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Effects of marketing information on coffee farmers and trader's performance in Kibinge sub county, Bukomasimbi district of Central Uganda

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Abstract

Marketing channel choice is among the most complex and challenging decisions facing farmers. This study therefore evaluate the impact of marketing information available to coffee farmers and traders in Bukomansimbi district of Uganda. The specific objective was to identify the methods through which coffee farmer's access market information and to determine the challenges they face in an effort to access market information. A cross-sectional research design was employed to collect data from 48 smallholder coffee farmers using semi-structured questionnaire, participatory group discussions and key informants interviews. Using a purposive and stratified simple random sampling procedure, 48 respondents comprising of coffee farmers and traders were selected and interviewed. The study results revealed that Coffee farmers don't access information on some of the opportunities and programmes that could enable them to improve the production process and hence access better markets. When farmers market their coffee through cooperatives, they gain more because there will be no middlemen involved in the value chain. Through Co-operatives, it is also easy to ensure product quality besides accessing good markets that pay premium prices for the coffee. It was discovered that 35% of the cooperatives in the study district produce speciality Arabica coffee and fine Robusta coffee, which fetch premium prices on the global market. The study also established that farmers use word of mouth from other farmers and traders as source of their information. The policy recommendation is that Coffee farmers should conduct market assessment and research to get update information about the market dynamics and current price changes. The ideal extension model should be farmer centered with necessary linkages to markets, researchers, subject matter specialists, inputs providers, credit facilities, and other support services. An appropriate extension system should focus on farmer groups rather than individuals with an emphasis on group extension methods. Thus a sustainable extension model which is farmer-owned with a strong market focus should be promoted. The Uganda Coffee Development Authority should conduct training programmes to equip farmers with the skills and knowledge on how to ensure quality along the coffee value chain as well as on coffee marketing.

Keywords: Market information; Coffee farmers; traders; Uganda; Trader

1. Introduction

Coffee is one of Uganda's primary agricultural export crops accounting for about 24% of total traditional cash crops export value and generating export earnings averaging USD 145 million per annum. The industry provides direct income to more than 400 000 farmer households thus supporting the livelihoods of an estimated 3 million individual Ugandan (UCRI, 2011). Tanzania is Africa's fourth largest coffee producer after Ethiopia, Uganda and Ivory Coast. The country is endowed with favorable climatic and natural resource conditions for production of Arabica (70%) and Robusta (30%) coffee varieties (Anon, 2008).

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Globally, there is a growing demand for high value agricultural products which offer important market and employment opportunities for rural farm households. However, if smallholder farmers are to produce these high value products, then they must first learn about new production, processing and marketing systems to determine whether they can successfully pursue these enterprises (Swanson, 2008). There is a growing recognition that markets have become a primary driver for agricultural development. Given the growing demand for agricultural products in worldwide economies, all types of farmers but especially small scale, subsistence farmers, need new or additional skills and knowledge so as to assess these various options and learn how to successfully produce and market high value crops and products. In making the transition from a technology-driven extension system to one that is more market-driven, extension priorities and procedures need to change dramatically. First, economic variables become central to the program planning process (Swanson, 2008). Aspects like analysis of cost benefit effects, minimization of operational costs and maximization of profits, become important.

Organizing farmers into specific producer groups can also directly improve effectiveness and efficiency of agricultural extension systems supplying relevant commodity or product specific information and training directly to farmer groups who are producing particular crops or products. In developing a market-driven extension system, one of the first requisites is for farmers to have access to current and reliable market information (Swanson, 2008). Viable farmer organizations must be business oriented and should have a strong focus on marketing.

In 1989 Uganda produced much coffee exceeding its quota but still export volumes were still diminished by economic and security problems, and large amounts of coffee beans were still being smuggled out of Uganda for sale in the neighboring countries.

In Uganda two types of coffee is grown in different regions that is to say; Robusta coffee is grown in the low altitude areas of central, eastern, western and southern Uganda with altitudes of 12,000 meters above sea level. Yet Arabica coffee on the other hand is grown in the highland areas on the slopes of Mount Elgon in the east, mount Rwenzori and mount Muhavura in south western region (Nekesa and Mulumba, 2016).

Uganda Coffee Development Authority is a government agency responsible for handling all coffee businesses. Coffee is mostly grown in mixed farms where it is intercropped with food crops such as banana and beans which ensure house hold's food security. It is also grown among shade trees that result into sustainable coffee production while ensuring a social, economic and sustainable environment that requires a minimal use of agro chemicals such as fertilizers, pesticides and fungicides.

