

**AGRICULTURAL MARKET INFORMATION ACCESSIBILITY
AND CONTRIBUTION TO ECONOMIC DEVELOPMENT OF
SMALL SCALE FARMERS IN TANZANIA**

**By
Nickson Elly**

**A Dissertation Submitted to the School of Business in Partial Fulfillment of the
Requirements for Award of Master of Business Administration in Corporate
Management (MBA-CM) of Mzumbe University**

2014

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled “**Agricultural Market Information, Accessibility and Contribution to Economic Development of Small Scale Farmers in Tanzania**” in partial / fulfillment of the requirements for award of the degree of Master of Business Administration of Mzumbe University.

Major Supervisor

Internal Examiner

External Examiner

Accepted for the Board of School of Business

DEAN, SCHOOL OF BUSINESS

DECLARATION

AND

COPYRIGHT

I, Nickson Elly, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature _____

Date _____

© 2014

This dissertation is a copyright material protected under the Berne Convention, the Copyright Act 1999 and other international and national enactments, in that behalf, on intellectual property. It may not be reproduced by any means, in full or in part, except for short extracts in fair dealing, for research or private study, or critical scholarly review or discourse with an acknowledgement, without the written permission of Mzumbe University, on behalf of the author.

ACKNOWLEDGEMENT

I would like to express the deepest appreciation to my Supervisor Mr. Edward Makoye who supported me since the development of my research proposal, during data collection and finally developing this dissertation report. Without his guidance and persistent help this dissertation would not have been possible.

I would also like to thank Dr. Hawa Tundui who trained me on the theoretical research methodology, the skills she provided has helped me in conducting this study.

In addition, I would like to thank The Executive Director of MVIWATA Mr. Stephen Ruvuga and the management of MVIWATA who gave permission to conduct this study. It was not so easy to manage employment requirements while at the same time being engaged in academic issues, the support given will never be forgotten.

Finally, I would like to thank famers from Nyandira, Kibaigwa and Kinole who provided me with information on accessibility of agricultural marketing information. Without their information this study would have not been possible.

DEDICATION

This dissertation is dedicated to my wife; Rose Charles who has been a source of my personal life, success, encouragement and support throughout my academic development endeavor.

ABBREVIATION AND ACRONYMS

ADPs	Agricultural Development Project
AERLS	Agricultural Extension and Research Liaison Services
MBA-CM	Master of Business Administration in Corporate Management
MDB	Market Development Bureau
MIS	Market information System
MAMIS	MVIWATA Agricultural Marketing Information System
MVIWATA	Mtandao wa Vikundi vya Wakulima Tanzania
NMB	National Microfinance Bank
RML	Reuters Market Light
TAHA	Tanzania Agricultural Horticultural Association

ABSTRACT

Agriculture is the foundation of Tanzanian economy, which accounts for more than one-quarter of GDP, provides 85% of exports, and employs about 80% of the work force. Despite this strategic importance, agriculture in Tanzania faces a number of challenges, one of such challenges being limited market access, largely attributed to lack of access and use of market information by commodity chain actors, farmers being the most disadvantaged group.

A study was conducted with an aim to assess the accessibility and contribution of agricultural marketing information to the income of small scale farmers in Tanzania. The agricultural marketing information referred during this study are information on prices for the produce cultivated, information of traders who need farm crops (demand information), information on agricultural loan and information about extension services

A sample of 215 farmers from three villages which are Nyandira in Mvomero district of Morogoro region, Kinole village in Morogoro rural district of Morogoro region and Kibagwa in Kongwa district of Dodoma region were used during this study. These farmers were categorized in three groups basing on the locations and crops produced which are vegetables, fruits and cereals.

Secondary data was collected through documentary review while primary data was collected using questionnaires. Descriptive statistics and One-Way Analysis of Variance (ANOVA) was used to analyze the data. Data from questionnaire was coded and analyzed using Statistical Packages for Social Science (SPSS).

Generally the findings from the study indicate that agricultural marketing information are less accessible to farmers, 51.8% of the sample shown that they poorly access agricultural marketing information.

Assessing accessibility of agricultural marketing information basing on location and among producers of vegetable, fruits and cereals, findings of the study indicate that there is a significance difference in accessibility of agricultural marketing information among farmers who are located in different areas.

Generally results of the study indicate that farmers who have access to agricultural marketing information have been increasing the production and sales volume of the crops but also selling their crops at relatively higher price. Findings shows that access to agricultural marketing information contribute to the increase of income for farmers.

Findings show that agricultural marketing information is a requirement for farmers in the village, in order to improve accessibility of this information to farmers, the government and private sector need to introduce, sensitize and promoted Market information systems in villages where farmers live.

TABLE OF CONTENTS

CERTIFICATION	i
DECLARATION AND COPYRIGHT	ii
ACKNOWLEDGEMENT	iii
DEDICATION	iv
ABBREVIATION AND ACRONYMS	v
ABSTRACT.....	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES	x
LIST OF FIGURES	xii
CHAPTER ONE	1
INTRODUCTION OR PROBLEM SETTING.....	1
1.1 Background information	1
1.2 Statement of the Problem.....	3
1.3 Research objectives.....	4
1.3.1 Specific objectives	4
1.4 Research Questions	5
1.5 Significance / rationale of the study.....	5
1.6 Organization of the report	5
CHAPTER TWO	6
LITERATURE REVIEW	6
2.1 Theoretical literature review	6
2.1.1 Agricultural marketing information	6
2.1.2 Accessibility of Agricultural marketing information.....	8
2.1.3 Small scale farmers	8
2.1.4 Economic Development for Small scale farmers.....	9
2.1.5 Agricultural Prices	9
2.1.6 Agricultural inputs	10
2.1.7 Extension Education	10
2.1.8 Agricultural Technology	11

2.1.9 Agricultural Credit	11
2.2 Empirical literature review	11
2.2.1 The impact of small-scale farmer's access to price information	11
2.2.2 Increase in production as a result of accessibility to marketing information....	13
2.2.3 Farmers access to market information with increasing competitiveness production and marketing.	14
2.2.4 The Impact of Agricultural Market Information on Market Performance.....	15
2.3 Conceptual framework.....	16
CHAPTER THREE	19
RESEARCH METHODOLOGY	19
3.1 Research Area	19
3.2 Study population	19
3.3 Sample size	20
3.4 Research design	20
3.5 Sampling techniques	20
3.6 Data collection methods.....	20
3.7 Data analysis methods.....	21
CHAPTER FOUR.....	23
PRESENTATION OF FINDINGS	23
4.1 Characteristics of sampled farmers	23
4.2 Levels of accessibility to different kind of agricultural market information by farmers.	25
4.3 The extent at which accessibility to agricultural marketing information contribute to the income of small scale farmers.....	30
CHAPTER FIVE	47
DISCUSSION OF THE FINDINGS.....	47
5.1 Levels of accessibility to different kinds of agricultural market information by farmers	47

5.2 Accessibility to agricultural marketing information and its contribution to economic development of small scale farmers.	52
5.3 Accessibility of agricultural marketing information in different location and among vegetable, fruits and cereals producers.	56
CHAPTER SIX	58
CONCLUSION AND RECCOMENDATION	58
6.1 Conclusion	58
6.2 Recommendation	59
REFERENCES	61
APPENDICES	65

LIST OF TABLES

Table 2.1: Measurements of the Variables used in the study	18
Table 4.1 Age group of the sample	23
Table 4.2: Location of the respondents	24
Table 4.3: Mean accessibility of information on price, buyers, loan and extension services.....	26
Table 4.4: level of accessing price information by farmers	27
Table 4.5: Level of accessing information on traders who need crops by farmers....	28
Table 4.6: level of accessing information on agricultural loan.....	29
Table 4.7 level of accessing information on extension services needed by farmers .	29
Table 4.8: Source of market information	30
Table 4.9: Access to price information and its contribution on collective selling, farmer's income, crop production level, sale volume and selling price of crops	31
Table 4.10: Access to price information and collective selling	32
Table 4.11: Access to price information and increase of income	32
Table 4.12: Access to price information and increase on production level of crops .	33
Table 4.13: Access to price information and increase of sales volume of crops	33
Table 4.14: Access to price information and increase of selling price of crops	33
Table 4.15: Access to information on crops demanded in the market and its	
Table 4.16: Access to information on crop demanded in the market and increase of farmer's income	35
Table 4.17: Access to information on crop demanded in the market and increase of production of crops	35
Table 4.18: Access to information on crop demanded in the market and increase of sales volume of crops.....	36
Table 4.19: Access to information on crop demanded in the market and increase of selling price of crops	36
Table 4.20: Accessibility of agricultural marketing information for famers producing cereals, vegetables and fruits	39
Table 4.21: Multiple Comparisons on accessibility of agricultural marketing information for famers producing cereals, vegetables and fruits.....	40

