of between FCFA 8,000 and FCFA 15,000 for those selling on a daily basis and FCFA 16,000 to FCFA 20,000 per month for those selling 3 days per week. Wholesale retailers (buyam sellam) reported a profit of FCFA 30,000 to FCFA 50,000 per week. A farmer/harvester in the suburbs of Nguti reported an average sales income of FCFA 8000 per month during the rainy season and FCFA 15,000 in the dry season, while a 42-year old mother who has been collecting eru for the past 11 years makes an average of FCFA 16000 per month as sales income. In other localities, harvesters had sales income of between FCFA 5,000 and FCFA 40,000 per month. At Idenau, a waterer earned about FCFA 5000 per week on the average in the dry season and FCFA 1000 per week during the rainy season.

3.8 OPPORTUNITIES FOR ERU TRADE

3.8.1 Ready local and international market

Cameroon is endowed with forests rich in eru with widespread distribution in the humid lowland forests. A ready local market exists with very high demand as consumption of eru increasingly transcends ethnic and cultural culinary habits. Eru constitutes one of the main dishes in most parties and restaurants within the national territory, and features conspicuously as a regular menu in several households, especially in the humid forest zone.

There is also ready market in Nigeria, other neighbouring countries within the Central African sub-region, Europe and United States of America. As mentioned above, cross border trade on eru contributes significantly to the local economy. With the recent reforms in the NTFP subsector, international trade on eru is expected to contribute increasingly to national economy.

3.8.2 Development of low cost technology

So far, transformation of eru is by rudimentary tools and methods. Production of low cost technology to add value to eru especially in shredding and drying are gradually being introduced. When satisfactorily tested and adopted extensively, they would go a way to enhance activities along the market chain as well as ensuing benefits. CENDEP may promote testing of such technology in their areas of operation and facilitate adoption.

3.8.3 Simple technology to transfer

Eru domestication is quite simple and can be easily studied, adopted and adapted by rural people at relatively low costs. It can be implemented by women and children on-farm under mixed cropping systems and in home gardens.

3.8.4 Human resources are available to promote sustainability of activities

Resource persons are readily available to sensitize, mobilize and organize local communities towards the sustainable management of eru. Resources are also available to organize local and frontier market structures, in order to maximize profits.

3.8.5 Existence of inadequately explored markets in Asia, Europe and America

Direct export of eru to more developed countries is ongoing timidly. Efforts to scale up exports to such countries may be lucrative.

3.8.6 Enabling policy environment

An enabling policy environment exists for NTFP extraction, and developments are underway to promote product certification and commercialization. Based on the provisions made within the Forestry Law of 1994 and its implementing instruments for participatory management of natural resources and sustainable development, attention is increasingly being drawn towards the management of forest products of high economic potential such as eru.

3.9 CONSTRAINTS ENCOUNTERED IN THE TRADE

3.9.1 Unsustainable harvesting

Like most common property resources there is neither control nor regulation in quantity and quality of harvested eru in the KNP support zone, a situation which may not be very different from what obtains in other parts of Cameroon. Harvesting methods are poor, ranging from habitat destruction through tree felling in order to harvest eru on tree trunks and branches, uprooting of entire plants to pulling of vines off their supports. The quest to have as much eru as possible in order to maximize sales income earned to improve household livelihoods, coupled with the high pressure being exerted on the resource base in response to market demands negatively impact the source ecosystems and biodiversity. So far the distribution and availability of eru has not been established in Cameroon, although offtake rates are on the rise wherever eru is found. With increasing awareness of the economic importance of eru in rural and urban areas and the increase in market demand, eru stands highly threatened and needs urgent concerted efforts to mitigate this dilemma. Widespread awareness raising campaigns, community based conservation education and the establishment of participatory and sustainable management systems are possible mitigation measures. In addition, policy reforms to provide incentives for conservation by local people and organization of markets may enhance local, national and international economic and ecological benefits.

3.9.2 Poor market structures

Trade in eru is relatively more organized in Nigeria than in Cameroon, resulting in Nigerian traders having a stronger negotiation/bargaining power than Cameroonian traders. The absence of unions and other regulatory tools within the eru sector on Cameroonian markets and the high perishability of eru renders Cameroonian traders vulnerable to demand and supply forces, resulting in frequent losses and fall in profits. Other disadvantages to Cameroonian traders due to the existence of unions at the market centers include the creation of artificial barriers such as the prohibition of Cameroonians from selling eru directly on Nigerian markets, the presence of commissioned middlemen, most of whom are Nigerians, the credit (part payment) system of purchase, which often results in the middlemen either escaping with huge sums of money from Cameroonians or submitting less than agreed sums, often after several days of waiting at the frontier settlement.

3.9.3 Poor access roads to markets and collection sites

Serious post harvest and financial losses are incurred by actors especially harvesters and traders due to difficult and poor access roads to collection sites and markets.

