



Farmers' satisfaction with group market arrangements as a measure of group market performance: A transaction cost analysis of Non Timber Forest Products' producer groups in Cameroon

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ABSTRACT

This paper evaluates the performance of Non Timber Forest Product (NTFP) group market initiatives by examining whether these groups meet the objectives for which they were created. Group marketing has often been cited as one way through which farmers can increase their access to markets by improving their negotiation/bargaining power and the competitiveness of their production as well as reduce transaction costs. However, these suppositions need to be verified especially as some of them are solely based on theory. This study uses data on producers' perceptions of expected benefits attainment through group sale initiatives to analyse the case of two NTFP producer groups in Cameroon. Results show that by joining groups, farmers can reduce some transaction costs while other costs may increase. Although overall negotiation power may increase following interventions from group activities, certain elements of negotiation are fundamental to success like bargaining better prices commensurate to efforts put in by members to meet quality standards set by traders. By using transaction cost theory, the study identifies certain elements hidden in the attributes of the transactions between producer groups and traders such as the nature of products and roads, or dispersed settlement of producers that may frustrate group market initiatives and may account for differences in performance between one group and another.

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1. Introduction

Farmers' inability to access markets is often attributed to lack of information on prices and technologies, lack of connections to contact market actors, distortions or absence of input and output markets, credit constraints, high marketing and transaction costs related to their activities and poor road infrastructure (Bienabe et al., 2004; Griffon, 2001; Russell and Franzel, 2004). These authors argue that changes in institutional arrangements such as collective marketing can play a great role in solving the above problems, the result of which would be more tangible benefits to producers. This call for group initiatives is also highlighted in the 2008 World Development Report (World Bank, 2007) which further emphasises improving governance and linkages between producer organisations and the private sector, here referred to as traders of Non Timber Forest Products (NTFPs). While literature and theory supporting producer group marketing initiatives exist, few if any publications evaluate such initiatives especially in the NTFP sector, and in particular using participating

farmers' perception of satisfaction of attainment of targeted goals. The aim of this paper is to contribute in filling this gap by assessing the performance of group market initiatives based on farmers' satisfaction and transaction cost theory. The premise is that, if group members achieve fixed targets, they should be satisfied with the outcomes, and if they prefer group market initiatives to other forms of selling, it is because they have perceived a reduction in their transaction costs.

The principal question this research is out to answer is: "Do producer marketing groups have true economic functions to play and do they offer net benefits to their members that are greater than what is available through alternative marketing channels?" Such an analysis is important because if group members do not attain predefined goals, and if they are not satisfied with the aims for which the group was created, then there is every reason to question the farmer groups' purpose and viability. An assessment of the performance of group market initiatives can also help to answer the question whether attainment of expected benefits influences farmers' decision to choose group market initiatives over alternative modes of selling. Such evidence would give development workers and donors the necessary confidence to scale up the approach where necessary.

A review of literature (Bienabe et al., 2004; Griffon, 2001; Russell and Franzel, 2004) reveals that acting collectively, producers'

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marketing groups offer the possibility for members to have better market access through reduced transaction costs by: (i) increased negotiation/bargaining power for higher prices since the group will have better control over members' produce if farmers commit to sell their produce through the group; (ii) better access to capacity building programmes/financial assistance that can enable the group to reach its objectives; (iii) increased information sharing amongst members on market and production issues; and (iv) reduced transaction costs involved in searching for information, negotiation and monitoring of transactions. These are goals against which the performance of marketing groups can be measured. In this paper we will compare the performance of two producer groups, marketing two different NTFPs, namely kola nuts and njansang.

2. Study products and groups

The two NTFPs of concern in this study are njansang and kola nuts. *Ricinodendron heudelotii* (njansang) is an endemic African tree species of the Euphorbiaceae family. The focus of this study is on njansang kernels, rich in fatty acids, essential oils and proteins, that are traditionally used in preparing soup and a variety of dishes thanks to their appetising aroma (Tiki Manga et al., 2000). *Cola anomala* (kola) is a Sterculiaceae tropical tree. The interest here is on the kola seeds. In West and Central Africa, kola nuts are masticated to counteract fatigue, curb thirst and hunger whereas they are also believed to boost intellectual capacity (Oben and Brown, 2004). Extracts are reported to be used for industrial production of various kola soft drinks (Beatie, 1970) and heat-tolerant chocolate bars (Williams, 1979). Kola and njansang have been subject of domestication since the early 1990s in Cameroon (Tchoundjeu et al., 2006). Both products differ with respect to certain characteristics and are thus worth comparing.

Product attributes are important aspects that need to be considered in the exchange of goods and services (Barzel, 1982; Doward et al., 2005). An important attribute that distinguishes kola from njansang is the importance of product quality and difficulty for producers and traders to address this trait at the time of sales. The difficulty to measure product attributes creates uncertainty for buyers with respect to product quality and trustworthiness of supply. For sellers, the difficulty to determine state of product deterioration creates uncertainty since such products need to be sold quickly to avoid deterioration, leaving sellers unable to store the product for better market prices. If product is perishable, it increases transaction complexity because product quality can deteriorate during storage, thus imposing sorting or information costs on market actors. Perishability also increases negotiation costs as both parties will have to develop procedures to decide who bears responsibility at different stages of the transaction (Hobbs and Young, 2001). A difference in the capacity of actors dealing in these products to handle this variation may thus lead to differences in transaction costs and consequently, performance of the value chain.