Access to timely and current market information enables farmers plan their production more in line with market demand; schedule their harvests at the most profitable times; and decide to which markets they should send their produce and negotiate on a more even footing with traders (Ferris, et al., 2008). It also enables traders to identify and move produce profitably from a surplus to a deficit market; and make decisions about the viability of carrying out storage where necessary. Consumers are on the other hand also enabled to find markets with the lowest prices for the produce they need. Through providing market information, transparency among all stakeholders of a particular produce or product is promoted due to increased awareness of prevailing market prices and other relevant information (Shepherd, 1997). Long distance trade is also promoted by the availability of market information since it provides traders with reliable information about the conditions in distant markets. Transparency in the market system encourages farmers or producers and traders to produce more for the markets due since there is reduced riskiness of participating in the market operations and effective market signals transmission to farmers and traders (Jairath and Hema, 2012) .

Farmers and traders with access to timely, reliable and appropriate market information can easily decide to which market they should send their produce to maximize returns since they can use such information to determine when and where to sell their produces or even store and sell later to take advantage of expected higher prices. With market information, farmers' decisions and confidence regarding what to plant, how much to invest is improved hence promoting a more competitive marketing system, which benefit both producers and consumers since there is efficient allocation of productive resources and improve the bargaining position of farmers with traders. (Staatz et al., 1992). Access to timely and up-to-date information may also help governments to effectively address food insecurity problems since food price increase may signal food supply shortages in certain areas, and give an early warning of the possible need for food relief or other government interventions in these areas.

While many studies have revealed that the market information system is effective in changing farmers` behavior, it remains unclear if the majority small holder farmers, especially the less educated, will be able to benefit from using such technology, thus many farmers in Uganda have limited or no access to market information, this has given chance to

middle men to over exploit farmers by offering them low prices in relation to what final consumers offer. It is believed that indigenous coffee farmers do not have any formalized marketing strategy and rely heavily on the terms dictated by the middle men. Therefore, there is need to assess the different ways through which market information is accessed by coffee farmers and other stake holders as this helps to identify the gaps and bridge them so as to increase coffee market participation.

2. Methods

The study employed a descriptive longitudinal approach. longitudinal studies are simple in design and are aimed at finding out the prevalence of a phenomenon, problem, attitude or issue by engaging a longitudinal study of the population. This obtains an overall picture as it stands at the time of the study. Longitudinal usually involve tracking the same people and so the difference observed in those people are less likely to be the results of cultural differences across generations. This design was chosen because it generates reliable data and is relatively cheap and easier to administer.

The study was conducted in Kibinge sub county, South of Bukomasimbi district, Uganda. Agriculture is the most common economic activity in the sub county where by 1800 farmers practice bulky marketing. About 93% of the households in the sub county are engaged in crop growing, 67% of the households are engaged in either crop growing or livestock farming and 81% depend on subsistence farming according to the 2014 NPHC UBOS. The area has a tropical climate modified by relief and nearness to Lake Victoria. The rainfall pattern is bimodal having two seasons with dry spells between July and august and January to march. The months of march, April, and may receive very heavy and well distributed rainfall of up to 12000mm. The average maximum temperature does not exceed 300°C and the minimum not below 100° C with the humidity level being generally low throughout the sub county.

Qualitative and quantitative data was generated from the field; Data collected through questionnaires, Interview guide, were entered into the computer, coded, cleaned, and analyzed using SPSS V23 for quantitative analysis. The statistics focused on the measures of central tendencies (percentages) and relational statistics to measure the direction. Quantitative data was described using descriptive statistical techniques that included the use of tables, graphs and pie charts, these assisted in drawing inferences and establish the extent to which the independent variables have significance and implications.

3. Results

3.1 Demographic Characteristics of the Respondents

Table 1 Bio-data of the respondents

Age	Frequency	Percent
20-30	15	31.3
31-40	20	41.7
41-50		
>51	3	6.3
Sex		
Male	24	50.0
Female	24	50.0
Education level		
Primary	5	10.4
Secondary	25	52.1
Tertiary	16	33.3
None	2	4.2

The results showed that most respondents were between the age of 31-40 years. There was equal participation of both male and female respondents in the evaluation process and the largest number of respondents attained education to secondary level (52%).

The results show that the largest number of farmers use word of mouth from other farmers and traders (46%), followed by radio (25%), television (19%) and lastly market billboards (2%).

