

UNREFLECTIVE PROMOTION OF THE NON-TIMBER FOREST PRODUCT TRADE UNDERMINES THE QUALITY OF LIFE OF THE BAKA: IMPLICATIONS OF THE *IRVINGIA GABONENSIS* KERNEL TRADE IN SOUTHEAST CAMEROON

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ABSTRACT Non-timber forest products (NTFPs) draw attentions as resources that can improve rural livelihoods. This paper describes how local people in southeast Cameroon developed the trade in *Irvingia gabonensis* kernels, one of the most important NTFPs in the area, focusing on relationships between the Baka hunter-gatherers and Bantu farmers. Transactions between the Baka and Bantu are generally practiced as a form of “time-lagged barter”. When the Baka go to forest camps to gather the kernels, the Bantu give them a variety of goods in advance, typically alcoholic drinks, which account for 37% of the converted monetary value. Subsequently, the Bantu visit Baka camps to retrieve the kernels and transport them to sell to merchants in the village. For the Bantu, to give the Baka alcoholic drinks is the easiest way to maximize the amount of kernels they get. There is considerable disparity in the profit distribution between the Baka and Bantu. The latter get seven times more net profit per capita than the former. The unreflective promotion of NTFP trade will clearly widen the disparity between the ethnic groups and undermine the quality of life of the Baka. When promoting NTFP trade as a tool for improving the livelihoods of local people in southeast Cameroon, measures to reduce unhealthy goods from the transactions and to mitigate the disparity in profit distribution, based on a deep understanding of the complex relationships among local people, are essential.

Key Words: Baka hunter-gatherer; Bantu farmers; Inter-ethnic relationship; Time-lagged barter.

INTRODUCTION

Non-timber forest products (NTFPs) contribute to household and national economies across the Congo Basin (Ingram et al., 2012; Ingram, 2014) and are a way to conserve the forest while improving rural livelihoods (Peters et al., 1989). In southeast Cameroon, as in many other tropical areas, many NTFPs are harvested and traded in quantities (Ayuk et al., 1999; Tieguhong & Nkamgnia, 2012). Based on this background, international and non-governmental organizations associated with sustainable development have been encouraging local people to promote NTFP production.

Nuts (kernels) from trees such as *Irvingia gabonensis* are traded widely in southeast Cameroon (Hirai, 2014; Hirai & Yasuoka, 2020). One of the advantages

of NTFPs as a way to improve livelihoods is by realizing commercialization without drastically changing familiar ways of using resources.

However, recent studies have pointed out the risks of a NTFP-based approach, including confusion and disparities in local communities caused by the commercialization of NTFPs (Belcher & Schreckenberg, 2007). Therefore, when promoting trade in NTFPs to improve livelihoods in rural areas, we should pay careful attention to relationships among local communities; in southeast Cameroon, this involves the Bantu farmers and Baka hunter-gatherers. We should also not ignore the roles of merchants in rural villages who trade with regional towns in Cameroon.

In this context, this paper describes how local people developed a trade in *I. gabonensis*, focusing on the relationships between the Baka, Bantu, and merchants. Issues regarding the promotion of fair effective NTFP trade that can contribute to improving the quality of life of local people are discussed.

PEOPLES AND STUDY SITE

This study was conducted in Gribé, a village in the Boumba-et-Ngoko Department, the East Region of Cameroon (Fig. 1). The Baka live here, one of “Pygmy” hunter-gatherers, who interact closely with the Bantu, who primarily practice shifting cultivation. According to the Encyclopædia Britannica (2011), the word “Bantu” refers to a linguistic group that contains more than 500 distinct languages, occupying almost all of the southern part of African continent. Here, we use “Bantu” to refer to non-Baka people, including two ethnic groups that speak non-Bantu languages, living in the forest with the Baka.

The village of Gribé was founded 100 to 150 years ago by the Konabembe, a Bantu-speaking people. After its founding, the village expanded steadily under settlement policies of the French mandate, incorporating other lineages (Toda, 2014). The current population of the village is approximately 800, with approximately 350–400 each of Baka and Konabembe. Cameroonian and foreign merchants started to stay in the village in the 1990s to purchase NTFPs.