Table 4.22: Accessibility of agricultural marketing information for famers located in Nyandira, Kibaigwa and Kinole.....	41
Table 4.23: Multiple Comparisons for accessibility of agricultural marketing information for famers located in different villages	42
Table 4.24: Technology used by farmers in production	43
Table 4.25: Farmer processing crops before selling	44
Table 4.26: Contribution of technology on production level.....	45
Table 4.27: Extension education to production of crop.....	45
Table 4.28: Agricultural credit and its contribution production level.....	46

LIST OF FIGURES

Figure 2.1: Conceptual framework	17
Figure 4.1 Age group distribution of the sample	24
Figure 4.2: Acres cultivated by farmers from Nyandira, Kinole and Kibaigwa villages	44

CHAPTER ONE

INTRODUCTION OR PROBLEM SETTING

This chapter presents background information, definitions and concepts as applied in the research study, research problem statement, research objectives, research questions, significance and justification of the study and organization of the proposal.

1.1 Background information

Market information includes market news (e.g. information on prices, quantities, market conditions, regulations and business contacts for both factor inputs and outputs), market analytical reports (e.g. reports that analyze factors that cause changes in market conditions and their effect on stakeholders, including policy analysis) and business reports (e.g. providing information that can help stakeholders identify reliable trade partners including their creditworthiness (Muganga, 2011).

In different countries small scale farmers living rural areas when selling their produce, they normally have little choice about who they sell to or how much they charge. A typical situation has been for farmers to sell their crop at a low price to middlemen, they take the little they are offered, but never earn enough to make investments in their farming business or pull themselves out of poverty. Farmers who lack knowledge of current market prices are easily be exploited. However, there are many ways that farmers are improving their methods of marketing and earn more from their crops. One exciting is the development in information and communication technologies such as mobile phones and the internet. These are enabling farmers to get information about current prices in different markets and are linking them directly to buyers. Finding out the patterns of demand for certain crops in different markets helps farmers to make better decisions about what to grow and when to grow it. Market information makes the market chains fairer and more ‘transparent’, so that farmers and traders get a better deal and exploitation and corruption are minimized (Binayee, 2005).

Different countries have established systems that facilitate accessibility of market information to their farmers. In Nigeria the Agricultural Extension and Research

Liaison Services (AERLS), the extension services of the Agricultural Development Project (ADPs), Ministries of Agriculture at both state and federal levels, Media Forum for Agriculture, Cooperative Extension Centre's (CEC) of universities and public enlightenment units serve as facilitators of agricultural messages by acting as communication departments). They use media such as leaflets, newsletters, posters, exhibits, visual aids and radio programs in communicating agricultural information to farmers (Ozowa, 2005). Previously, the Government of Uganda solely undertook provision of MIS in the country, but currently Infotrade under FIT Uganda Limited and Rural Information System (RIS) are the MIS providers. In Kenya market information are collected and disseminated by the Ministry of Agriculture (MOA), Kenya Agricultural Commodity Exchange (KACE), iCow Initiative and other private sectors. In Tanzania formal MIS for food crops started with the establishment of the Market Development Bureau (MDB) in 1970. Currently the function of disseminating marketing information is being conducted by Ministry of Industries, Trade and Marketing. In recent years in Tanzania there have been donor programs and private companies which attempted to provide innovative ways to provide market information to various stakeholders in agricultural marketing chain (Match Maker, 2011).

All MIS initiatives which have been established in different countries aims at facilitating market access and better prices to agricultural crops through creating transparency and increasing negotiation capacities of farmers and traders. Given the information irregularities between farmers, traders and processors in most agricultural markets, the need for agricultural market information is unquestionable. Up to-date or current market information enables farmers to negotiate with traders from a position of greater strength. Where information is lacking in a market environment, significant differences in price will occur in different locations, for the same product, traded at the same time.

Access to information reduces market risk for both the trader and the farmer, reducing transaction costs and increasing the efficiency of the market. Lack of information in the market system substantially increases risks as the time taken by

the trader to bulk goods purchased from farmers at a farm gate price and sell those goods at larger market places means that it is almost impossible for them to be sure of the price they will receive. This causes them to allow an extra margin for themselves to cover the risks of a falling market price (Shepherd, 2011).

The efficient management of agriculture as a business requires accurate and timely information on all aspects of agriculture production, processing, marketing and utilization. It is necessary to have timely and appropriate data and information available to guide farmers and local entrepreneurs as well as policy makers in planning and making decisions (FAO, 2005).

1.2 Statement of the Problem

Agriculture is the foundation of the Tanzanian economy, which accounts for more than one-quarter of GDP, provides 85% of exports, and employs about 80% of the work force. Despite this strategic importance, agriculture in Tanzania faces a number of challenges, one of such challenges being limited market access, largely attributed to lack of access and use of market information by commodity chain actors, small holders farmers are the most disadvantaged group with traditional market information channels, (Muganga, 2011).

Findings from Ibrahim (2007) show that apart from various initiatives of the government and private sectors to support MIS in Tanzania, the current MIS in Tanzania still lags behind the rapid changing agricultural commodity markets, lacking efficient, timely performance, covering small proportion of the market and lacking coordination among the actors who are involved. Small holders farmers in Tanzania lack market access, have low bargaining power and sell their crops at lower prices mainly due to lack of informed decisions which contribute to their poverty.

According to Aloyce (2005) whose study was conducted in Magu district, the technology services have helped farmers get the best market prices for their produce, namely cotton, groundnuts, maize, beans, finger-millet and sunflower. Accessibility of market information to farmers has helped overcoming middlemen (*madalali*),

which were conspiring lower crop prices in order to reap unfair profits from farmers (Aloyce, 2005).

According to the study conducted in Rungwe district, farmers who have access to markets information resulted in producing large quantities of crops and were engaged in production of crops that are in great demand (Agnes, 2010). The results also show that people who access market information sold a lot more and received relatively better prices, which has a positive impact on poverty alleviation

Basing on studies conducted in Tanzania, there are different findings on the accessibility and use of agricultural marketing information to small scale farmers. This study was conducted with the aims to fill this gap by assessing the accessibility and contribution of market information to the income of small scale farmers in Tanzania, with specific references to Kinole and Nyandira villages in Morogoro region and Kibagwa village in Dodoma region.

1.3 Research objectives

Generally the study aimed to determine the extent of accessibility and contribution of agricultural marketing information to economic development of small scale farmers in Tanzania.

1.3.1 Specific objectives

- i) To determine the extent to which farmers access different kinds of agricultural marketing information.
- ii) To determine the extent at which accessibility to agricultural marketing information contribute to the income of small scale farmers.
- iii) To determine if there is differences in accessibility of agricultural marketing information among small scale farmers who are involved in production of vegetable, fruits and cereals crops in Tanzania.

1.4 Research Questions

- i) At what extent do farmers access different kind of agricultural marketing information?
- ii) At what extent does accessibility to agricultural marketing information have contribution on the income of small scale farmers?
- iii) Are there differences in accessibility to agricultural marketing information among small scale farmers who are involved in production of vegetable, fruits and cereals crops have access?

1.5 Significance / rationale of the study

This study aimed to assess accessibility and contribution of market information to the economic development of small scale farmers in Tanzania. Results of this study shows that accessibility of agricultural marketing information contributes to increasing farmer's negotiation capacities and transparency hence increase in selling price of their crops. Apart from this economic importance findings indicate that farmers have less access to agricultural marketing information. Apart from the advancement in technology especially the use of mobile phone finding shows that farmers rarely use them to access agricultural information. Findings of this study are therefore usefully for the government and private sectors for facilitating improving the accessibility of agricultural information to small scale farmers in the village using media that is convenient to them .