Table 2 Source of market information

Source	Frequency	Percent
Radio	12	25.0
Television	9	18.8
Internet	4	8.3
Market billboards	1	2.1
Word of mouth from other farmers	22	45.8
Total	48	100

The results show that most farmers said the level of effectiveness of the mode selected was effective (63%), followed by less effective (31%), very effective (4%) and lastly not effective (2%). The findings show that some of respondents (47%) sell their dried coffee cherries to the registered private coffee buyers' posts (PCBs) or through their commission agents who collect coffee from farmers' households (homestead) while other respondents (35%) sell their coffee to the rural primary cooperative societies (RPSs) which are the agents of the Cooperative Union. The rest of the respondents (18%) sell their coffee to un-registered Village buyers who buy coffee at farmers' homestead then re-sale it either to the registered private coffee buyers or to rural primary cooperative societies at higher price. In some instances, Village buyers pay farmers a few months before coffee harvest (forward sale) with condition that farmer is obliged to sell to them certain portion of coffee produce (Kiboko) at a prior-agreed price.

Table 3 Effectiveness of the marketing mode selected

Effectiveness	Frequency	Percent
Very effective	2	4.2
Effective	30	62.5
Less effective	15	31.3
Not effective	1	2.1

3.2 Market information provided by mode selected

The results showed that most farmers (56%) get information about current market prices, followed by information about new market research findings (31%), information about areas with deficit or surplus produce (8%), information about trending or commonly demanded products on market (4%) and none of them got all the above information.

The second objective of the study was to determine where and how coffee farmers sell and market their produce. The results in table 5 shows that most farmers don't carry out survey/research before planting (63%) and those who carry out were (38%). The producer organizations market their farmers' coffee at the highest possible level of the value chain. Farmers in producer organizations after properly picking and drying their coffee take it to the producer organization's collection centers. The producer organization's management after accumulating a sufficient volume informs the depot committee's marketing manager to pick and transport this coffee to the depot committee bulking centre.

Before initiation of the Centralized Marketing System involving selling directly to exporters in Kampala, the coffee supply chain structure in the KCFA was working much below its maximum potential. Only about 5-10% of the coffee

produced by member farmers reached the exporter through the PO/DCs. The majority of the coffee (between 60-70%) was lost at the farm gate to bike traders. At the PO collection point an additional 5-10% was lost, typically because lead farmers got tempted to sell to truck traders who passed by and offered a reasonable price. Traders were willing to pay a premium at the PO collection point, compared to bike traders at the farm gate, because at this stage the coffee was already in large volumes (Andersen, 2009).

Table 4 Market information provided by the mode selected

Market information	Frequency	Percent
Information about current market prices	27	56.3
Information about areas with deficit or surplus produce	4	8.3
Information about trending or commonly demanded products in the market.	2	4.2
Information about new market research findings.	15	31.3
All the above.	0	0
Total	48	100

Table 5 Farmers ever carried out survey before planting

Type of response	Frequency	Percent
Yes	18	37.5
No	30	62.5
Total	48	100

Source: Primary data, 2022

The results in table 6 shows that largest percentage of farmers suggested that the government (50%) was responsible for providing current and reliable market information followed by NGOs (23%), traders (20%) and lastly private sector (6%).

Table 6 Provision of reliable market information

Source	Frequency	Percent
Government	24	50.0
NGOs	11	22.9
Traders	10	20.8
Private sector	3	6.3
Total	48	100

The market plays a key role in determining the success of agricultural extension efforts. For example the recent improvement in coffee prices and the steady demand for coffee has led to renewed interest in farmers to increase their coffee outputs. This affected the farmers' responsiveness to agricultural extension training (Mugoya, 2010). Many smallholder farmers would like to use the opportunities that increased prices offer to increase their production and get access to markets with favorable prices. With current improved coffee prices in the world market there are renewed efforts to increase production (Anon, 2008). According to the Uganda Coffee Development Authority (UCDA), coffee volumes jumped 18.8 % to 3.2 million 60-bags in the 2007/08 coffee year from 2.7 million bags in 2006/07. The overall increase in performance was more to Robusta which went up in volume on the account of improved husbandry practices (Food Industry News, 2008).

The results revealed that most farmers faced a challenge of lack of product awareness to consumers, increased expenses incurred (42%), followed by time difference and remote areas (38%), illiteracy (21%) and lastly ignorance (19%).

Table 7 Challenges faced to access market information

Challenges	Frequency	Percent
Time difference	18	37.5
Expenses incurred	20	41.7
Ignorance	9	18.7
Illiteracy	10	20.8
Remote areas	18	37.5
Lack of product awareness to consumers	24	50.0

The results revealed that advertisement (35%) was most suggested as the way through which access to market information can be improved followed by formation of cooperatives (27%), increasing the number of market billboards (23%) and sensitizing of farmers.