Action-research aimed at encouraging kola nut and njansang producers to increase their income by organising group sales started in 2003, with two farmer groups, MIFACIG and ADEAC respectively. The Twantoh Mixed Farming Common Initiative Group (MIFACIG) is a producer group created in November 1993 with the objective of alleviating poverty through promoting sustainable agriculture, job creation and capacity building. The group's headquarter is located in Belo whereas its activities stretch throughout the Boyo Division¹ of the North West Region of Cameroon. The area of intervention of MIFACIG is estimated at about 85 km² with varying radii of 11 to 45 km from Belo. The 'Association pour le Développement Intégral des Exploitants Agricoles du Centre' (ADEAC) is a farmer organisation

working in the Centre Region of Cameroon. It has a total of 450 active members working in six different agricultural subsectors namely: perennial crops, food crops, pisciculture, small livestock and poultry, crafts and market gardening (Fig. 1).

Before the group marketing initiative was introduced in the production villages in 2003, traders moved from door-to-door to buy from individual farmers. On some occasions, farmers would take their produce to local markets hoping to meet traders there. Traders had to negotiate prices with each farmer until they agreed on an acceptable price. The consequences of this method were increased transaction costs. As it was, producers incurred high information costs because they lacked knowledge on where to find buyers. Traders also faced specific costs, namely: high information costs resulting from difficulties to find producers; high monitoring costs due to high dispersion of producers; and high control costs because farmers did not sort produce according to quality and at times tried to cheat.

As an alternative to door-to-door sales, group market arrangements evaluated in this study is the practise whereby a producer group assembles the produce of its members and invites traders from urban markets to purchase it. To meet the overall objective, training programmes were elaborated to build members' capacities in group dynamics, bargaining and negotiation skills, postharvest and storage techniques. At the same time, a participatory domestication programme was initiated to increase selected species production in order to sustain supply. In group market arrangements, forward contracts as defined by Hobbs (1995) are applied. In forward contracts, prices are agreed ahead of time or an indication of the price in the neighbourhood of which both parties will agree is given by both producers and traders. This may be arranged either on the phone or else the marketing officer travels and negotiates with traders in urban markets. In case members do not agree with the price offered by the traders on the agreed market day, they can collectively decide to take their produce home and call for another group of traders. In such a situation, members are neither allowed to sell individually nor elsewhere as long as the group has not agreed on a comfortable price for its members.

Another reason for forming marketing groups is to force traders to use more objective measuring units compared to arbitrary measures used during door-to-door transactions. Farmers and traders have to agree whether to use measuring cups (volumes) or scales (kilogrammes) and who (trader or farmer) will do the measurement. Surveillance systems are often developed by both producers and traders to make sure one party does not cheat on the other. The marketing officer of each group checks the quality of produce supplied by members to make sure they meet traders' standards.

By 2007, ADEAC counted 111 registered members in the njansang subsector operating in three villages (Epkwassong, Nkolobodou, and Ondeck) while MIFACIG counted 112 members in the kola subsector grouped under three villages namely Belo, Njinikom, and Fundong.

By April 2009, seven years after the project started each of the three participating njansang villages of ADEAC (Nkolobodou, Ondeck, and Epkwassong) had succeeded in organising five group sales. In the kola group, only Fundong and Njinikom had succeeded to organise at least one group sale, Belo did not. All kola group sales were reported to have occurred with a lot of difficulties. In Fundong, for example, a couple of group members even abandoned their harvest in the market after they failed to reach an acceptable price with traders. They found it too strenuous to take the kola nuts back home. This seemingly irrational economic decision taken by the kola nuts farmers has been explained by Van Huylenbroeck et al. (2010) as one meant to avoid low bargaining positions in subsequent group market arrangements.

Based on the above reasons, the njansang group is considered successful while their kola nut pair is considered unsuccessful. This situation provides the basis for comparison in order to identify factors that may account for differences in their performance from a transaction cost perspective.

¹ Division = lower administrative unit to a region.