1.6 Organization of the report

This report has six chapters, the introduction, literature review, and methodology, presentation of the findings, discussion and the conclusion. The introduction describes the background of the problem, problem statement; objectives research questions and the significance of the study.

The literature review presents the theoretical and empirical review with the conceptual framework of the study. Chapter three presents the study area, research design, the sample size, data collection methods and analysis techniques. Chapter four presents the findings of the study while chapter five presents the discussion by comparing finding of this study with finding of other studies. Finally is the chapter on summary and conclusion.

CHAPTER TWO

LITERATURE REVIEW

This part comprises both the theoretical and empirical literature review. The theoretical review defines the key terms used in this study, the key terms used in the theoretical review are agricultural marketing information, accessibility of agricultural marketing information, small scale farmers economic development, agricultural prices, inputs and technology. The empirical review describes findings from studies conducted in different areas assessing accessibility of agricultural marketing information and its role on economic development of farmers.

2.1 Theoretical literature review

2.1.1 Agricultural marketing information

Agricultural marketing information are information on Traders/Buyers and Sellers, Price, Volume and Production Data. Market information post buyers demand for produce while sellers can advertise their commodities available for sale, it contain up to date information on production and marketing of local commodities with emphasis on best practices for producing, processing and marketing of local produce it also provides a current and historical listing of the prices and volumes traded. Considering the decision theory, Market information are required by both producer and seller for decision making on what crops to produce or buy, how much to produce/buy and the price of the crops (Kizito,2012).

The Decision theory is often used in the form of decision analysis, showing that it is best to acquire information before making a decision. Decision theory is concerned with determining which decision, from a set of possible alternatives is optimal for a particular set of conditions; decision is taken when there is perfect information (Mahijan, 2012).

Taking the consideration of Decision theory, in Agricultural marketing information are needed to enable farmers, traders and other actors to make rational and relevant decisions. Basing on information availability farmers can decide on what crops and variety to grow at a given season with marketability of such a crop as an important

deciding factor, such information also held farmers to decide on the volume of crops that farmers can produce at a particular time. Information on current and future price of crops help farmers to decide when to sell their crops and at which market to sell their crops where the market offer better prices for their crops. Access to information enables small scale farmers to have organized sales of marketable surplus and bulk transport of produce, (Binayee, 2005).

Well-analyzed historical market information enables farmers to make planting decisions in line with urban consumer demand, including those related to new crops. It also permits traders to make better decisions regarding the viability of intra and, perhaps, inter-seasonal storage. Moreover, information of this type assists agricultural planners and researchers and can make an important contribution to our knowledge of urban food marketing systems. In the extreme case, farmers with information can decide whether or not to harvest, so avoiding sending produce to market in times of glut only to discover that the price received does not cover harvest, packaging and transport costs (Shepherd, 2011).

According to the findings of Nowakunda, 2010 information within the hands of the farmers means empowerment through control over their resources and decision-making processes. Information facilitates farmer's critical role in decision-making towards improved agricultural production, processing, trading, and marketing

Economic activity involves making decisions, in order to make decisions, agents need information. Thus, the problem of acquisition, transmission, and uses of information has been occupying the economists' attention for some time to the use of information theory. Information theory is concerned with the content, transmission, storage and retrievals of information usually in form of message or data, (Mraginsky, 2010)

Dissemination of market information (demand, production and prices) plays a vital role in the functioning of the whole market, by harmonizing the competitive marketing process. It helps to ensure that produce goes to markets where there is a

demand for it; it shortens marketing channels and cuts down on transport costs. It helps to ensure that each marketing transaction is a fair one, and that all participants share the risks and benefits (Ibrahim 2007).

All social activity depends largely on communication. The exchange of goods involves an exchange of information between the producers and the buyers. It can be seen that no products can be produced unless there is an information flow. The whole flow of goods depends basically on the flow of information, (Maurice, 2002).

2.1.2 Accessibility of Agricultural marketing information

It is not enough for marketing information to be collected; it must also be disseminated in a form accessible to farmers, traders and other actors in value chain and adopted to their needs. Accessibility is the degree to which a product, device, service, or environment is available to as many people as possible. In different countries farm related information has been provided by extension workers, through radio, television and newspapers. The recent advances in information technology especially the use of mobile phones are making it more feasible to provide farmers with the marketing information they need. However, farmers may not benefit from sophisticated facilities, if the system is poorly managed or not designed for their needs (Ibrahim 2007).

2.1.3 Small scale farmers

In Tanzania small scale farmers are farmers who are involved in subsistence activity who have low social, cultural and economic status and limited access to technology, markets and credits. Smallholders typically receive little technical support and often have low productivity due to an inability to invest in things such as improved seeds and soil replenishment. Smallholders generally rely on labour-intensive production methods and family labour, although they often have to hire labour, especially at key moments in the production cycle like harvesting (Sebastian 2012).

In different countries small scale farmers are defined based on the area cultivated. Small scale farmers are farmer with farm sizes of less than two hectares. On the

whole, these small farms are not economically efficient because of relatively high input costs compared to profits. Small farmers in developing countries are unable to take advantage of economies of scale and often lack the financial resources such as credits and loans to make their farms profitable (Von Braun, 2008).

2.1.4 Economic Development for Small scale farmers

Development of small scale farmers means unlocking smallholder productivity and market access which can lift millions of families out of poverty, improving yields of their crops imperative to addressing growing food security challenges and income. The income for small scale farmers is money earned through investments in agricultural activities which can facilitate farmer's development. The determinant of farmers income are types of crops grown, farm size, farm output, costs of farm inputs and equipment, sales volume, savings from previous agricultural year, transport cost, climatic factor, farming system employed and accessibility to credit facilities (Olawepo, 2010).

Increase production in a sustainable way, and sell more crops, is the most effective way to reduce hunger and poverty over the long term. When farmers grow more food and earn more income, they are better able feed to their families, send their children to school, provide for their family's health, and invest in their farms. This makes their communities economically stronger and more stable. The development indicators for small scale farmers include areas of food balances (production, consumption, trade and stocks), market structures; incomes, poverty and inequality, food security, productivity and state of natural resources (Lipton, 2005).

In the context of this study small scale farmers economic development means an increase of income for farmers following an increase in production level, sales volume and selling price of their crops.

2.1.5 Agricultural Prices

Agricultural prices cover prices of agricultural products (output prices) and prices of requisites for agricultural production (input prices) at various stages of marketing

aims at ensuring remunerative prices to the growers for their produce with a view to encourage higher investment and production. The agricultural prices take into account all-important factors of Cost of Production, Changes in Input Prices, Trends in Market Prices, Demand and Supply Situation. Agricultural prices are important economic variables in a market economy it has a significant influence on decisions relating to the type and volume of agricultural production activity. An individual farmer needs output prices to determine the pace and volume of his sales so as to optimize the return from his farm production. In the long run, knowledge of price trends helps a farmer to formulate the investment plan on his farm and to take decisions on the structure and nature of his enterprises. An understanding of the normal differences in the prices of his products and production requisites during the year helps a farmer to react logically to the marketing situations in order to optimize the planning of the sale of his products and the purchase of his supplies. His production plans are governed by the price expectations of the various commodities he can produce, and these expectations are based on the trends both of output prices as well as the prices of the agricultural inputs that he has to buy (Acharya, 2000).

2.1.6 Agricultural inputs

Agricultural inputs include Seed, fertilizers, pesticide, Insecticides and post Harvest Inputs:. Agricultural inputs are among the most important requirements for achievement of successful production operations and satisfactory profitability both for agricultural projects and farmers (Matee, 2000).

2.1.7 Extension Education

Extension is a type of education which is functional rather than formal. It is better provided by extension workers whose main task is to convey information in a meaningful form to farmers. One of the ways they do this is by training a group of model farmers with the hope that such farmers come in contact with other farmers. Farmer education programs will increase local food availability, farmer income and sustainability of agricultural practices (Abdalah, 2004)

2.1.8 Agricultural Technology

The use of improved mechanization, irrigation systems and different tools lead to increased in productivity as they result in production of lager area using low manpower. Agricultural Technology for Small Farmers is required in the areas of crop processing and storage, small-scale mechanization and transport, rural structures and farm energy. Farmer needs information on production technology that involves cultivating, fertilizing, pest control, weeding and harvesting (Temu 2002).