Table 8 Ways through which access to market information can be improved

Way forward	Frequency	Percent
Advertisement	17	35.4
Formation of cooperatives	13	27.1
Increasing the number of market billboards	11	22.9
Sensitizing of farmers	7	14.6
Total	48	100

Basing on the findings, both male and females farmers participate in the Coffee production and trade. The majority of the respondents were between 31-40 years of age. This implies that the farmers and traders in in the study area are in the most labor active age thus high production of coffee. Within this age group, most of them are not yet financially stable due to the high rate of unemployment in rural areas so they engage in agriculture to improve on their household income and to meet their basic needs as well as improving their standards of living. Majority of the farmers and traders had attained secondary level education implying that the information they gave can be relied upon. This quickened data collection process.

3.3 Coffee farmers Access to market information

The study established that farmers use word of mouth from other farmers and traders as source of their information. This implies that farmers have limited access to other source of information for their produce like television, radios and newspapers. It may also be because they trust the information by word of mouth from other farmers and traders. This finding is in connection with Mawazo *et al*. (2014) who said that price information and market news is normally disseminated through various media such as radio, magazines, televisions, email, Internet, telephone and mobile phone calls.

This finding also contradicts with Shepherd (2011) who argued that market information is commonly disseminated through; radios, telephone calls, newspapers, notice boards at markets, TVs and the use of ICT has also increased especially during collecting, storing and disseminating information. Similarly, the study revealed that effectiveness of mode of source of information farmers selected was effective. This implies that they highly trust the information from their fellow farmers and traders compared to any other source. This finding is in line with Staatz *et al*. (1992) who indicated that with market information, farmers' decisions and confidence regarding what to plant, how much to invest is improved hence promoting a more competitive marketing system. In addition, the study showed that most farmers get information about current market prices relying on word of mouth from their fellow farmers and traders. This means that they do give the most accurate market price basing on their area other source may categorize based in district or region which may not reflect the actual market price in their area. This finding is supported by Shepherd (1997) who suggested that through providing market information, transparency among all stakeholders of a particular produce or product is promoted due to increased awareness of prevailing market prices and other relevant information.

The study revealed that farmers face challenges of time difference, expenses incurred, remote areas and lack of product awareness to consumers in trying to access market information. This implies that they rely on other farmers and traders on the market information for their products. This finding is in line with Jairath and Hema (2012) who argued that at times the languages and modes through which market information is packaged to reach all its stakeholders is difficult for them to understand by failing to interpret text or voice message due to language barrier which end up hampering farmers to take informed decision for selling, negotiating, storing their produce.

Further, the study established that mainly through formation of cooperativesis the major way through which market information access by farmers can be improved. This is because in cooperatives they meet and interact with different people who may be having best information about the current prices of coffee and also advertising makes all the farmers to be aware about the price changes of their products most if it is done in a media accessible to all farmers like in a radio.

4. Conclusion

The main objective of this study was to identify, describe and analyze coffee marketing channels and associated institutional challenges in the study area. The study identified that coffee farmers in the study area sold dried cherry coffee through main three channels namely; rural cooperative societies (35%), private coffee buyers (47%) and village buyers (18%). It was also observed that coffee farmers in different channels received varying farm gate prices. In some instances, some coffee farmers enter into informal contracts with village buyers a few months before the coffee harvest (forward sale) with condition that farmer will be obliged to sell their coffee produce to them at lower price (*Kiboko*).

Both men and women are equally engaged in coffee production and they mainly produce Robusta coffee. They rely on word of mouth from other farmers and traders for the market information of their agricultural activities. The majority of the respondents were between 31-40 years of age and had attained secondary level education. The farmers and traders mainly produce and deal in robusta coffee. Majority of the farmers use word of mouth from other farmers and traders as source of their information. Similarly, the study revealed that effectiveness of mode of source of information farmers selected was effective. In addition, the study showed that most farmers get information about current market prices relying on word of mouth from their fellow farmers and traders. The farmers mainly sell their products to village markets. Similarly, the study showed that most farmers do not carry out survey/research before planting. The farmers face challenges of price fluctuation in the marketing of their products. The study also found out that farmers face challenges of time difference, expenses incurred, remote areas. Further, the study established that mainly through formation of cooperatives is the major way through which market information access by farmers can be improved.

Recommendations

The key policy recommendations are that the coffee farmers should focus on large production such that they can be able to market their products nationally and in the regional markets as well. This will help them improve on their earnings and farming practices as well and create jobs for other unemployed people for example transporting coffee to the markets. The government should regulate the market for the coffee such that the coffee farmers can benefit from their farming activities not to be cheated by intermediaries. Trainings should also be organized for farmers to improve on their production methods and knowledge/skills trainings will help them to be exposed to many different people who can help them make their farming activities profitable.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors confirm and declare that there are no known conflict(s) of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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