In 2001, a logging company reconstructed a ruined road that increased the number of people travelling to and from the village and the volume of trade in NTFPs and bushmeat. In 2015, eight merchants settled in the village with their families. In this manner, the commercialization of NTFPs has progressed in Gribé.

The relationships between the Baka and Konabembe are similar to those between the Pygmies and neighboring farmers in other areas of the Congo Basin. Using the terms “forest world” and “village world”, Turnbull (1962) described cooperative and antagonistic relationships between the Pygmies and farmers (see also, Bahuchet & Guillaume, 1982; Dhellemmes & Macaigne, 1985; Takeuchi, 2001; Terashima, 2001; Sakanashi, 2010; Rupp, 2011). At times, the farmers appear to exploit the Pygmies based on a hierarchical patron–client relationship. At other times, there is mutual dependence based on the exchange of forest products and agricultural crops. The relationships between the two groups can be characterized as ambivalent, i.e., cooperation and coercion, mutual dependence and repulsion.

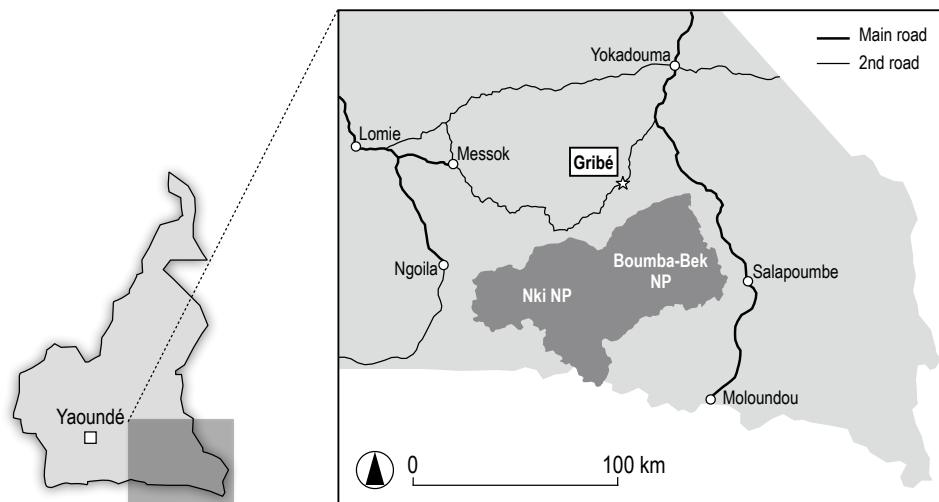


Fig. 1. Study site.

In Gribé, although the Baka and Bantu live alongside each other and communicate on a daily basis, there is still a hierarchical relationship with ambivalent feelings. There is a clear social boundary between them based on the settlement arrangement within the village and limited choice of marriage partners. The Bantu seem to have a higher capacity to adapt to modern systems, such as the state, capitalist market, and development and conservation initiatives, and have political and economic advantages over the Baka (Kitanishi, 2010; Hattori, 2012).

METHODS

In Gribé, the kernels of *Irvingia gabonensis* are gathered and traded in large quantities. However, the fruiting of *I. gabonensis* varies from year to year. It was plentiful in 2012, and most households in Gribé were engaged in gathering the kernels. However, the fruiting in 2013 was less than 10% of the level of the previous year. The Baka went to forest camps and gathered kernels, but the Bantu did not. In 2015, fruiting occurred in large quantities and lasted for longer. Data on the *I. gabonensis* kernel trade were obtained in July–October 2015, as outlined below.

(1) Locations of people during the *Irvingia gabonensis* kernel harvest

To compare the space use by the Baka and Bantu, the locations where 677 people who live in the central quarter of Gribé stayed on the night of August 31, 2015, were recorded. The 677 people included all generations and comprised about 85% of the village population.

(2) Transactions between the Baka and Bantu

To understand transactions between the Baka and Bantu, 52 Bantu were interviewed in late August and 20 more in late September and early October. In all, 743 transactions were recorded, which probably included a considerable proportion of the transactions involving people in the Central quarter of Gribé. For every transaction, the seller, buyer, goods given in exchange for the kernels, and numbers of combo expected and actually received were recorded. The combo, a 2-liter enamel bowl, is used as a unit of transaction between the Baka and Bantu and between the Bantu and merchants. Kernels heaped in a combo weigh 1.6–1.9 kg, depending on the degree of dryness.