2.1.9 Agricultural Credit

Agricultural credit encompasses all loans and advances granted borrowers to finance and service production activities relating to agriculture, fisheries and forestry and also for processing, marketing, storage and distribution of products resulting from these activities. To reap the benefit of credit, farmers need information relating to sources of loan such as names of lenders, location and types of existing credit sources. They need information on the terms of loans such as the interest rates, loanable amount and mode of repayment (Rweyemamu, 2004)

2.2 Empirical literature review

2.2.1 The impact of small-scale farmer's access to price information

The study with an aim to assess the impact on providing small-scale farmers with access to market price information was conducted in Uganda in August 2010. During this study sample of 7960 farmers were used where data were analyzed using regression analysis techniques. Exploitation of variation in access to market price information over time, across space, and between crops, shows that farmers that could access information were more likely to be involved in market exchange (the extensive margin); sold a higher share of output (the total margin); and benefited from higher farm-gate prices.

However, due to the endogenous response in market prices, farmers that were less likely to access information faced lower prices and were less likely to sell their surplus on the market. Together, the results indicate that the access to price information reduced market failures due to asymmetric information between farmers and traders, and lead to increased market activity and incomes for informed farmers,

but also resulted in an increased dispersion in revenues between informed and uninformed farmers. Crop income of farmers with access to market price information increased by an estimated 55%. Informed farmers benefit from higher farm revenues (due to reduced market frictions) while farm income falls for uninformed farmers due to the change in market prices, (Jakob, 2010)

An improved information and knowledge flow to, from, and within the agricultural sector are a key component in improving small-scale agricultural production and linking increased production to remunerative markets, thus leading to improved rural livelihoods, improving quality and yield, food security and national economies. Access to information makes it possible to enhance economic opportunities through increased market access, improved negotiating powers and better production methods (Muganga, 2011).

The study was conducted to estimate the benefits that Indian farmers derive from market and weather information delivered to their mobile phones by a commercial service called Reuters Market Light (RML). RML distributes price, weather, and crop advisory information through SMS messages. The study investigated the channels through which the price improvement comes, ability to bargain with traders and increased awareness about quality premium leading to better agricultural practices and postharvest handling (Marcel 2011). The study made testable predictions about farmer behavior in response to market price information. Many treated farmer's state that they use the RML information, and they are less likely to sell at the farm-gate and more likely to change the market at which they sell their output (Ibid). The study find that no any significant difference in price between beneficiaries of the RML service and non-beneficiaries.

Results of the study indicate that no statistically significant average effect to the farmers who use RML on the price received by farmers, crop value-added, crop losses resulting from rainstorms, or the likelihood of changing crop varieties and cultivation practices.

Mobile phones have saved energy and time of farmers and ultimately improved their income. Mobile phones have provided an opportunity to the farmers to communicate directly with market brokers and customers for sell their product in good price (Abdul, 2013).

The study conducted in 20 villages of Cambodia shows that farmers who have access to market information through the use of mobile phone are more likely to sell their rice at higher prices. The results of this study imply that improved access to market information through the use of mobile phones improves farmers bargaining power against traders enabling them to sell their rice at higher price, (Yamada, 2012).

2.2.2 Increase in production as a result of accessibility to marketing information

In a study conducted on accessibility to marketing information for farmers in Nsukka village in Nigeria, a sample of 100 farmers were randomly selected for the study. Data collected were analyzed using descriptive statistics, involving percentage. SPSS software was used to calculate the means of each item in the research question. Means and standard deviations of means (std) were calculated and presented. Results of the study indicated that having accessing to agricultural information is an essential ingredient that would always lead to better crop and livestock production in any community. Some of the rural farmers' interviewees reported that they have in the past received information on new improved maize seedlings and cassava stem, all these geared towards better maize and cassava production in Nsukka. The rural farmers' respondents have also benefited from information on distribution of new vaccines and drugs from the Enugu State ministry of Agriculture for healthy livestock production in Nsukka.

Other aspects of agricultural information which the rural farmers respondents have benefited from in the past included new methods of crop preservation, introduction of new herbicides and pesticides for the control of farm weeds and insect pests, methods of crop disease treatment and control, better systems of crop rotation and fertilizer application and types of soil and best soil type for planting. The study indicates that information availability to rural farmers is meant to know and also adopt agricultural innovations relevant to their situations (Nnenna, 2011).

According to (Aguero 2009), farmers coincide in the importance of the application of the mobile phone information which could favor the exchange of products and the sale of these thus succeeding in an increment in earnings. Farmers who were interviewed responded that knowing the statistics of the 'real time' could help in the making of decisions for the planting of any one product.

Communication through mobile phones is considered very important in enhancing farmers' access to better understand agricultural market situation. Nowadays, the mobile phone has generated an opportunity for the farmers especially to get the information about marketing and weather (Abdul, 2013). Through this important technology, they directly keep in touch with market personals and offer their produce with reasonable prices. The use of mobile phone also keep them aware for weather forecast for agriculture input application like fertilizer and pesticides which might be affected by un fore seen dis-asters as communicated by metrological department.

In a study conducted in Pakistan, findings of the study indicate that information is crucial for increasing agricultural production and improving marketing and distribution strategies, (Rehman et al, 2013). In a study where a sample of 361 was selected at random, descriptive statistics such as simple frequency mean and standard deviations were used during analysis. The results of the study therefore reveal that there is a need for adequate and easy accessibility of agricultural information to farmers to enhance agricultural production.

2.2.3 Farmers access to market information with increasing competitiveness production and marketing.

In 2010 a study conducted in Uganda to assess the farmer's access to market information with increasing of Small-Scale Farmers' Competitiveness in Banana Production and Marketing. A total of 114 respondents were interviewed using both structured questionnaires and checklists. During the study it was identified that the establishment of market-information systems managed by farmer groups greatly helped farmers to access markets. This resulted in collective marketing which enabled farmers to reduce the number of middlemen within the banana-marketing structure. It also enabled one group of smallholder farmers to supply at least 400

bunches at every time of sale. There has been an increased participation of farmers in the marketing system by carrying out some of the marketing activities which used to be done by brokers, such as harvesting and assembling. Under the new marketing system and group structures, there was significant increase of the farm-gate prices and a reduction of the middlemen's market share from 35% of consumer price to 5%. Each farmer group has a committee responsible for collection, processing and packaging market information, hence improved access to accurate and timely relevant market information. The results imply that improving access to market information empowers small-scale producers. Access to the right information type significantly affects farm-gate prices, negotiating power, farmer organizations, and transaction costs. Access to information on ruling market prices contributed 63.78 to farm-gate prices and 57.5% to farmers' marketing decisions. Accessing information on fluctuations of urban market prices significantly influenced farmers' decisions on buyer, quantities and prices. Farmer-to-farmer interactions significantly influenced marketing decisions. Farmers who accessed timely and accurate market information sold a larger proportion of bananas (48.7%) to bulk buyers at higher prices (Nowakunda, et al, 2010).

2.2.4 The Impact of Agricultural Market Information on Market Performance

A study to assess the Impact of Agricultural Market Information Systems Activities on Market Performance in Mozambique was conducted by Kizito in 2012. This study analyzes data from four provinces in Mozambique, namely Manica, Sofala, Zambezia, and Nampula. The sample size for the study was 3,624 farmers, among the sample 924 sold maize, 185 sold large groundnuts, 376 sold small groundnuts, and 97 sold common beans. Correlation analysis was used to analyze the data. The analysis indicates that, holding other factors constant, reception of market information by staple crops farmers in Mozambique is associated with a higher probability of market participation of up to 34%. The study finds that the mean price difference per kilogram of maize sold between households with and without information is 12%. These results are consistent with the observation that providing improved agricultural market information helps to link farmers to markets, a process

that improves their welfare, and moves them to more efficient market outcomes (Kizito, 2012).