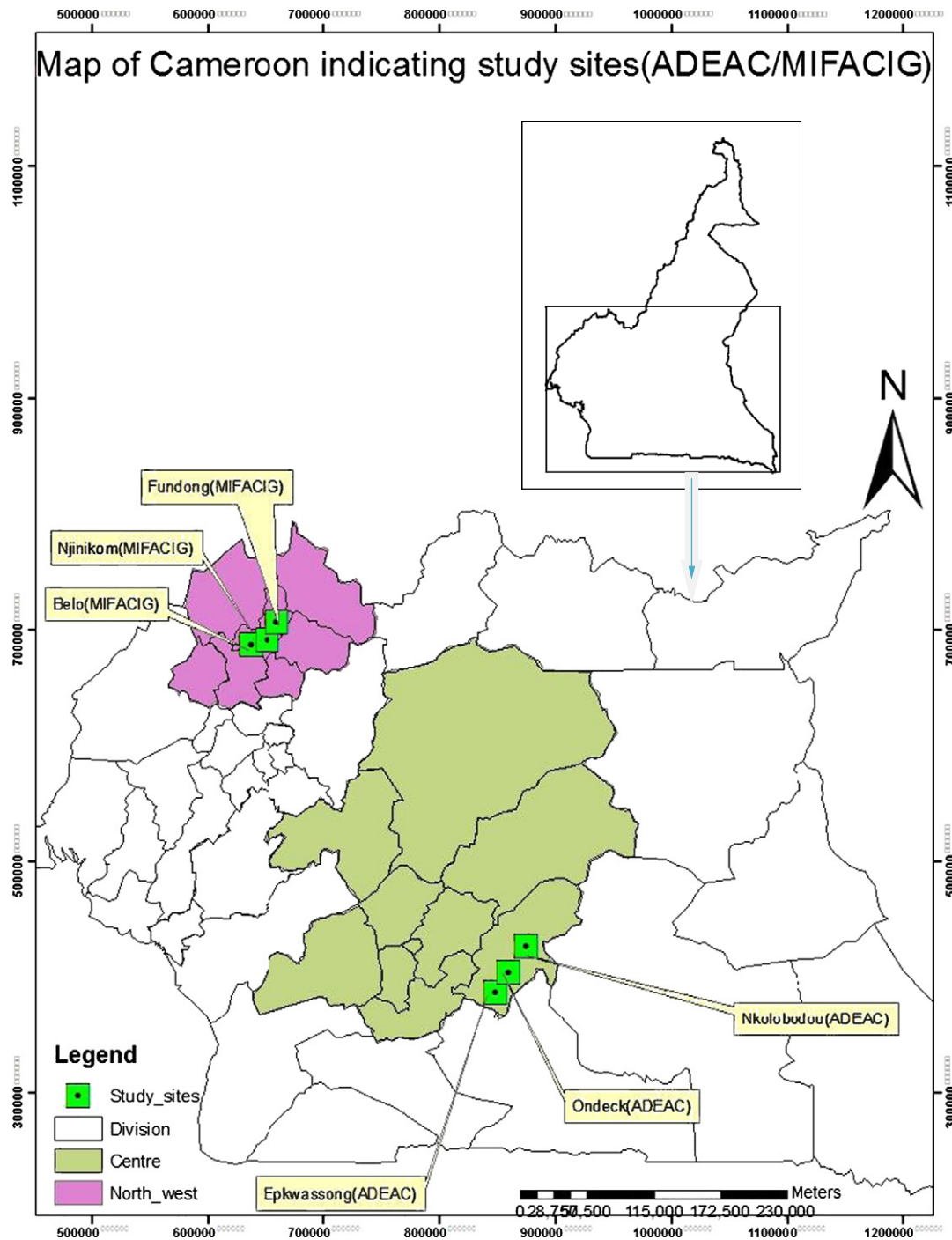


Fig. 1. Map of Cameroon indicating study sites (ADEAC/MIFACIG).

3. Theoretical underpins of group market initiatives

3.1. Transaction costs

Under conditions of competitive markets, farmers will receive the best prices (Sexton and Iskow, 1988). However, farmers and traders in the NTFP sector do not operate under such stylised competitive conditions for the following reasons (Ndoye, 2005; Russell and Franzel, 2004; Schreckenberg et al., 2006): (i) production is characterised by oligopsony (few traders and many small, scattered producers); (ii) high product variability which may be related to low

levels of domestication; (iii) farmers having difficulties to meet production needs; (iv) bad roads limiting traders' access to production areas; (v) limited capital of traders to enter markets or to expand their business; and (vi) insufficient market information both on producers' and traders' level.

In a market environment where neoclassical assumptions of perfect market conditions are relaxed (Hobbs and Young, 2001), the New Institutional Economics (of which Transaction Cost Economics (TCE) is one of the branches) recognises that transactions are not costless. Under such conditions, the transaction cost theory recognises that an economic agent exhibits bounded rationality and is thus

unable to predict contingencies and react accordingly (Williamson, 1975). Combined with situations of uncertainty and complexity, bounded rationality increases transaction costs (Hobbs and Young, 2001). Transaction costs (TCs) include *ex ante* time spent in searching for and discovering relevant product prices and partners, and time spent to specify product quality (*search or information cost*). Other types of TCs arise during a transaction and are termed *negotiation costs*. They encompass time spent to negotiate terms of a transaction. The last group of TCs is borne *ex post* and includes time spent to ensure that initially agreed upon arrangement terms are adhered to (*monitoring and enforcement costs*) (Verhaegen and Van Huylenbroeck, 2002). Jobin (2008)??? recommends TC theory to assess performance of hybrid organisational forms such as producer group market arrangements that emerge to reduce TCs. The latter author also argues that although cost-benefit analysis is frequently used, the latter method is deeply-rooted in the neoclassical economics' school of thought where organisation of economic activities is often perceived to be occurring in a world of zero TCs. Use of TC theory in this study adds a new theoretical dimension to performance evaluation of group marketing initiatives and may expose what Chen (1990) calls the 'black box' that hides complexities affecting performance of group market initiatives.