Cash is rarely used in transactions between the Baka and Bantu. Therefore, to compare the profits made by the Baka and Bantu, the prices of deals made in the village and transactions at village stores were applied to convert the value of goods the Baka obtained to monetary values in *francs de la Coopération financière en Afrique centrale* (FCFA; 1 Euro = 655.957 FCFA). Camping in the forest is not thought to generate costs for the Baka, since it is a daily activity for them.

(3) Transactions between the Bantu and merchants

The net profits from trading the kernels for the Bantu and merchants were calculated as follows:

$$\text{Net profit} = \text{Sales} - \text{Purchase costs} - \text{Other costs.}$$

Sales of the kernels were calculated as the number of combos multiplied by unit price. Selling unit prices were estimated from transaction records at merchants' stores in the village in July and August, 2015. When recording the transactions, the condition of the kernels, i.e., fresh, fire-dried, or sun-dried, was noted.

(4) Transactions between merchants

Transactions between village and town merchants involve large bags that contain about 77 combos of kernels on average. Transaction volumes were initially based on the number of bags and converted into the number of combos to compare the unit prices with transactions between the Baka and Bantu. Purchases and sales of 16 merchants based in Yokadouma, the central town of the Boumba-et-Ngoko Department, were monitored in August to October, 2015. The number of bags traded, purchase/selling prices, sellers/buyers, etc. were recorded. In addition to purchase costs, merchants have to pay transport costs, commissions, and taxes, which were identified through interviews conducted in Yokadouma.

RESULTS

I. Spaces Used by and Roles of the Different Actors in the *Irvingia gabonensis* Kernel Trade

As shown in Fig. 2, the production of *I. gabonensis* kernels involves different actors within a village.

- The Baka and a much lesser number of Bantu who go to forest camps 10 km or more from the village and stay for up to 2 months to gather the kernels;
- The Bantu, who visit Baka's camps, collect the kernels from the Baka and transport them to the village in 30–40-kg baskets; and
- Merchants, who come from other areas and stay in the village, buy the kernels from the Bantu, or sometimes from the Baka, and dry the kernels under sunlight every day. The kernels are stored and sold to buyers visiting from Yokadouma.

In 2015, *I. gabonensis* trees around Gribé produced fruit in quantity. As shown in Table 1, 81% (212 of the 262 people whose locations were identified) of the Baka went to forest camps to gather kernels, most of which were located at least 13 km from the village (Fig. 3). In addition, the places of sojourn were not confirmed for 91 Baka who most likely gathered kernels in the forest. Most of the kernels were sold, although the Baka and Bantu kept some to make pâté for their own consumption.

Of the Bantu, 65% (198/305) stayed in the village and 19% stayed in cacao fields located 7–8 km from the village. Only 6% stayed in forest camps to gather *I. gabonensis* kernels themselves. Of the 82 Bantu households in Gribé, at least one person from 73 households was involved in the *I. gabonensis* kernel trade. From interviews, the lengths of their visits to forest camps averaged 5.5 (range 1–18) days, which were much shorter than those of the Baka, who spent weeks to months in the forest. The Bantu did not stay in the forest for longer periods because it was too much of a burden on infants and the elderly.

