

MARKET INFORMATION FACTORS INFLUENCING MARKET ACCESS BY SMALLHOLDER CEREAL FARMERS IN BUURI SUB-COUNTY

Salome Ntinyari^{1*}, Clement Nkaabu Lecturer^{2*}, Wilson Muema^{3*}

^{*1} School of Business & Economics, Kenya Methodist University

^{*2} School of Business & Economics, Kenya Methodist University

^{*3} School of Business & Economics, Kenya Methodist University

***Corresponding Author:-**

E-mail: sallykims@yahoo.com^{1*}, clemnkaabu@gmail.com^{2*}, wilson.nthenge@kemu.ac.ke^{3*}

Abstract:-

This study aimed at establishing the market information factors that affect market access by smallholder cereal farmers in Buuri Sub-County. A survey of 380 smallholder cereal farmers was carried out in Buuri Sub-County. Access to markets is a vital requirement for the smallholder farmers to reap the benefits associated with farming. Singh (2012) noted that any effort on poverty reduction especially in Africa are closely linked to small farms with the livelihood of 2.2 billion people still linked to small scale agriculture. Descriptive research was adopted for this study, data was collecting using well-structured and validated questionnaires. Statistical Package for Social Science (SPSS) was used to analyse the dataset while a logistic regression analysis was conducted. The research established that availability of market information has a significant effect on market access while source and cost of market information did not have an effect on market access. The study recommends that farmers should be sensitized on the use of formal agricultural information from government agricultural officers.

Keywords: - Smallholder; farmers; market access; market information;

INTRODUCTION

Markets are known for their ability to open up growth in the economy and encourage development. Ngqangweni (2000) emphasized the importance marketing agricultural produce has amongst smallholder farmers for the reason that many people within such communities obtain benefits which include jobs and revenue. Markets are very vital as they are the instruments of buying and selling. Markets are mostly important because the poor's involvement in market use results in harmonization and distribution of wealth, goods and services. This means that markets are vital in uplifting the lives of farm families and in poverty eradication. This means that participation in market is vital to smallholder farmers since their families benefit from things such as revenue and opportunities for job creation in the rural areas (Machethe 2003; Dorward et al., 2003). Other marketing activities involved in the process of marketing such as transportation, farm output Processing can be a source of employment.

Worldwide there are approximately 450 million smallholder farmers, these are farmers who own two hectares of land or less and they represent 85 percent of farms worldwide. (IFAD, 2008). According to Singh (2009), these farms sustain a populace of approximately 2.2 billion persons. The raising significance of smallholder farming, together with the waning production and low earnings are an alarm particularly in relation to efforts to reduce poverty. According to Republic of Kenya (1999), the smallholder farmers make a contribution of approximately 75 percent of the whole agricultural products and above 70 percent of all the production sold. This is a clear indication of the importance of agricultural production by smallholder farms which takes in approximately 51 percent of the total labour force in Kenya. The importance of farming, especially smallholders who produce the major share of food in the country and is the key income source among the rural communities is a main concern for rural development and the agricultural sector. This highlights the implication of elevated poverty levels in the countryside more so amongst the subsistence small-scale farmers.

The requirements for market information for a farmer are what facilitate him or her to make decisions that are relevant and make them being well informed. The function of market information service is to collect and process data from the market systematically and in a continuous flow and letting the market participants know the results in a way that enables them to make their decisions. IFAD (2003) noted that with limited knowledge, lack of information and lack of proper organization, small scale farmers do not have a base on which to make plans on a production system that is market oriented or to bargain on the prices in the market as well as on the market conditions.