Market information enable farmers and traders to make informed decisions about what to grow, when to harvest, to which markets produce should be sent, and whether to store it or not, The provision of information improves farmers to try to sell in those markets where the price is highest as a result of this farmers get better price and increase their income (Ibrahim 2007).

A study was conducted in Mukono and Masaka districts in Uganda to assess the accessibility of information to farmers. Findings show that households in more remote locations are less likely to use formal channel of communication like mobile telephony, FM radio, internet and information centers. The finding also indicates that farmers who have access to information from formal channel consistently obtain higher farm-gate prices than those who obtain information from informal channel, (Barbabas, 2010).

2.3 Conceptual framework

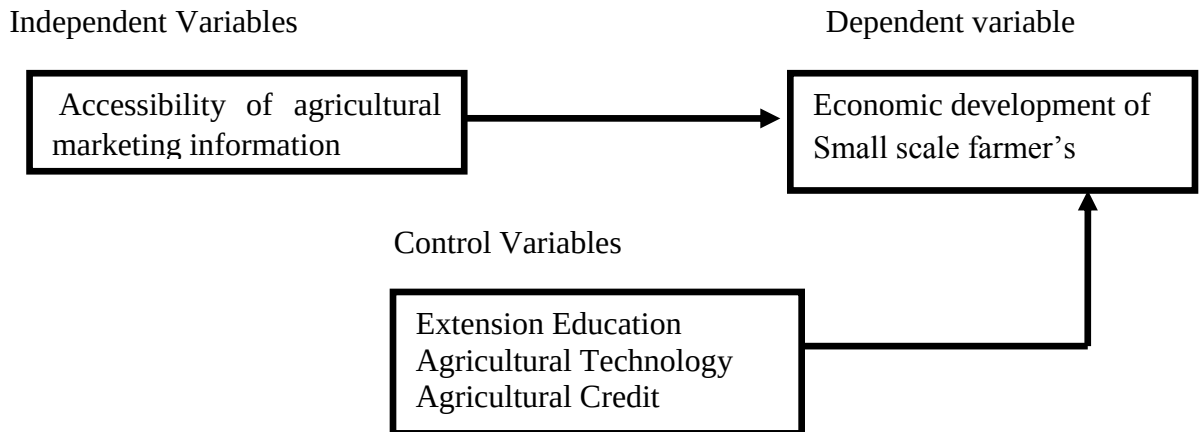
Agricultural marketing information is expected to facilitate market access and better prices to agricultural crops through creating transparency and increasing negotiation capacities of farmers and traders and hence increasing farmer's income.

In this study it is expected that access to information on price and market has an impact in increasing the volume produced and prices at which farmers sell their crops, hence increasing the income of farmer.

Apart from accessibility to agricultural marketing information the study also investigated other factors which affect productivity and income development of farmers, namely extension education, agricultural technology and agricultural credit. Availability of information for extension education, agricultural technology and agricultural credit is not sufficient to improve production but these services need to be available and used by farmers. Figures 1 below represent the conceptual

relationship between accessibility of agricultural marketing information and economic development of small scale farmers.

Figure 2.1: Conceptual framework



Source: Agnes, 2010

Variable measurement

Table 2.1 shows measures used for measuring economic development and factors that affect accessibility of agricultural marketing information. The measures used to measure income and economic developments of farmers are quantity produced, quantity sold and price received. During this study these measures were used because it has been used by different researchers as indicated in table 2.1, also generally farmers and other agricultural actors have been using these factors as indicator to measure changes in agricultural development.

As indicated in table 2.1, different studies indicates that accessibility of agricultural marketing information depend on factors namely the location, type of crop produced, gender, age and education. For the purpose of this study accessibility of agricultural marketing information were measured using the location of farmers and type of crop produced, this is because the interest was to assess if there is difference in accessibility of information among farmers who are engaged in production of three kind of crops namely vegetable, fruits and cereals who are located in three different areas.

Table 2.1: Measurements of the Variables used in the study

Variables	Measurement	Sources
Economic development	• Quantity produced • Price received • Quantity sold • Introduction of new/profitable crops • Income	Agnes, 2010, Aloyce,2005, Ibrahim 2007, Jakob 2010, Nowakunda, et al, 2010, Muganga, 2011, Yamada 2012,
Accessibility of Agricultural Market Information	• Type of commodity produced • Location • Gender • Level of education • Age	Aguero 2009, Barbabas, 2010, Binayee, 2005, Kizito, 2012, Marcel 2011,

CHAPTER THREE

RESEARCH METHODOLOGY

The term methodology is a way to systematically solve a research problem (Kothari 2004). This section focuses on the method that was used for this study with the aim of achieving the research objectives. The section describes the research area, study population, the sample size, sampling techniques, data collection and analysis method.

3.1 Research Area

The research was conducted at Nyandira and Kinole village in Morogoro region and Kibaigwa village in Dodoma. The areas has been selected because there have been initiatives of disseminating market information targeting small farmers initiated by the government and other private sectors like Mtandao wa Vikundi vya Wakulima Tanzania (MVIWATA).

3.2 Study population

The target population for this study was small scale farmers who are producers of fruits and vegetables crop in Kinole and Nyandira villages from Morogoro regions and cereals producers from Kibaigwa villages. The population was selected because in these villages there are marketing infrastructures existing where farmers and traders meet for business on agricultural crops. The markets infrastructures are linked to market information systems that were initiated by the government through ministry of trade and marketing and other private sectors engaged in delivering agricultural marketing information's. Specifically Mtandao wa Vikundi vya Wakumia Tanzania (MVIWATA) manage a market information system that involve dissemination of information on price, demand and supply of crops to different actors in agricultural marketing, small scale farmers being the major target. In this study farmers were expected to provide relevant and valid information about the accessibility and use of market information in their villages.

3.3 Sample size

According to Kothari (2004), the knowledge gained from the sample is representative of the total population under study. The sample size of the study comprise 280 respondents, 80 fruits producers from Kinole village, 80vegetable producers from Nyandira village and 80 cereals producers from Kibaigwa village. A total of 240 questionnaires were distributed in all villages to be filled by farmers. At the end 215 questionnaires was collected from all villages and used for analysis.

3.4 Research design

The cross-sectional study method was employed during the research. The cross-sectional research method involved asking questions to a representative sample at once in order to answer the research questions. This design allowed an in-depth data collection from farmers in Kinole, Nyandira and Kibaigwa villages at a single point time. The survey study approach was used in collecting information about accessibility and use of market information to farmers in the village. The survey study has been selected because data was collected from wider sample representing fruits, vegetable and cereals producers. The study also investigated the relationship between two variables, accessibility of market information and income development of small scale farmers.

3.5 Sampling techniques

The study employed probability sampling methods. The probability sampling techniques which was used is stratified sampling. The population of small scale farmers was divided in three strata; these are vegetable producers, fruits producers and cereals producers from the three villages. In each of the strata simple random sampling was used where farmers in each stratum had equal chance of being selected.

3.6 Data collection methods

During this study the researcher used mainly primary data for analyzing the accessibility of agricultural marketing information and its contribution to income development. Secondary information especially findings of other studies on

accessibility of agricultural marketing information and its contribution to agriculture was collected through documentary review of published materials such as reports, newspapers, books, pamphlets, journals and other relevant information concerning the accessibility of agricultural market information to farmers.

Primary data was collected by the use of questionnaires. Questionnaires were administered to all members in the selected sample. Since the research was dealing with small scale farmers so the questions was structured in Kiswahili language. This enabled respondents to express themselves well without any language barrier. As appear in the questionnaire attached, the data collected using this tool are personal profiles for each farmers, crops produced by each farmer, level of accessing information on price, demand, finance and extension services. Questionnaire was also used to collect data on the source of information for each farmers, the level at which access to information contribute to increase income, production level, sales volume and selling price.

3.7 Data analysis methods

Data analysis is defined as a practice in which, unorganized or unfinished data is ordered and organized, so that useful information can be highlighted. It involves processing and working on data, in order to understand what all is present (Kothari 2004).

Descriptive statistics was used to analyze how accessibility of agricultural marketing information contributes for income development of small scale farmers. The mean value, frequency and percentage were calculated to determine the relationship between accessibility of different kind of agricultural marketing information and measures of economic development.