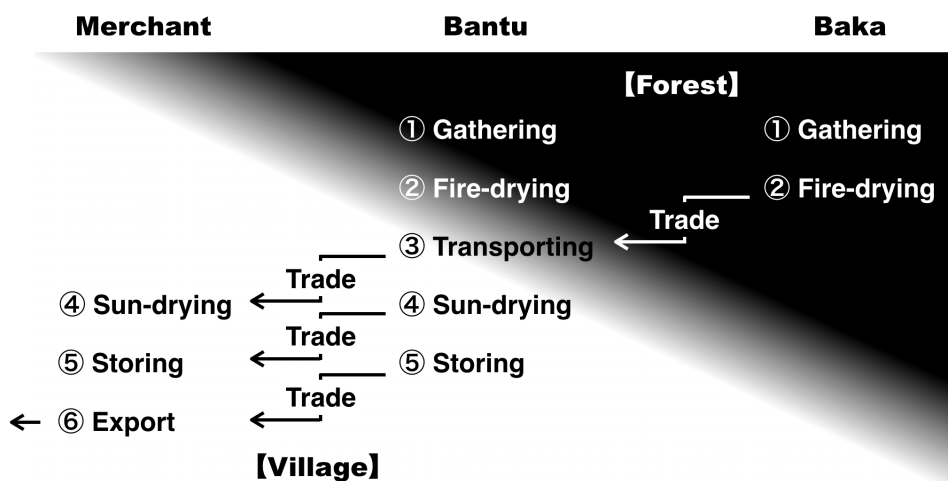


Fig. 2. Actors and their roles in the *Irvingia gabonensis* nut trade from the forest to village. The black (white) background indicates the forest (village) space.

Table 1. Locations ^a of the people in Gribé on August 31–September 1, 2015.

People	Village	Cacao field	Forest		Out of Gribé		Not identified
			<i>Irvingia</i> camp	Other camp	Other village or town	Logging base	
Baka	15	3	212	2	14	16	91
Bantu	198	57	17	1	32		
Merchant	19						
Total	232	60	229	3	46	16	91

^a The 677 people include all generations, including children and babies.

From the 73 households, 24 women engaged in the kernel trade. Because cacao growing, the major income source in this area, is principally managed by men, *I. gabonensis* is an important income source for women, particularly for single women. *I. gabonensis* is also a convenient cash income source for schoolchildren. Among the 73 households, 26 schoolchildren engaged in the trade and earned money by selling the kernels. As the fruiting season from July to August coincides with the vacation period, children staying in town to go to school return to the village.



Fig. 3. *Irvingia gabonensis* kernels gathered by Baka girls. There is a combo filled with kernels beside the girl sitting in the back.

Of the eight merchants, only one stayed in a forest camp to gather kernels. He is a Bamileke from the West Region who married a local woman. The others specialized in the purchase and storage of NTFPs.

II. Profit of *Irvingia gabonensis* Kernel Trade for the Baka and Bantu

The Bantu have two options for collecting *I. gabonensis* kernels in quantity: [i] to buy the kernels from the Baka and [ii] to gather the kernels themselves. More than 65% (46 of 72 people) only bought kernels, 14 Bantu both bought and collected kernels, and 12 only collected kernels themselves. The Bantu generally buy kernels from the Baka and of 743 transactions at forest camps in 2015, 738 (99%) were with Baka. Sixty Bantu conducted exchanges with 222 Baka. Baka sometimes sold a part of the kernels they had gathered directly to merchants, but most of the kernels were given to the Bantu.

Transactions between the Baka and Bantu are generally a form of “time-lagged barter” based on the traditional relationships between the two ethnic groups. When the Baka go to the forest, the Bantu give them a variety of goods in advance. For the 743 transactions, alcoholic drinks, including plastic packs of spirits and locally distilled liquor, made up 37% in terms of monetary value in FCFA (Fig. 4). Out of 222 Baka, 45 (20%) used their kernels only to get alcoholic drinks, 92 (41%) used at least half of their kernels to get alcoholic drinks, and 59 (27%) did not get any alcohol. The Bantu know that the Baka consume alcoholic drinks enthusiastically. Therefore, the Bantu give them alcohol and later visit the Baka camps to retrieve the kernels. In addition, the Bantu gave them crops that they