Institutional arrangements, such as producer groups and trader market arrangements in the NTFP sector in Cameroon, are TC minimising mechanisms. These hybrid forms of governance (group marketing) are expected to reduce incidences of bounded rationality. North (1990) argues that the lower the TCs of economic operators, the higher their economic performance.

3.2. Attributes of a transaction

The attributes of a transaction, namely asset specificity, uncertainty and frequency, make any given market arrangement different from another, and in combination with the behavioural assumptions of the actors affect the level of TCs (Williamson, 1985). The distinguishing attributes of a transaction are described below.

Asset specificity. TCs arising from the specificity of a transaction may appear in different forms: physical asset, human asset, site, dedicated asset, brand name, and temporal specificity (Verhaegen and Van Huylenbroeck, 2002).

Uncertainty and complexity are central problems of transactions. Uncertainty refers to the unanticipated changes in circumstances surrounding a transaction (Verhaegen and Van Huylenbroeck, 2002). Uncertainty may be exogenous, in which case it relates to changes in market conditions such as changes in demand and modifications in institutional environment. Endogenous uncertainty deals with opportunistic behaviour of transacting parties and difficulties to predict behaviours of contracting agents (Ménard, 1995). When uncertainty and complexity are low, it is advisable for transactions to be carried out in spot markets. But when they are high, other forms of governance such as long term contracts, strategic alliances or full vertical integration are recommended. When uncertainty surrounding a transaction is high, TCs increase because contracting partners will increase both monitoring and coordination efforts. For example, perishability is said to create uncertainty for both buyer and seller of a given produce and thus leads to increased complications and TCs (Hobbs and Young, 2001).

4. Methodology

4.1. Hypotheses

Based on literature on transaction costs and attributes referred to above, the following hypotheses were tested in this study:

1. Group market arrangements result in lower transaction costs compared to door-to-door transactions;
2. The higher the perceived transaction costs in a producer group, the lower its performance;
3. The higher the asset specificity of the transactions with regards to investments made by producer groups, the higher the transaction costs and the lower the performance of the group; and
4. The higher the uncertainty surrounding a group's transaction with traders, the higher its transaction costs and the lower its performance outcome.

In summary, the njansang group described as more successful will have lower TC, lower asset specific investments, and lower uncertainty surrounding its transactions compared to the kola group.

4.2. Variables

4.2.1. Performance outcomes of group sale initiatives

One of indicators of performance of group sales initiatives is the number of group sales effectively carried out. In addition, a qualitative indicator of performance, i.e. perceived effectiveness of the group market initiative, is used to measure success (Van de Ven, 1976). When applied to this study, performance is measured by producers' satisfaction with attainment of expected benefits of group sales initiative (Janssen and Tilburg, 1997; Bucklin and Sengupta, 1993). These benefits include: (i) increased negotiation and bargaining power reflected in the price premium for selling in group; (ii) increased quantities sold through the group compared to door-to-door transactions; (iii) production and market information shared amongst group members; (iv) improved relationships with traders (reflected through respect of mutually agreed upon terms and receipt of advanced payment from traders); and, (v) NGO support through capacity building and microfinancial assistance.

4.2.2. Perceived transaction costs

To measure perceived TCs involved in organising group sales between producers and traders, we adopted the measures used by Pilling et al. (1994) and further refined by Grover and Malhotra (2003). In this regard, the following were investigated: (i) efforts required to search for information on quantities, quality and prices; (ii) efforts required to develop the necessary skills through training to negotiate with each other; (iii) efforts and time used for negotiation during group sales; and (iv) time spent by members to share revenues from group sales and to monitor opportunistic behaviour of one another. Producers interviewed were asked to compare these items in a situation where they sell in groups and when they sell through the door-to-door channel.

4.2.3. Transaction attributes

4.2.3.1. Asset specificity. In this study, producers' and traders' asset specificities were measured based on an adaptation of scales provided by Joshi and Stump (1999). These included producers' response to 'agree and disagree' statements relating to time and effort invested to meet quality requirements that would not have been required in case sales were contracted through the door-to-door channel.

4.2.3.2. Site specificity. Geographic complexity was rated based on producers' and traders' perception of complications that arises during the price negotiation process from: difficult transport of produce and actors; long travel time; difficulties to arrange transactions, to obtain transport or to assemble produce on agreed points for group sales; and efforts made by traders to travel to such complicated areas (Kaufmann and Carter, 2006).

4.2.3.3. *Production/supply uncertainty.* Uncertainty is a function of the ability to reliably predict future events that might create problems with exchange information (Lai et al., 2005). Production/supply uncertainty was evaluated based on producers' and traders' perception of price variability; the ease to determine product quality by observing (which could lead to subsequent product loss and reduction of sales volume if that ease is lacking); and the difficulty to predict the quantity a buyer can buy or a producer can sell.