3.9.4 Perishability of product

Significant ecological and economic losses are currently being incurred due to inadequate preservation, processing and marketing. Eru like most vegetables is highly perishable and would require low cost processing mechanisms to facilitate handling from source areas to national and international markets.

3.9.5 Harassment by Foresters, Police, Gendarmes

A regular expenditure item in estimating costs by eru traders is ‘settlement’, referring to tips given to Government officials in the course of transporting eru from source areas to markets. The numerous control points on the highways, train stations and international borders.

3.9.6 Limited financial resources

Service providers have limited financial resources to enable them embark on interventions that would result in positive impacts. Such interventions should be participatory to ensure local people are sufficiently empowered and also to put in place sustainable systems. So far service providers are highly dependent on intermittent donor funding and may not readily secure adequate funding to carry out activities over uninterrupted periods, necessary to produce positive impacts.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on results above eru trade is lucrative, with ample opportunities for poverty alleviation and sustainable natural resource management. Commercial exploitation is still in its nascent stage and may be organized to maximize benefits for livelihood improvement and safeguard the integrity of the ecosystem as well as the rich biodiversity of the area. The most important constraints identified center around value adding, sustainable management of the resource and the need for improved market structures and access roads. The following recommendations are proposed as mitigation measures geared towards sustainable development and enhancement of nature conservation, resulting in improved commercialization of eru.

i. Explore options and provide low-cost technologies for value adding for shredding, drying and packaging eru in order to improve livelihoods of local women by reducing the drudgery faced by local women during processing and to increase the shelf life of the product.

ii. Conduct sensitization and awareness raising campaigns on the economic importance of eru, the importance of community based conservation as well as community mobilization towards the sustainable management of eru.

iii. Introduce community based conservation of eru through the establishment of sustainable management systems to maximize benefits in the medium and long terms as well as domestication schemes.

iv. Advocate for policy reforms that define and promote indigenous rights and provide incentives for sustainable exploitation, management and marketing of eru by local people.

v. Carry out studies in existing and potential source areas to establish product distribution, availability and sustainable offtake rates, aimed to inform the sustainable management of the resource base.

vi. Improve and organize market structures and marketing of eru in order to minimize post harvest losses and maximize benefits to local people, including exploring options for international trade with European and American markets.

vii. Solicit support for the transformation of eru at farmgate level for export markets through community based initiatives.

viii. Conduct a rapid survey of existing and previous source areas in the Centre and Littoral provinces to learn lessons to inform the establishment of participatory forest resource management systems to avoid depletion of the resource base and promote enrichment planting.

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ANNEXES

Annex 1: Checklist of semi-structured questions

Targets: Harvesters, wholesale trader, retailers, exporters, transporters, others.

1. Description of hamlet, village, town
2. Description of organization of the activity
3. Who is involved (ethnicity, age, sex, position in household, occupation, marital status, etc.)
4. Labour involvement (family, hired, njangi, etc.)
5. Factors that motivated individual to engage in activity
6. Length of time in activity (years) and why
7. Changes observed in activity and why, possible suggestions for improvement
8. Seasonality of activity, what the person does during off seasons and why
9. Relationship with other actors in the chain, expectations, fears and transactions involved (traditional chiefs and councils, forestry officials, other government officials e.g. customs, gendarmes, police officers, etc.)
10. Frequency and intensity of activity (per week, month, year)
11. Costs involved in activities and trends over defined time periods
12. Problems encountered in activities and suggested solutions
13. Perceived direction of activities and personal suggestions (fears, expectations, hopes)
14. From who do you collect/buy and who do you sell to (sex, tribe, origin, age, etc.)
15. Units of measurement and how these have changed over time
16. Price variations over time (season/year/month) and factors that influence the prices
17. How are prices set and by who? Why? What factors are considered to set the prices, why? Any suggestions for improvement?
18. How does information circulate among members in this category as well as others in categories below and above in the chain? What is good or not good about the information flow and why? How can it be improved?
19. What rules and regulations govern the activity (traditional/government, formal/informal)
20. How well do people observe the rules and regulations? Has there been any sanctioning? If yes, explain how, by who and frequency
21. What have you observed in all your years in this business which you think needs attention and why? What advice would you give and to who?
22. What advice or changes would you like to see or recommend to those below (below) or above (named) along the market chain? And why?
23. What would you like scraped off in the chain to make life better?

Annex 2: Photographs of activities on the eru chain and market outlets.

Eru harvester in Mamfe from Takamanda Court area

b) Eru shredder in urban market

c) Shredded eru sold in local markets

c) Hurdles of transportation during the rainy season

d) Manyu River, Mamfe - market outlet to Nigeria during the rainy season, instead of road transport

e) Eru traders at Mbanga railway station