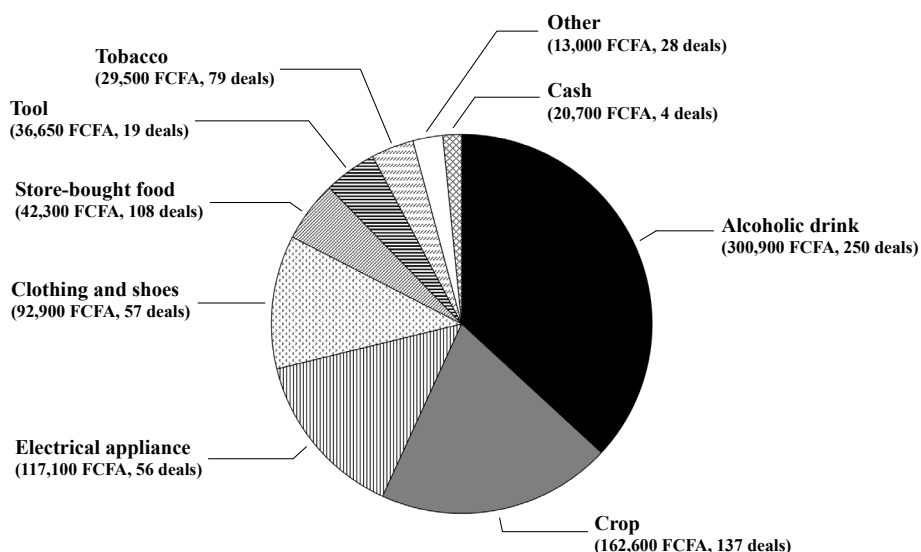


Fig. 4. Percentages in monetary value of goods given to the Baka by the Bantu in exchange for *Irvingia gabonensis* kernels.

Table 2. Volumes of *Irvingia gabonensis* kernels collected and profits of the Baka and Bantu.

Ethnic group and way of collection		Number of people involved	Number of combos ^a collected	Balance [FCFA]			
				Total gross profit ^b	Purchase cost ^c	Net profit	
						Total	Average
Baka	Gathering	222	1,187	815,650	0	815,650	3,674
Bantu ^d	Purchase	60	1,187	2,374,700	815,650	1,559,050	25,984
	Gathering	26	360.5	721,000	0	721,000	27,731

^a A combo is a 2-liter enamel bowl used as a unit of measure of the nuts. A combo contains 1.6–1.9 kg of *I. gabonensis* kernels, depending on the degree of dryness.

^b The selling price was 687 and 2,000 FCFA/combo for the Baka and Bantu, respectively.

^c Purchase cost 687 FCFA/combo.

^d Fourteen Bantu obtained nuts by both purchasing them from the Baka and gathering them themselves.

grow, including cassava flour and plantain (20%), as well as electrical appliances, including music players, flashlights, and batteries (14%), clothing and sandals (11%), store-bought food, including fried dough balls, rice, and consommé cubes (5%), tools, including machetes and steel wire (4%), and tobacco (4%). Cash accounted only for 3%.

In the 738 transactions, in exchange for 1,187 combos of kernels, 222 Baka obtained goods equivalent to 815,650 FCFA, with a median of 2,000 FCFA and average of 3,674 FCFA. The Bantu expected to get 1467.5 combos in exchange for the goods that they had given to the Baka. However, they retrieved only 1,187 combos. This means that the expected rate of exchange was 556 FCFA, but the actual rate worsened by 24%, to 687 FCFA. Interestingly, this percentage equals the 25% in crop and store-bought food transactions (Fig. 4).

The unit price that the Bantu sold the kernels to the merchants for was much higher. In 33 transaction records, sun-dried kernels were sold at 2,167 FCFA/combo, whereas fire-dried kernels were sold at 2,027 FCFA/combo in 81 records. Adopting 2,000 FCFA/combo as the unit price and assuming that the Bantu sold all the kernels collected, this totaled 2,374,700 FCFA. As 687 FCFA/combo should have been paid when they bought the kernels, the net profit for 60 Bantu was 1,559,050 FCFA (median 19,650 FCFA, average 25,984 FCFA). The net profit per capita was seven times larger than the average profit of the Baka. This resulted from two factors: one Bantu deals with 3.7 Baka on average, and they sell the kernels to merchants at higher prices.

In addition, 26 Bantu gathered kernels themselves, 14 of whom also bought kernels from the Baka. They harvested 360.5 combos, which were sold for 721,000 FCFA in total (median 26,000 FCFA, average 27,731 FCFA). Because they sold their kernels directly to merchants, they got much more profit per capita than the Baka did.