Literature Review

Interdependence Theory

Thibaut and Kelley (1983) theorised interdependence as the way in which – in addition to the extent to which individuals coming together influence or persuade each other's experiences, referring to facts that what they prefer, what motivates them and how individuals behave has a bearing on those they interact with. The main feature of these person to person relationships is the interdependency of the partners Kelley et al., (1983). Interdependency is a major feature of any social experience. Interdependence theory shows that interaction is a main feature in each person to person relationship. Like other theories of social exchange, the outcome can be viewed as rewards and costs. Reward is equated to good consequences while cost is to negative consequences. People are assumed to be focussed on goal achievements seeking to have positive results and their tendency of avoidance of bad outcomes. Successful markets involve voluntary interaction of those who form part of the marketing path from the farm to the market, the interaction could in form of information gathered before production, during sales and after selling.

Transaction Cost Theory

The theory of transaction cost of a firm was hypothesized by Ronald Coase in 1973. This cost is mainly the fee incurred during the provision of most goods and services in the marketplace instead of the cost being provided from by the organization. Coase (1973) in his article on the social cost problems illustrates that the costs he has concern for, so as to transact in the market and it is of vital importance to know whom one is dealing with, whom they are conducting negotiations that lead to an agreement, drawing up of a contract, and who will undertake inspection to ensure the terms of the contract are followed among other things. This is to say in different words that transaction cost are incurred during the time of searching for information, decision making, bargaining, enforcing the decisions and policing. Coase (1973), agreed that without accounting for transaction costs it is not possible to correctly understand how the financial systems works and to have strong base intended for setting up sound economic policies, and they can either be observed or not observed or both.

Empirical Review

The information on agricultural marketing can be used in various ways. Chomba et al (2002), in their study assessing information on farming market requirements by smallholders in Zambia, noted that the information is mostly vital in formulating decisions on policies for government departments and other institutions, in order to keep track of economic shifts and to evaluate the state of affairs on food security in the nation. Information on markets are important to other stakeholders because they indicate the sources of extra foodstuffs and the prevailing market prices. They continued to say that NGOs as well need the market information to recommend the farmers on potential high returns scenario for every activity in agriculture and promote different patterns of planting in relation to price trends among others.

Goetz (1992) stated that the probability of participating in markets by sellers increases with access to market information and that having cereal processing expertise enhances the amounts traded by the traders and customers.

Poet and Obi (2007), researched on access to market information, the equipment used by smallholder farmers, distance to market, value of assets and characteristics of farmers and socioeconomic variables. The conclusion was that information access, total ownership of assets, the farmers' income, extension services and farming type are the most important factors that influence market access by small scale farmers.

Andrew (1997), noted that marketing information can be put in the class of essential goods for the public where many smallholder farmers are unable to pay for information. Timely availability of accurate information to all stakeholders is very vital, whether it be provided by the government itself or by the private sector. Most countries have tried providing information to markets but they can be rated as poor success wise.

Methodology Used

Research Design

The researcher used descriptive design in this study, the design was flexible and allowed the researcher to collect the appropriate data, both qualitative and quantitative.

Target Population

The study targeted all smallholder farmers in Buuri Sub-County. According to Meru County Directorate of Agriculture (2015) Buuri has 36,880 smallholder farmers.

Sample and Sampling Procedure

The sample size was drawn by use of a sampling matrix by Krejcie and Morgan (1970). As the population size is 36,880 from the matrix the corresponding sample size is 380. The researcher administered the questionnaires. Secondary data was found in professional journals, books, internet libraries, documents, reports from other scholars and government records.

Research Objectives

The general objective to this study was to investigate market information market information factors that influence market access by smallholder cereal farmers

Specific Objectives

1. To identify how cost of market information influences market access by smallholder cereal farmers.
2. To examine how availability of market information influences market access by small holder cereal farmers.
3. To establish how source of market information influence market access by small holder cereal farmers.

Research Hypothesis

H₀: Cost of market information has no significant influence on market access by smallholder cereal farmers.

H₀: Availability of market information has no significant influence on market access by smallholder cereal farmers.

H₀: Source of market information has no significant influence on market access by smallholder cereal farmers.

Reliability of the Instrument

The study used Cronbach's Alpha Test of Reliability to test and ensure internal reliability of the model used and a score of 0.894 was obtained.