4.3. Data collection and analysis

Most of the questions related to the farmers' evaluation of group market initiatives and others concerning the theoretical variables related to TCs were developed using a five point Likert scale (1 = very dissatisfied to 5 = very satisfied). The midpoint of the scale was three and all mean scores above three were considered to be in agreement with the subject and those below three were considered to be in disagreement with the statement. Mean scores equal to three were considered as neutral in opinion.

In each of the six participating villages (three from the kola and three from the njansang group), five members from the managing board of each producer group and five ordinary members were selected for interview. Board members were chosen because it was assumed they possess most of the information required (Van de Ven, 1976) for group sale activities and had been actively involved in the bargaining and negotiation process. The five other randomly selected members from each group were interviewed to complement information gathered from the board members and to have a representative sample of the two categories of members (board and ordinary) in each group. Both the board and none board members were asked the same questions. They were also not treated differently in the analysis especially as it was not hypothesised that membership category would have an impact on the perception of transaction costs and thus group sale performance. In total, at the end of the interview 54 farmers instead of 60 were interviewed as some selected members were unavailable and could not be replaced. The sample covered 24% of the total number of registered members from each group. The Mann–Whitney *U* test was used to compare mean ranks between groups. This was important in identifying those variables for which the njansang group (considered successful) differed from the kola group (considered to be unsuccessful). The Mann–Whitney *U* test is a non parametric test that compares two unpaired groups by ranking the responses from the lowest to the highest. The mean rank is the mean of the ranks of each group. Higher mean ranks on a scale of 1 (very dissatisfied) to 5 (very satisfied) for example mean that respondents from that group gave higher scores for that item and were more satisfied compared to the other group.

5. Results and discussions

5.1. Perceived satisfaction of expected benefits from group sales

5.1.1. Price premium and negotiation/bargaining

Average prices for kola nuts out of the group sale stood at 320 FCFA per kg and 600 FCFA per kg for njansang. With group sales, average prices per kg for kola nuts rose to 330 and those for njansang climbed to 780 FCFA (1 \$ = 500 FCFA). Translating these figures into the price premium received by the two groups during group sales, analyses show that kola nut producers recorded a lower value ranging from 0% to 18% compared to the njansang average of 31% (with a minimum of 25% and a maximum of 37%). The njansang group had significantly higher mean rank scores expressing higher levels of satisfaction with the price premium obtained, compared to the kola group that scored below 3, expressing dissatisfaction. Satisfaction with the level of price premium obtained could explain why the njansang farmers also got significantly higher mean rank scores for the item measuring quantities of produce sold through the group compared to door-to-door transactions (Table 1). This means that the more members are satisfied with the price obtained, the more they will participate in group sale activities.

Despite significant differences in price premium, both groups are of the opinion that their bargaining power has increased. This can be accounted for by the fact that they could now discuss the terms of trade with traders unlike before when prices were imposed on producers. For example, although the njansang group expressed dissatisfaction with the measuring units used by traders, they explained that as a group they could supervise traders' tricks. Hence, the magnitude of swindling was not as big as when they sold individually. From the same table, it can be observed that the kola nuts traders expressed significant higher levels of satisfaction with the measuring units even though they did not succeed in organising as many group sales as the njansang group. This can be accounted for by the fact that through group activities the kola nuts groups unanimously agreed with the traders that they would count the kola nuts in units of 1000 for the large ones and 2000 for the medium sized ones. It was thus easier to sort and count unlike before when they did not agree on what large and medium mean.

5.1.2. Sharing of market/production information

Farmers of both groups were generally satisfied with the amount of production and marketing skills shared amongst group members (mean scores > 3) and no significant differences were observed between the two (Table 2). This result confirms existing literature that farmers operating in groups actually gain by sharing production and market information.

Table 1
Producers' satisfaction with benefits of group sales: negotiation process.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Mean score and mean rank kola nuts N = 26	Mean score and mean rank njansang N = 27	Mann–Whitney <i>U</i> Z-value P-value
Personal increases in quantities sold	1 (2)	6 (12)	7 (13)	25 (48)	13 (25)	3.50 22.20	4.10 30.50	–2.11 0.04**
Higher prices	2 (4)	11 (21)	11 (21)	22 (41)	7 (13)	2.80 19.80	3.90 33.90	–3.48 0.00***
Higher bargaining power (i.e. against buyers)	3 (6)	8 (15)	2 (4)	37 (68)	4 (7)	3.60 27.70	3.60 27.30	–0.14 0.89
Change from arbitrary to standardised measuring units (kg)	12 (22)	14 (26)	6 (11)	15 (28)	7 (13)	3.20 32.00	2.44 23.00	–2.151 0.03**

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

Table 2

Producers' satisfaction with benefits of group sales: sharing of market information.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Mean score and mean rank kolanuts	Mean score and mean rank njansang	Mann–Whitney <i>U</i> Z-value
						N = 26	N = 27	P-value
Accurate information about the market	7 (13)	14 (26)	3 (6)	25 (46)	5 (9)	3.40 30.30	2.90 27.70	– 1.39 0.16
Learn production/processing techniques from other farmers	0 (0)	6 (11)	2 (4)	37 (69)	9 (16)	4.00 28.90	3.70 26.10	– 0.82 0.41
Learn from other farmers how to market	7 (13)	13 (25)	2 (4)	25 (47)	6 (11)	3.38 29.30	3.00 24.80	– 1.11 0.27