There were also considerable differences in profit among both the Baka and Bantu (Fig. 5). Only four of 222 Baka received 20,000 FCFA or more, while 177 (80%) received less than 5,000 FCFA. A Baka man in his 20s earned much more than anyone else and traded 51.5 combos with nine villagers and obtained

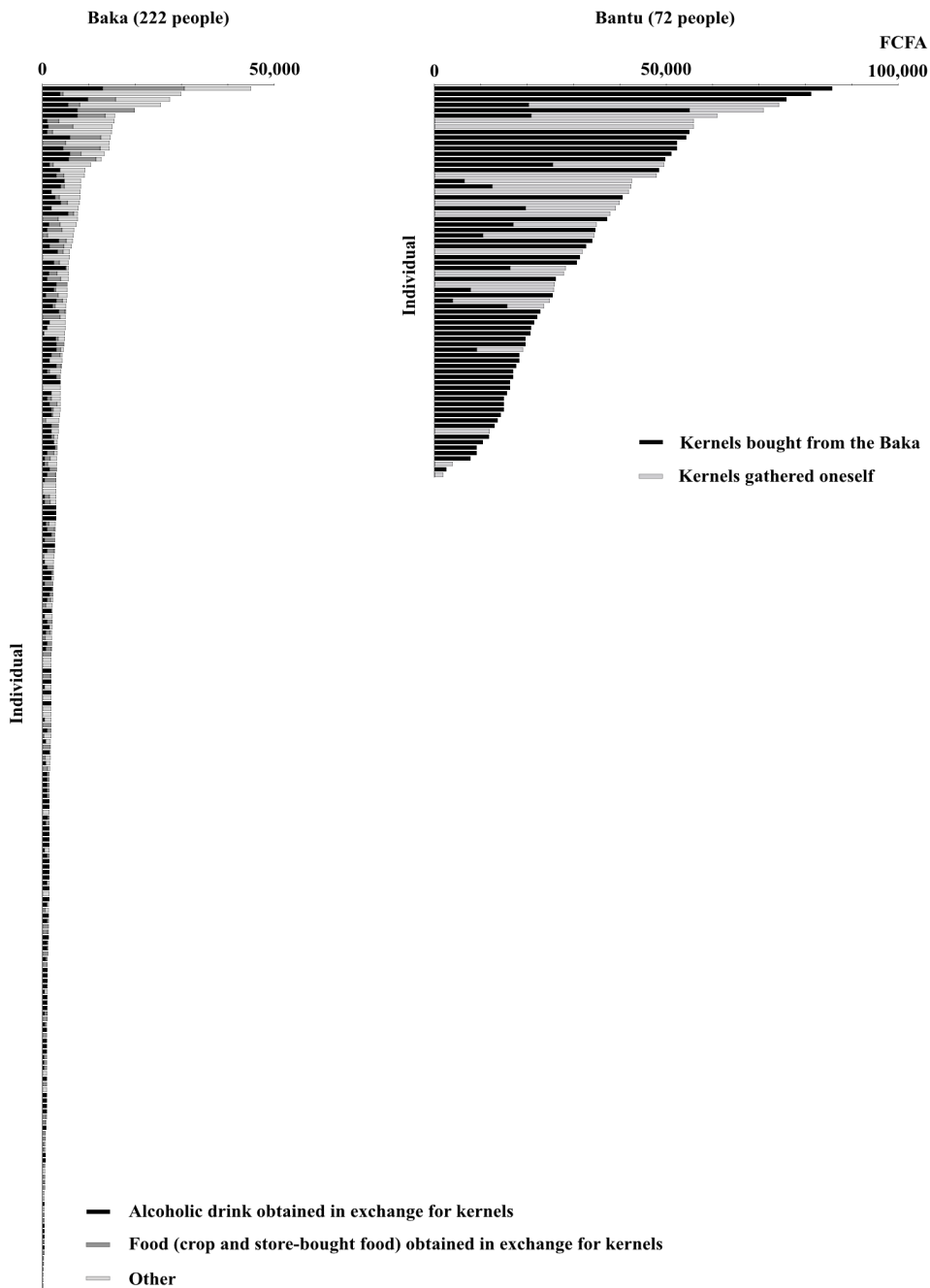


Fig. 5. Distribution of net profits converted into monetary value for the Baka and Bantu involved in the *Irvingia gabonensis* kernel trade. For the Baka, different colored bars indicate monetary values of different categories of goods they obtained in exchange for the kernels, i.e., alcoholic drinks, food, and others. For the Bantu, different colors indicate different ways of collecting kernels, i.e., those bought from the Baka and those gathered by the Bantu themselves.

goods equivalent to 45,100 FCFA, including alcoholic drinks, crops, and steel wire. He was an exceptional case. Many Baka got only alcoholic drinks or tobacco.