To determine the accessibility of agricultural marketing information among small scale farmers who are involved in production of vegetable, fruits and cereals crops in Tanzania, One-Way Analysis of Variance (ANOVA) was used. This statistical technique was used because the researcher wanted to explore if there is differences in

accessibility of agricultural marketing information among three categories/groups of farmers located in different areas. The three categories of farmers groups are vegetable, fruits and cereals located in Nyandira, Kinole and Kibaigwa respectively. The variables on accessibility to price, demand, extension and credit information with its impact on economic development of farmers were analyzed whereby descriptive statistics such as mean, frequencies and percentages was computed.

CHAPTER FOUR

PRESENTATION OF FINDINGS

This chapter present findings of the study, it shows the characteristics of the sampled farmers, level of accessibility to different kind of agricultural market information by farmers and the extent at which accessibility to agricultural marketing information contribute for income and development of small scale farmers. It also shows differences in accessibility of agricultural marketing information among small scale farmers who are involved in production of three types of crops which are vegetables, fruits and cereals.

4.1 Characteristics of sampled farmers

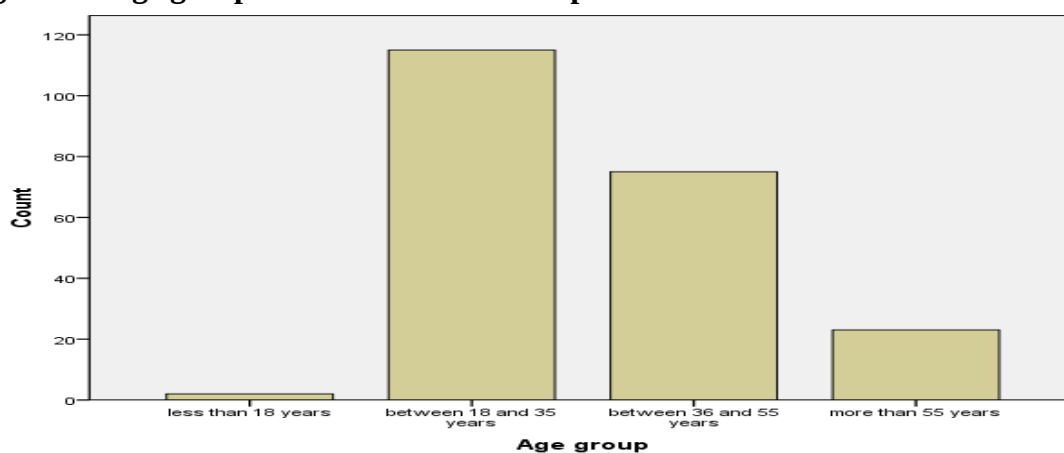
Age group, Sex and education level of the respondents

A sample of 215 farmers was used, the age distribution of this sample is that out of it, 2 (0.9%) respondent belongs to an age group of less than 18 years, 115 (53.5%) respondents belongs to an age between 18 and 35 years, 75 (34.9%) respondent belongs to age group between 36 and 55 years while 23 (10.7%) belonged to an age group of more than 55 years. The age distributions are shown in table 4.1 and figure 4.1.

Table 4.1 Age group of the sample

Age Group (Years)	No. of farmers	Percentage (%)
Less than 18	2	0.9
Between 18 and 35	115	53.5
between 36 and 55	75	34.9
More than 55	23	10.7
Total	215	100

Figure 4.1 Age group distribution of the sample



Of this sample 157 (73%) of the respondents were male while 58 (27%) were female. The low number of female respond is explained by the fact that male are the one who are more involved in selling of agricultural crops than female. Regarding education level 201 (93.5%) respondents have primary education and 14 (6.5%) respondent have secondary education

Location and type of crop cultivated

The respondents were coming from three villages which are Nyandira in Mvomero district of Morogoro region, Kinole village in Morogoro rural district of Morogoro region and Kibaigwa in Kongwa district of Dodoma region. Of the whole sample 74 (34.5%) respondents were from Nyandira village, 72 (33.5%) were from Kinole village while 69 (32.1%) respondents were from Kibaigwa.

Table 4.2: Location of the respondents

Name of Village	No. of farmers	Percentage (%)
Nyandira	74	34.4
Kinole	72	33.5
Kibaigwa	69	32.1
Total	215	100

A researcher analyzed the main crops that are cultivated by respondents who were coming from the three locations. A total of 71(33.0%) respondents mainly grow vegetable, 68 (31.7%) respondents grow mainly fruits and 76(35.3%) respondents grow mainly cereals.

The main market for the farmers

During this study an assessment was conducted to know where farmers sell their crops. There were three main markets of the crops, there are farmer who sell their crops at markets which are located in their village, and other farmers sell their crops to middlemen who come to their village while others were able to transport their crops to markets which are located in town. 151 (70.2%) respondents shows that they sell their crops to traders in the markets available in their villages, 60 (27.9%) respondents explained that they sell their crops to middle men who come in the village and 4 (1.9%) of the respondents explained that they transport their crops to town markets.

4.2 Levels of accessibility to different kind of agricultural market information by farmers.

An assessment was conducted to determine the level of accessibility of agricultural marketing information. Analysis was done for the accessibility of information on prices for the produce cultivated, information of traders who need their crops (demand information), information on agricultural loan and information extension services. The aim was to determine if farmers make informed decision in pricing their crops before selling and also if they have information on the agricultural services needed to them.

During data collection the scale used in assessing the accessibility of information was as follows: 1= completely inaccessible, 2 = frequently inaccessible, 3 = accessible normally, 4= frequently accessible and 5 =all the time accessible. As indicated in table 4.3 below, statistical analysis gives a grand mean of 2.59, so since the grand mean obtained lies between 2 and 3 on the scale used, generally these results indicated that agricultural marketing information are normally accessible to farmers.

Table 4.3: Mean accessibility of information on price, buyers, loan and extension services.

Type of information	Mean Value
Accessibility of information on Price of crops produced by farmers	3.00
Accessibility of information of buyers who need you crops	3.00
Accessibility of information on agricultural loan	2.22
Accessibility of information on extension services	2.12
Grand mean	2.59

Having a general picture on the accessibility of agriculture marketing information, where results indicate that agricultural marketing information are normally accessible to farmers, an analysis was done on accessibility of each type of the market information separately to identify number and percentage of farmers who access each type of information.

However analyzing accessibility of each category of information separately, results shows that information on price of crops and information of buyers who need agricultural crops are relatively more accessible to farmers than information on agricultural loan and extension services. The results indicated that there is poor accessibility to farmers for information on agricultural loan and information on extension services.

Results from table 4.4 below indicate that 75.4 % of the respondents fall under a group of farmers whom the information on price for agricultural crops are accessible normally, frequently accessible and all the time accessible while only 24.6% of the respondents shows that information on price of agricultural crops are either completely inaccessible or frequently inaccessible.

Results from table 4.5 also indicate that 72.5 % of the respondents indicated that information on traders who need agricultural crops are accessible normally, frequently accessible and all the time accessible. Only 27.5% of the respondents indicated that information on traders either completely inaccessible or frequently inaccessible.

Table 4.6 indicates that 59.5% of the respondents indicated that information on agricultural loan is either completely inaccessible or frequently inaccessible. Out of this 40.5% of the respondents indicated information on agricultural loan is normally accessible, frequently accessible and all the time accessible.

Table 4.7 shows that 63.7% of the respondents indicated that information on extension services are either completely inaccessible or frequently inaccessible. Out of responded 36.3% indicated that information on extension services is normally accessible frequently accessible and all the time accessible

Results from this analysis prove that there is poor accessibility by farmers for information on agricultural loans and information on extension services than it is on the information on price of crops and information of buyers who need agricultural crops. The information on price and buyers are relatively better accessed by farmers.

Accessibility of information on prices

On the accessibility of information on prices for the produce cultivated by farmers, respondents indicated that information on price for crops produced by farmers is completely inaccessible to 28 (13.0%) respondents, frequently inaccessible to 25 (11.6%) respondents. Information on price is accessible normally to 103 (47.9%) respondents, frequently accessible to 23(10.7%) and accessible all the time to 23 (10.7%) respondents.