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

5.1.3. Relationship with traders

It was expected that by joining producer marketing groups, members would improve their relationship (trust and reputation) with traders to the extent that the latter could give advanced payment to the producers. It was also expected that producers would exclude those traders who move from door to door. Such an improved relationship would then lead to a sustainable partnership between both parties. Results show that producers were particularly dissatisfied in this domain (mean scores < 2) because they were unable to obtain advanced payment from traders and were afraid the partnership would not last long (Table 3). There were significant differences in mean rank scores between the kola and njansang group members' perception of exclusion of middlemen. Kola nut farmers expressed dissatisfaction, while njansang group members' scores show that they succeeded in excluding middlemen.

This may explain why the njansang group were able to organise more group sales. These results match those of Sexton and Iskow (1988), who observed that for group market initiatives to succeed, a group should be able to control the flow of members' output. In case they fail to channel all of their produce through the group, the initiative might be unsuccessful, like in the kola case.

5.1.4. NGO support (capacity building/financial assistance)

The kola group obtained significantly lower mean rank scores for all the items measuring capacity building and financial support to improve production and marketing, suggesting lower levels of satisfaction (Table 4) compared to the njansang farmers who were generally satisfied (mean scores > 3), except for expected financial assistance, where both groups were dissatisfied. The results suggest that the capacity building programmes on marketing, processing and storage were either better assimilated or easier to implement by

njansang farmers compared to their kola pairs, possibly explaining the differences in success rate between both groups.

5.2. Transaction costs

As a recall, one of the hypotheses of this study is that transaction costs are reduced by joining marketing groups. Results obtained follow Buckley and Chapman (1997) opinion that by joining groups, some TCs are reduced while others increase. In this case, producers' perceived search and negotiation costs during group sales tend to be higher compared to door-to-door transactions while costs to gather information, to control and to organise payments were perceived as lower. If each higher score is given a value of one and a lower score a value of zero, this ends with a total of three higher and two lower perceived TC scores. This indicates that fewer sources of TCs are perceived during group sales compared to door-to-door transactions and confirms the relevance of producer groups in reducing transaction costs as theory predicts. The attributes of these transaction costs are discussed next.

5.3. Transaction attributes

5.3.1. Human asset specificity

One aspect on which traders working with AFTP producer groups insist is product quality. Some authors (Barzel, 1982; Hobbs, 1995) argue that when sellers differentiate their produce to meet the specific requirements of a buyer, it makes the transaction complex and requires specific investments in terms of new skills and knowledge, which means human asset specificity. Kola nut producers had significantly higher mean ranks compared to njansang producers

Table 3

Producers' satisfaction with benefits of group sales: relationship with traders.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Mean score and mean rank kolanuts	Mean score and mean rank njansang	Mann–Whitney <i>U</i> Z-value
						N = 26	N = 27	P-value
Contacts with more traders	1 (2)	16 (30)	5 (9)	6 (11)	26 (48)	3.50 29.70	3.20 25.30	– 1.1 0.271
Traders respect mutually agreed upon requirements	6 (11)	17 (32)	7 (13)	18 (34)	5 (10)	2.90 26.70	4.20 28.30	– 0.38 0.71
Exclusion of the middleman	5 (9)	24 (44)	3 (6)	1 (26)	8 (15)	2.60 23.80	3.30 31.20	– 1.84 0.07*
Establishment of long term relationships with traders	8 (15)	25 (46)	1 (2)	15 (28)	5 (9)	2.70 27.80	2.70 27.20	– 0.13 0.89
Advanced payments from traders	32 (60)	15 (29)	6 (11)	0 (0)	0 (0)	1.60 25.80	1.70 28.10	– 0.61 0.54

Percentages are in parentheses

Mean rank scores are in bold

Mann–Whitney *U* test: Significant at 10% = *Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

Table 4

Producers' satisfaction with group sales: capacity building/financial assistance.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Mean score and mean rank kola nuts	Mean score and mean rank njansang	Mann–Whitney <i>U</i> Z-value
						N = 26	N = 27	P-value
Financial support from partner NGOs	31 (57)	10 (19)	4 (7)	8 (15)	1 (2)	1.40 22.8	2.30 32.20	–2.45 0.01**
NGOs support on production/storage/processing	15 (27)	10 (19)	2 (4)	20 (37)	7 (13)	2.30 21.20	3.50 33.70	–3.04 0.00***
NGOs support on marketing issues	5 (9)	9 (17)	4 (8)	27 (51)	8 (15)	2.90 21.00	3.90 32.80	–3.01 0.00***

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

for all the items used in measuring skills and knowledge invested to meet traders' specific quality requirements (Table 5).