The profits of the Bantu also varied, but were generally much higher than those of the Baka. Of 72 Bantu, 46 (64%) earned 20,000 FCFA or more, and only three got 5,000 FCFA or less. Notably, 13 Bantu earned more than 50,000 FCFA. This is because the Bantu's profits can be increased by trading with more Baka partners, whereas the Baka's profits can be increased only by working longer. In addition, the Bantu sold all of the kernels they gathered, whereas most of the Baka were involved in time-lagged barter, which is embedded in their traditional relationship with the Bantu, before they accessed the village merchants. However, the Bantu do not always retrieve kernels equivalent to the goods given to the Baka, so that they cannot increase the number of Baka partners unconditionally.

III. The Value Chain of *Irvingia gabonensis* Kernels

The Baka mainly engage in gathering *I. gabonensis* kernels in the forest and the Bantu farmers are responsible for transporting the kernels to the village and drying them. Merchants purchase and accumulate the kernels in the village and then ship them elsewhere. Through these serial transactions, the unit price of the kernels increases (Table 3). In the forest camps, where transactions are made between the Baka and Bantu, the Baka were paid a variety of goods equivalent to 687 FCFA per combo of fresh or semi-dried kernels, although rate expected by the Bantu was 556 FCFA per combo.

In the village, where transactions were mainly between the Bantu and merchants, 2,027 FCFA/combo were paid for fire-dried kernels and 2,167 FCFA/combo for sun-dried kernels, based on 81 and 33 transaction records, respectively. For fire-dried kernels, the Bantu gave the Baka 688 FCFA/combo and obtained 2,027 FCFA/combo from the merchants. Therefore, the Bantu earn 1,340 FCFA/combo net profit. Although they have to go to the forest camps to retrieve the kernels and transport them in 30–40 kg baskets, the monetary costs of this are negligible.

The selling price depends on the condition of the kernels. Whitish kernels dried under sunlight have higher economic value. In this case, the net profit for the Bantu increases to 1,480 FCFA. However, because there is little sunlight in the forest, the Baka dry the kernels on fires using a drying rack (*lokala* in Baka) to avoid mold. During fire-drying, the smoke makes the kernels darker and oil leaks out, decreasing their economic value. Therefore, it is important that the Bantu collect the kernels as soon as possible before they darken, and that they dry the kernels themselves in the village. For merchants in the village and Yokadouma, sun-dried kernels are also more profitable than fire-dried kernels (Table 3).

The net profit for sun-dried kernels for the Bantu (1,480 FCFA/combo) exceeded that of merchants (1,039 FCFA/combo), probably because the Bantu are tough bargainers. However, even if profit per combo is lower, the merchants each earn much more because they each trade with many Bantu. Based on the trade of 1,187 combos, the merchants earned a net profit of 148,000 FCFA each ($= 1,187 \text{ combos} \times 1,000 \text{ FCFA}/8 \text{ merchants}$), compared with 25,984 FCFA per Bantu.

In addition, merchants can earn more if they can wait until the price in

Table 3. Value chain of *Irvingia gabonensis* kernels in July–October, 2015.

Space	Condition of kernel	Seller	Buyer	Number of recorded transactions	Number of traded combos ^a	Selling price per combo	Cost per combo		Net profit per combo
							Purchase	Other ^b	
Forest	Fresh / Fire-dried	Baka	Bantu	738	1,187	687	0	0	687
Village	Fire-dried	Bantu	Merchant in village	81	579.5	2,027	687	0	1,340
	Sun-dried	Bantu	Merchant in village	33	523	2,167	687	0	1,480
Town	Fire-dried	Merchant in village	Merchant in town	13	590	2,987	2,027	77	883
	Sun-dried	Merchant in village	Merchant in town	29	1,588	3,283	2,167	77	1,039
City	Fire-dried	Merchant in town	Merchant in city	11	481	3,209	2,987	272	-50
	Sun-dried	Merchant in town	Merchant in city	17	2,466	3,951	3,283	272	396

^a A combo is a 2-liter enamel bowl used as a unit of measure for the nuts. A combo contains 1.6–1.9 kg of *I. gabonensis* kernels, depending on the degree of dryness. When trading with merchants, a bag that contains 77 combos on average is used. The number of combos is obtained from the number of bags using a conversion factor of 77.