Table 4.4: level of accessing price information by farmers

Accessibility of price information	Frequency	Percent
Completely inaccessible	28	13.0
Frequently inaccessible	25	11.6
Accessible normally	103	47.9
Frequently accessible	36	16.7
All the time accessible	23	10.7
Total	215	100

Accessibility of information on traders who need crops from farmers

A researcher continues to assess the level at which farmer's access information of traders who need their crops before they sell their crops. During this assessment information of traders who need crops is completely inaccessible to 35 (16.3%) respondents, frequently inaccessible to 24 (11.2%) respondents, Accessible Normally to 94 (43.7%) respondents, frequently accessible to 43(20.0%) respondents and All the time accessible to 19 (8.8%) respondents. Farmers who access this information normally, frequently and all the time mentioned that they normally call their friends in the market or have contacts with middle men whom they ask availability of traders at the market.

Table 4.5: Level of accessing information on traders who need crops by farmers

Accessibility of traders (demand) information	Frequency	Percent (%)
completely inaccessible	35	16.3
Frequently inaccessible	24	11.2
Accessible Normally	94	43.7
Frequently Accessible	43	20.0
All the time accessible	19	8.8
Total	215	100

Accessibility of information on agricultural loan

Farmers need capital in order to invest in agriculture; the researcher was interested to know if farmers have access to information on different sources of loan. When they were asked on the level they have access to information on loan, the response was that information on loan was completely inaccessible to 104 (48.4%) respondents, frequently inaccessible to 24 (11.2%) respondents, accessible normally to 45(20.9%) respondents, frequently accessible 19 (8.8%) respondents and accessible all the time to 23 (10.7%) respondents. This finding indicates that most of the farmers lack information on different sources of loan.

The main source of information on loan that was mentioned by is from Savings and Credit Societies (SACCOS) and this was more identified in Kinole village than in other areas.

Table 4.6: level of accessing information on agricultural loan

Accessibility of information on loan	Frequency	Percent
Completely inaccessible	104	48.4
Frequently inaccessible	24	11.2
Accessible Normally	45	20.9
Frequently Accessible	19	8.8
All the time accessible	23	10.7
Total	215	100

Accessibility of information on extension services needed by farmers

In assessing the level of farmers accessibility to information on extension services results indicated that 109 (50.7%) of the respondents said that the information on extension services are completely inaccessible, frequently inaccessible to 28 (13.0%) respondents, accessible normally to 40 (18.6%) respondents, frequently accessible to 20 (9.3%) respondents and all the time Accessible to 18 (8.4%) respondents. This finding also indicated that most of the farmers lack information of extension services.

Table 4:7 level of accessing information on extension services needed by farmers

Accessibility of information on extension services	Frequency	Percent
Completely Inaccessible	109	50.7
Frequently inaccessible	28	13.0
Accessible normally	40	18.6
Frequently accessible	20	9.3
All the time Accessible	18	8.4
Total	215	100

From the findings above results shows that agricultural marketing information are normally accessible to small scale farmers. Analyzing accessibility of each category of information separately, results shows that information on price of crops and information of buyers who need agricultural crops are relatively more accessible to farmers than information on agricultural loan and extension services. The results indicated that there is poor accessibility to farmers for information on agricultural loan and information on extension services.

Source of Market information for farmers

After assessing the accessibility of agricultural marketing information, a researcher was interested to identify different sources used by farmers to get the information. Farmers were asked to mention the sources of market information. Assessing the source of agricultural marketing information the response was that 70 (32.6%) respondents get information through friends, 39 (18.1%) respondents get information through mobile phone, 22 (10.2%) respondents get market information through the notice boards which are installed in the markets located in their villages, 36 (16.7%) of the respondents receive the information through radio and 1(0.5%) respondent get information through newspaper while.

Out of all respondents, 47 (21.9%) of the respondents did not access any kind of market information using any of these media. When the farmers who does not access information were asked how they manage sell their crops they mentioned that they always agree the price they are given buyers who want to buy their crops.

Table 4.8: Source of market information

Source of Information	Frequency	Percent
Friends	70	32.6
Mobile phone	39	18.1
Notice boards	22	10.2
Radio	36	16.7
News paper	1	0.5
Does not use and source (have no access to information)	47	21.9
Total	215	100

4.3 The extent at which accessibility to agricultural marketing information contribute to the income of small scale farmers.

For farmers who showed that they have access to agricultural marketing information, the researcher also assessed the extent at which accessibility of agricultural marketing information contributes to the increase in selling price of crops, productivity, sold volume and income of small scale farmers. An assessment was conducted to measure how information on price of agricultural crops, information of traders who need agricultural crops contribute to the income and economic development of farmers. In the context of this study, income of farmers is measure in

terms of change in quantity of crops produced, price received, quantity sold and introduction of new/profitable crops.

The impact of access to price information was measured against how it influence collective selling, change in income, change in production level, change in sale volume and change in selling price of agricultural crops.

During the data collection, when assessing at what level does access to price information contributes in collective selling, income, crop production, volume sold and crop price, the following rank was used: 1= High level, 2 =Medium 3 =Low and 4 =Not at all

From table 4.9, the grand mean of 2.6 was obtained which show that generally accessibility of price information had a medium contribution to the increase in price of crops, volume sold, productivity and income development of small scale farmers. Since the grand mean is above 2 it therefore appropriate to conclude that accessibility of price information has a contribution to the income development of farmers.

Table 4.9: Access to price information and its contribution on collective selling, farmer's income, crop production level, sale volume and selling price of crops

The extent at which access to price information contribute on:	Mean
Collective selling	2.8
increase farmers income	2.6
increase in crop production level	2.7
increase the sale volume of crops	2.6
selling price of farmers crops	2.5
Grand Mean	2.6

An assessment was done to measure how specifically the access to price information contribute to each of the variable on collective selling, increase of farmers income, increase in crop production, increase sales volume and increase of selling price of farmers crops.

Access to price information and its contribution on collective selling

Measuring the extent at which access to price information contribute on collective selling, the response was that 30 (14%) respondents ranked that it has high

contribution, 74 (34.4%) respondents ranked that it has medium contribution and 20 (9.3%) respondents ranked that it has low contribution.

Table 4.10: Access to price information and collective selling

The extent at which access to price information contribute on Collective selling	Frequency	Percent
High	30	14.0
Medium	74	34.4
Low	20	9.3
Not at all	91	42.3
Total	215	100.0

Access to price information and it's contribute to increase farmer's income

In assessing the extent at which access to price information contribute to increase income of farmers, 26(12.1%) responded that it has high contribution, 103(47.9%) responded that it has medium contribution and 22 (10.2%) responded that it has low contribution.

Table 4.11: Access to price information and increase of income

The extent at which access to price information contribute to increase farmers income	Frequency	Percent
High	26	12.1
Medium	103	47.9
Low	22	10.2
Not at all	64	29.8
Total	215	100.0

Access to price information and its contribution to increase on production level of crops

In assessing the extent at which access to price information contribute to increase on production level of crops, 23(10.7%) responded that it has high contribution, 102(47.4%) responded that it has medium contribution, 23 (10.7%) respondents that it has low contribution.

Table 4.12: Access to price information and increase on production level of crops

The extent at which access to price information contribute to increase of production level of crops	Frequency	Percent
High	23	10.7
Medium	102	47.4
Low	23	10.7
Not at all	67	31.2
Total	215	100.0

Access to price information and its contribution to the increase of sales volume

In assessing the extent at which access to price information contribute to the increase of sales volume 26(12.1%) responded that it has high contribution, 102 (47.4%) responded that it has medium contribution and 19(8.8%) responded that it has low contribution.

Table 4.13: Access to price information and increase of sales volume of crops

The extent at which access to price information contribute to increase of sales volume of crops	Frequency	Percent
High	26	12.1
Medium	102	47.4
Low	19	8.8
Not at all	68	31.6
Total	215	100.0

Access to price information and its contribution to increase of selling price,

In assessing the extent at which access to price information contribute to increase of selling price, 38(17.7%) responded that it has high contribution, 92(42.8%) responded that it has medium contribution and 23(10.7%) responded that it low contribution.