Kola nut producers explained that in order to supply the required quality, sorting begins from the farm when fruits are harvested. They endeavour to sort broken pods from intact ones. This is to avoid mixing kola nuts that may be attacked by weevils with those free from weevils. This knowledge, they said, was acquired through participatory research. They also had to sort large, medium and small nuts to suit the standards fixed by kola nut traders. All these operations are not necessary when they sell through the door-to-door channel. In case they miss to sell to the traders with whom they agreed to go through this process, it will be difficult to find another trader who would be willing to match price to quality. Unlike for kola nuts, njansang quality is determined much more by the colour and the nature of the kernels (full or chopped), attributes which are easy to observe at the time of sales and thus explains why meeting njansang quality requirements is comparatively less complex compared to kola nuts.

5.3.2. Site specificity–geographic complexity of production villages

Low values and low mean scores for items of this construct mean less complexity and lower TCs. Significant differences were observed in respondents' perception (Table 6). On the one hand, njansang producers had significantly higher mean ranks for statements considering difficulties related to the *nature of their roads and bridges*. On the other hand, kola nut producers had significantly higher mean rank scores for the item considering *distance* as a major problem. The case of distance with the kola group can be explained by the dispersed location of kola nut producers and their strategy to centralise all group sales and capacity building activities, meaning that producers had to travel from far away distances (radius of between 11 and 45 km) to the agreed market place. For members of the njansang group they have a more decentralised way of operating meaning that members cover short distances to attend trainings and to participate in group sales. However they are located in the humid forest zones described as

one of the poorest zones in Cameroon (Degrande et al., 2006) with very bad road infrastructures.

Based on elements of asset specificity, it can be concluded that sales arrangements of kola nut producer group are characterised by three kinds of asset specificity resulting from product characteristics (need to supply quality products), human asset specificity (skills required to produce quality products) and site specificity (complications to transport produce over long distances). On the other hand, njansang group sales are characterised by one element of asset specificity arising from the location of the production villages in less accessible forest zones. This confirms the hypothesis that as specificity increases, transaction costs increase explaining the lower performance of the kola nut group.

Low performance of the kola nut group is also related to the fact that kola nut traders only buy quality kola nuts from the producer groups. Conversely, producers are of the opinion that traders do not adapt their prices to quality. Disagreement between producers and traders on price and quality of kola nuts has often led to withdrawal from trade by the producers and possibly explains why the kola group performed poorly compared to the njansang group.

It was earlier mentioned that a group should be able to retain members' produce for a group sales initiative to be successful (Sexton and Iskow, 1988). The njansang group succeeds in doing so, contrary to the kola group, because the bad state of the roads in the njansang production zones limits traders' access, while kola nut traders access the kola production villages easily. This suggests that group marketing initiatives may work better where farmers have less access to markets and thus dispose of limited alternative marketing options.

5.3.3. Uncertainty

Kola and njansang producers are both subjected to uncertainty (mean score < 3) resulting from fluctuating prices and difficulties to predict the quantities the group can supply for any group sales. Nonetheless, while kola producers had lower mean scores (less than

Table 5

Asset specificity interpreted in terms product characteristics: product quality.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean scores and mean ranks kola nuts	Mean scores and mean ranks njansang	Mann–Whitney <i>U</i> Z-value
						N = 27	N = 27	P-value
Traders insists on higher quality products	6 (11)	9 (17)	2 (4)	22 (42)	14 (26)	3.90 31.50	3.10 22.70	–2.19 0.03**
We spent more time to process product to meet quality standards	5 (9)	14 (27)	0 (0)	24 (45)	10 (19)	3.80 32.00	2.90 22.00	–2.49 0.01**
Have spent considerable time to be trained to meet quality standards	3 (6)	7 (13)	0 (0.0)	28 (53)	15 (28)	4.30 33.00	3.40 21.00	–3.09 0.00***

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

Table 6
Site specificity–geographic complexity of production villages.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean scores and mean ranks kola nuts	Mean scores and mean ranks njansang	Mann–Whitney <i>U</i> Z-value
						N = 26	N = 27	P-value
Traders make great effort to travel to this village	1 (2)	4 (7)	2 (4)	29 (55)	17 (32)	3.80 22.90	4.30 31.00	–2.13 0.03**
Nature of roads/bridges complicate negotiations	6 (11)	10 (19)	0 (0)	17 (32)	20 (38)	2.8 19.10	4.50 34.60	–3.83 0.00***
Transportation to agreed place of transaction is a major problem	5 (9)	11 (21)	3 (6)	20 (38)	14 (26)	3.90 31.70	3.11 22.50	–2.25 0.02**

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

3) indicating difficulties to determine product quality by observation, the mean scores for njansang producers were higher than 3, demonstrating ease to determine quality by observation. Mean rank response analyses show significantly higher mean rank scores from the njansang group for all the items measuring uncertainty, suggesting that njansang is characterised by lower uncertainty compared to kola (Table 7).