Results

The researcher administered 380 questionnaires, however 5 (1.3%) were found to have errors thus not suitable for analysis, 98.7% were significant of carry out the study. The study revealed that though 100% of respondents grew cereals some that is 18.7% grew perishable goods while 16.5% produced other types of produce which was dairy farming. This is an indication that farmers in Buuri practised mixed farming.

Table 1 Sources of Information

Effect	Frequency	Percent
Middle Men	178	47.5
Neighbours	153	40.8
Extension Officers	32	8.5
Media	12	3.2
Total	375	100.0

Table 1 indicates that that majority of the respondents (47.5%) accessed market information from middlemen, 40.8% from their neighbours, 8.5% from media, 3.2% from agriculture extension officer.

The study also revealed that 92.6% of the respondents indicated that there is no cost incurred in getting the information and 7.6% indicated they incurred cost when seeking for market information which was mostly incurred when making calls to inquire about the market prices. Further only 9.8% of the respondents found the information obtained to be of assistance to a great extent while 90.2% did not find the information useful at all thus unreliable.

Table 2 Effect of Market Information on Market Access

Effect	Frequency	Percent
Very High	292	77.9
High	81	21.6
Moderate	2	0.5
Total	375	100.0

As shown in table 2 majority of the respondents, that is 77.9% rated the effect of market information on market access as being very high, 21.6% rated it high while 0.5% rated the effect of information on market access to be moderate. This is in agreement with Poet and Obi (2007), who concluded that information access among other factors is an important factor that influence market access by small scale farmers.

Logistic Regression Analysis

To establish the significant market information factors that affect market access by smallholder cereal farmers testing was carried out using logistic regression. Logistic regression was chosen by the researcher because the dependent variable is categorically measurable.

Model Test

Table 3 Omnibus Tests of Model Coefficients

	Chi-square	Df	Sig.
Step	25.165	4	0.000
Block	25.165	4	0.000
Model	25.165	4	0.000

Omnibus Tests of Model Coefficients tests the overall significance. The tests from table 3 show 4 degrees of freedom, a value of 25.165 and a probability of $p < 0.000$. This thus, indicates that the predictors do have a significant influence.

Table 4 Hosmer and Lemeshow Test

Chi-square	Df	Sig.
1.942	5	0.857

The Hosmer and Lemeshow tests determines whether the differences between the observed and expected are significant. Table 4 suggest the model is a good fit for the data with a P-value of 0.857. This means the data fit well with the model.

Table 5 Variables in the Equation

	B	S.E	Wald	P-value	Odds Ratio
Source					
Not Important (Ref)	-	-	-	-	1.00
Important	-0.403	0.327	11.729	0.279	0.542
Cost					
Yes (Ref)	-	-	-	-	1.00
No	1.093	1.069	0.975	0.135	0.002
Availability					
Not Available (Ref)	-	-	-	-	1.00
Available	-4.004	1.967	7.592	0.007	3.657

The general form of logistic regression is as follows

$$F(z) = \frac{1}{1 + e^{-z}}$$

Where $Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3$

Where:

X_1 = Source

X_2 = Cost

X_3 = Availability

Hypothesis Testing

This study sought to establish the relationship between market information and market access by smallholder cereal farmers. The refutation of the null hypothesis was based on the critical value being a p-value of 0.05. Based on the findings of this research, one variable was found to be a significant predictor of market access by having a p-value of less than or equal to 0.05. This variable is availability of market information with p-value of 0.007. Source of information and cost on the other hand were found not to be significant predictors of market access. They had p values of 0.279 and 0.135 respectively which were greater than the set significant level of 0.05.