^b Other costs are 3,000 FCFA for transport and 3,000 FCFA for commissions for a bag traded between merchants in the village and in town, and 10,000 FCFA for transport and 5,000 CFA for MINFOF (Ministry of Forestry and Wildlife) documents for a bag between the merchants in Yokadouna.

Yokadouma increases. The selling price increased as the season progressed from 2,500 FCFA/combo at the end of August to 4,500 FCFA/combo 20 days later. Merchants with enough warehouse space can wait for the price to rise. The same can be said for merchants in Yokadouma. According to Table 3, transactions for fire-dried kernels were in the red. In practice, however, they deal in much larger quantities of a variety of NTFPs, have more storage space, and can wait for the prices in cities to increase.

The Bantu also knew that the selling price would increase. However, many of them needed cash to enroll their children in school in early September and sold the kernels by that time. Notably, the exchange rate between the Baka and Bantu was consistent throughout the season. Although it can vary depending on whether the Bantu retrieve the expected volume of kernels, the expected price was hardly affected by the market economy, at least within a year.

DISCUSSION

In southeast Cameroon, NTFPs have become major commodities over the past 10 years. Among them, *Irvingia gabonensis* provides the greatest economic opportunity for the Baka hunter-gatherers and Bantu farmers. As *I. gabonensis* kernels can be harvested without damaging the capital, i.e., the trees, increases in kernel harvest are sustainable. In fact, Hirai & Yasuoka (2020) calculated that *I. gabonensis* trees in the study area generally produce 10 times more kernels than could be gathered by everyone with maximum labor input. It is also difficult for the Bantu to invest more labor in kernel gathering because its fruiting season overlaps with the cacao season, the most important source of cash income for them.

Therefore, there are two ways to raise the profits from *I. gabonensis* kernel trade for local people: raising the unit price and expanding Baka involvement in the trade.

As shown in Table 3, in terms of net profit per unit volume of kernels, the Bantu received the largest benefits among the actors in the value chain in the area. So, it would be difficult to increase the selling price between the Bantu and merchants. However, there is still room to raise the selling price by improving kernel condition. As mentioned above, in forest camps where the sunlight is limited, the Baka dry the kernels using fires to avoid mold. Smoke darkens the kernels and reduces their economic value. An innovation in drying and storing kernels is therefore awaited.

The latter option might seem much easier, but it might undermine the Baka quality of life. As shown in Fig. 5, many Baka were not largely involved in the trade. As kernels are still available in the forest, the more they work, the greater their reward. However, this would increase the consumption of alcoholic drinks by the Baka because their involvement in the trade is based on “time-lagged barter” embedded in traditional inter-ethnic relationships with neighboring Bantu farmers. For the Bantu, the number of Baka partners is an important factor in maximizing the amount of kernels they get. The easiest way to do so is to give

the Baka alcoholic drinks to get them involved in “time-lagged barter”.

Note also the disparity in profit distribution between the Baka and Bantu; promoting NTFP trade is likely to widen this. As shown in Table 2, there is currently a considerable difference in the net profits of the two due to the Bantu’s greater bargaining power with merchants and the Baka. Therefore, even when the selling price between the Bantu and merchants rises, the Bantu obtain a large part of the additional profits, which leads to further disparity between the two.

This situation may not change if the Baka trade the kernels directly with merchants. As Yasuoka (2006) described, most merchants also sell alcoholic drinks to retrieve the money they pay to the Baka. Moreover, direct transactions with merchants may lower the selling price because the Baka are not as tough when bargaining with merchants as are the Bantu.

It is difficult to change the established trade system because “time-lagged barter” is embedded in the traditional “patron–client” relationships that cover not only the *I. gabonensis* kernel trade but also wider social relationships. If we consider only the kernel trade, the Bantu seem to exploit the Baka. However, as mentioned above, their relationships have been established over 10s or 100s of years of social interactions and are much more complex than can be grasped from an economic aspect.

It is certain that, as long as “time-lagged barter” exists, unreflective promotion of NTFP trade will widen the disparity between different ethnic groups and even undermine the Baka quality of life. When promoting NTFP trade as a tool for improving the livelihoods of the people of southeast Cameroon, measures reducing unhealthy goods in the transactions and those mitigating the disparity in profit distribution, based on a profound understanding of the complex relationships among local people, are essential.

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