Kola farmers explain the relationship between quality–quantity and uncertainty in the sense that quantity to be supplied is difficult to predict because of the difficulty of determining weevil attacks. For example, lack of visible weevil attack can push them to communicate that ten baskets of kola will be supplied on a particular market day. But on the eve of the transaction, it is not unusual to discover that half or all of the kola have been attacked by weevils. This reduces their trustworthiness and reputation and cast doubts on subsequent negotiations with traders. Also, a farmer may be unlucky that a trader when tasting kola, picks a nut that is slippery or else one that is visibly un-attacked but upon splitting discovers traces of weevils. In such a case it is difficult to convince the trader that the remaining thousands of kola nuts are of good quality. Such hidden product attributes increase opportunistic behaviour of traders and allows them to offer lower prices or refuse to buy at all, especially if there is abundance of supply. This behaviour has been characterised by Hobbs (1995) as *opportunistic re-contracting* (i.e. the purposeful non-honouring of a contractual arrangement for economic gain). This is dangerous as increased opportunistic behaviour of traders leads to higher transaction costs. It can thus be said that, based on producers' perception, kola is characterised by higher uncertainty which increases negotiation cost during group sales and thus transaction costs, which further leads to low performance. Such levels of uncertainties are not observed with njansang and may explain the differences in performances between the two groups. This also confirms

the hypothesis that high uncertainty, necessitating high coordination, leads to high transaction costs and consequently lower performance.

6. Conclusions

This paper used producers' satisfaction of expected benefits and transaction cost theory to analyse the performance of group market initiatives. The results show that expected benefits of group sales can be used as performance indicators to assess if farmers actually meet the objectives for which they form marketing groups. The study validated the hypothesis that by joining marketing groups, farmers actually reap benefits, which corroborate existing literature and theory of collective marketing. The results also support existing literature (Moustiere, 1998; Pingali et al., 2005) stating that through collective action producers can actually increase their negotiation power, share production and market information, and gain from capacity building programmes. However, comparing two different producer groups, this study found that some elements may be more important in determining success than others. Unlike Pingali et al. (2005) who think that the price the group negotiates may not be important compared to just having a market outlet, this study argues that the group should be able to negotiate better prices commensurate to the extra efforts made and members should be satisfied with such prices. This is particularly important as qualitative information gathered in this study suggests that unsatisfactory prices were among the major reasons why kola nut producers did not want to participate in subsequent group sales. To be successful, producer groups should be able to increase their bargaining power and one of such means is to have control over members' produce. One way to do so may be to have access to micro-credit in order to offer advanced payments to

Table 7
Production-supply uncertainty.

	Very difficult	Difficult	Same	Easy	Very easy	Mean scores and mean ranks kola nuts	Mean scores and mean ranks njansang	Mann–Whitney <i>U</i> Z-value
						N = 26	N = 27	P-value
Ease/difficulty to determine quantity for group sale	8 (15)	30 (56)	2 (4)	10 (19)	3 (6)	2.20 24.30	2.60 29.70	–1.43 0.15
Ease/difficulty to determine quality by observing	9 (17)	19 (35)	1 (2)	13 (25)	11 (21)	2.30 21.10	3.50 32.70	–2.83 0.01**
Product prices	Very fluctuating 13 (24)	Fluctuating 27 (51)	Neither fluctuates nor stable 1 (2)	Stable 11 (21)	Very stable 1 (2)	1.80 21.00	2.70 32.90	–3.09 0.00***

Percentages are in parentheses.

Mean rank scores are in bold.

Mann–Whitney *U* test: Significant at 1% = ***; Significant at 5% = **; Significant at 10% = *.

members to withhold produce while waiting for an agreed market day, so that members are not tempted to sell out of the group.

Transaction costs were perceived to be lower in group sales compared to door-to-door transactions but no significant differences were observed between the two groups. Nevertheless, when attributes of the transactions were evaluated, the njansang group had significant lower mean rank scores. This may be related to the already reported difficulty to actually measure the level of TCs (Buckley and Chapman, 1997) in the questionnaires used in this study making it difficult to capture the differences between the two groups. Based on the TCs theory which states that the level of TCs are influenced by the attributes of the transaction, we argue that the njansang groups remain committed to group sales because they find them more beneficial compared to door-to-door transactions, whereas the kola group members think otherwise. Thus, group sales or other innovations to link farmers to markets will only succeed if perceived benefits are higher and perceived TC are lower. The best method to know this is by comparing the attributes of past transactions with those of the innovation.

The results of this study confirm the hypothesis that farmer groups made up of dispersed producers dealing in products for which the characteristics are difficult to measure at the time of trade as in the kola case, end up with high uncertainty and high human and site specificity to meet quality standards, all of which lead to low group market performance. For a species like kola nuts with high variability and low shelf life due to persistent weevil attacks, research in domestication activities and post harvest technologies may help in reducing uncertainty related to product quality and therefore transaction costs. This can be done by improving product shelf life through the development of varieties that are resistant to pest and diseases and by introducing specific characteristics (for example large and medium size kola nuts) desired in the market. By so doing cost related to sorting and grading may be reduced.

It is recommended that transaction cost theory should be combined with other theories, like the classical 'structure, conduct and performance' theory (SCP) (Milagrosa, 2007) that analyses margins of stakeholders to evaluate group market initiatives, while reasons for which the market groups were created should also be considered.

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