Discussions and Conclusions

It was evidenced that middlemen were the source of market information for the half of the population of the farmers of cereals in Buuri Sub-County followed by the neighbours. Media and agricultural extension were used by few farmers to convey market information. Further the study shows where there is an effective source of information farmers are 0.542 times more likely to access market information compared to those without and effective source of information. Despite the farmers indicating that there is no cost incurred in getting the market information only 9.8% found the information to be of assistance to a great extent while 90.2% found the information not to be of help at all. This is contrary to Shepherd (1997) who note that the most essential cost the farmer has is the expenditure of acquiring information. The study revealed that farmers who incur costs in search of market information are 0.002 times more likely to have access to markets compared to those who did not incur any costs.

Majority of the respondents rated the effect of market information on market access as being very high. This concurs with Jari and Fraser (2009), who said that involvement in both unofficial and official markets can be increased by increase in accessibility of market information. The study further reveals that where market information is available farmers are 3.657 times more likely to access market compared to where market information is not available.

Farmers need to be sensitized on use of formal agricultural information from agricultural officers. This would assist farmers in getting the correct information about the market. The government should also formulate policies to make market information available to farmers. This will make market information a public good therefore available to everyone who needs it.

Reference

- [1].Chomba, G., Mbozi, G., Mundia, D., Simpamba, M., Mwiinga, B., Donovan, C., & Mushingwani, S. (2002). Improving The Transfer And Use Of Agricultural Market Information In Zambia: A User Needs Assessment. Food Security Research Project Working Paper, (6).
- [2].Coase, Ronald H., (1973). The Nature of the Firm. *Economica*, 4(16), 386–405.
- [3].Dorward, A., Poole, N., Morrison, J., Kydd, J., & Urey, I. (2003). Markets, institutions and technology: missing links in livelihoods analysis. *Development policy review*, 21(3), 319-332.
- [4].Goetz, S. J. (1992). A selectivity model of household food marketing behavior in sub Saharan Africa. *American Journal of Agricultural Economics*, 74(2), 444-452.
- [5].IFAD. (2008). Climate change and the future of smallholder agriculture: How can rural poor people be part of the solution to climate change? Discussion paper prepared for the Round Table on Climate Change at the Thirty-first session of IFAD's Governing Council. [Online] Available: <http://www.ifad.org/climate/roundtable/index.htm> (June 11, 2016) IFAD. (2003). Promoting market access for the poor in order to achieve the millennium development goals, A Discussion Paper.

- [6].Jari b., & Fraser, G.C.G. (2009). An analysis of institutional and technical factors influencing agricultural marketing amongst smallholder farmers in the Kat River Valley, Eastern Cape Province, South Africa. *African Journal of Agricultural Research*, 4(11), 1129-1137.
- [7].Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., & Peterson, D. R. (1983). Analyzing close relationships. *Close relationships*, 20, 67.
- [8].Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educ psychol meas*.
- [9].Machethe, C. L. (2004, October). Agriculture and poverty in South Africa: Can agriculture reduce poverty. In Paper presented at the Overcoming Underdevelopment Conference held in Pretoria (Vol. 28, p. 29).
- [10]. Meru County Government (2013). First Meru County integrated development plan 2013-2017
- [11]. Ngqangweni, S. S. (2000). Promoting income and employment growth in the rural economy of the Eastern Cape through smallholder agriculture (Doctoral dissertation, University of Pretoria).
- [12]. Poet, P.T., & Obi, A., (2007). Regulation of agricultural markets in South Africa: constraints faced by smallholder sector and assess and their impact on market access. PhD Thesis, Unpublished. Alice, South Africa: University of Fort Hare.
- [13]. Republic of Kenya., (1999). Kenya Human Development report 1999.
- [14]. Shepherd, A, 1997. Market Information Services: Theory and Practice. FAO (Food and Agriculture Organization), Rome.
- [15]. Singh, S. (2012). Policy: The Woes of Rural Wage Labor. *Capacity. Org*, 24.
- [16]. Tschirley, D. L., Diskin, P. K., Molla, D., & Clay, D. C. (1995). Improving information and performance in grain marketing: An assessment of current market information systems, and recommendations for developing a public grain MIS (No. 55590). Michigan State University, Department of Agricultural, Food, and Resource Economics.