Table 4.14: Access to price information and increase of selling price of crops

The extent at which access to price information contribute to increase of selling price of crops	Frequency	Percent
High	38	17.7
Medium	92	42.8
Low	23	10.7
Not at all	62	28.8
Total	215	100.0

Apart from an access to price information, the impact of access to information of crops demanded was also measured against how it influences change in income, change in production level, change in sale volume and change in selling price of agricultural crops.

The results indicated the grand mean of 2.53 which show that generally accessibility of information on crops demanded in the market has a medium contribution to the income development of small scale farmers.

Table 4.15: Access to information on crops demanded in the market and its contribution on collective selling, farmer's income, crop production level, sale volume and selling price of crops

The extent at which access to information on crops demanded in the market contribute to:	Mean
Increase of farmers income	2.51
Increase in crop production	2.51
Increase in sale volume of crops	2.54
increase in selling price of agricultural crops	2.56
Grand mean	2.53

A researcher also assessed how specifically the access to information on crops demanded in the market contribute specifically on each of the variable on increase of farmers income, increase in crop production, increase sales volume and increase of selling price of farmers crops.

Access to information on crop demanded and its contribution to increase farmers' income

Assessing the extent at which access to information on crop demanded in the market contribute to increase farmers income 38 (17.7%) of responded that it has high contribution, 92(42.8%) responded that it has medium contribution and 23(10.7%) responded that it has low contribution.

Table 4.16: Access to information on crop demanded in the market and increase of farmer's income

The extent at which access to information on crop demanded in the market and increase of farmers income	Frequency	Percent
High	38	17.7
Medium	92	42.8
Low	23	10.7
Not at all	62	28.8
Total	215	100.0

Access to information on crop demanded and its contribution to increase in production level

Assessing the extent at which access to information on crop demanded in the market contribute to increase in production 32(14.9%) responded that it has high contribution, 100(46.5%) responded that it medium contribution and 23(10.7%) responded that it low contribution.

Table 4.17: Access to information on crop demanded in the market and increase of production of crops

The extent at which access to information on crop demanded in the market and increase of production of crops	Frequency	Percent
High	32	14.9
Medium	100	46.5
Low	23	10.7
Not at all	60	27.9
Total	215	100.0

Access to information on crop demanded and its contribution to increase of sales volume

In assessing the extent at which access to information on crop demanded in the market contribute to increase of sales volume, 32(14.9%) responded that it has high contribution, 97(45.1%) responded that it has medium contribution and 23(10.7%) responded that it low contribution.

Table 4.18: Access to information on crop demanded in the market and increase of sales volume of crops

The extent at which access to information on crop demanded in the market and increase sales volume of crops	Frequency	Percent
High	32	14.9
Medium	97	45.1
Low	23	10.7
Not at all	63	29.3
Total	215	100.0

Access to information on crop demanded and its contribution to increasing of selling price

In assessing the extent at which access to information on crop demanded in the market contribute to increasing of selling price, 33(15.3%) responded that it has high contribution, 88(40.9%) responded that it has medium contribution and 35 (16.3%) responded that it has low contribution.

Table 4.19: Access to information on crop demanded in the market and increase of selling price of crops

The extent at which access to information on crop demanded in the market and increase selling price of crops	Frequency	Percent
High	33	15.3
Medium	88	40.9
Low	35	16.3
Not at all	59	27.4
Total	215	100.0

Findings obtained from this section show that generally accessibility of agricultural marketing information had a medium contribution to the increase in price of crops, volume sold, productivity and income which lead to economic development of small scale farmers. When farmers grow more food and earn more income, they are better able feed to their families, send their children to school, provide for their family's health, and invest in their farms. This makes their communities economically stronger and more stable

4.4 Accessibility of agricultural marketing information among farmers located in three different locations producing three categories of crops which are vegetable, fruits and cereals producers

Information flow can be affected by factors such as education level of person, income, geographical location and the nature of business or agricultural activities a person is doing. In the three villages of Nyandira, Kinole and Kibaigwa there have been similar initiatives of disseminating agricultural marketing information to farmers which are managed by private sectors and the government. Due to the presence of similar initiatives for disseminating agricultural marketing information it is assumed that there is no difference in accessibility of agriculture marketing information among farmers who are located in these villages.

An analysis was conducted to compare if there is difference in accessibility of agricultural marketing information among farmers who produce different kind crops, the crops were categorized in three groups which are vegetables, fruits and cereals.

Analysis was also conducted to compare if there is difference in accessibility of agricultural marketing information among farmers who are located in the three locations, data were collected from farmers who were located in three different villages, and the villages are Nyandira, Kinole and Kibaigwa. The three villages are located in three different districts so the aim was identify if location affect accessibility of agricultural marketing information to farmers.

To measure if there is difference in accessibility of agricultural marketing information among farmers in the three groups categorized basing on crops produced (cereals producers, vegetables producers and fruits producers) an analysis was conducted using one way ANOVA. According to One way ANOVA if the sig value is less than or equal to 0.05 then there is significant difference among the three groups under study.

Using SPSS an analysis on accessibility of price information for agricultural crops, accessibility of information on buyers who need agricultural crops, accessibility of information on agricultural loan, Accessibility of information on extension services was carried out.

As shown in table 4.20, the results shows that on accessibility of price information for agricultural crops a sig value is 0.006, on accessibility of information on buyers who need agricultural crops a sig value is 0.128, on accessibility of information on agricultural loan the sig value is 0.000 and on accessibility of information on extension services the sig value is 0.003.

Basing on this result from ANOVA analysis, the sig value of less than 0.05 was obtained for accessibility of price information for agricultural crops (a sig value is 0.006), on accessibility of information on agricultural loan (the sig value is 0.000) and on accessibility of information on extension services (the sig value is 0.003). So these results show that there are statistically significance differences on accessibility of price information for agricultural crops, on accessibility of information on agricultural loan and accessibility of information on extension services for farmers who produce vegetable, cereals and fruits.

However, on accessibility of information on buyers who need agricultural crops, the sig value of 0.128 was obtained which is greater than 0.05. This result indicates that there is no statistically difference on accessibility of information on buyers who need agricultural crops among the three groups of farmers who produce the vegetable, fruits and cereals.

Table 4.20: Accessibility of agricultural marketing information for famers producing cereals, vegetables and fruits

ANOVA

Accessibility of Agricultural marketing information		Sum of Squares	Df	Mean Square	F	Sig.
Access to information of price for the crops produced	Between Groups	12.601	2	6.300	5.292	.006
	Within Groups	252.395	213	1.191		
	Total	264.995	215			
Access to information of buyers who need crops	Between Groups	5.418	2	2.709	2.075	.128
	Within Groups	276.796	213	1.306		
	Total	282.214	215			
Access to information on loan	Between Groups	48.309	2	24.154	13.729	.000
	Within Groups	372.975	213	1.759		
	Total	421.284	215			
Access to information on extension services	Between Groups	20.414	2	10.207	5.885	.003
	Within Groups	367.679	212	1.734		
	Total	388.093	215			

After identifying that there was statistically significance differences on accessibility of information on price for agricultural crops, agricultural loan and accessibility of information on extension services for farmers who produce vegetable, cereals and fruits. A researcher was interested to identify in which groups does the difference in accessibility of information was indicated. A multiple comparisons were carried out to identify the groups which show difference.

As results from table 4.21 indicate, on accessibility of information on price for agricultural crops there are difference among farmers who produce cereals and vegetables. On accessibility of agricultural loan there are difference among cereal producers and vegetable producers and among cereals producers and fruits producers. On accessibility of information on extension services for farmers there are different among farmers who produce cereals and fruits and among vegetable fruits and fruits producers.

Table 4.21: Multiple Comparisons on accessibility of agricultural marketing information for famers producing cereals, vegetables and fruits

Dependent Variable	(I) The type of crop cultivated	(J) The type of crop cultivated	Mean Difference (I-J)	Std. Error	Sig.
Access to information of price for the crops produced	CEREALS	VEGETABLES	-.60541*	.20518	.010
		FRUITS	-.37241	.17449	.085
	VEGETABLES	CEREALS	.60541*	.20518	.010
		FRUITS	.23299	.22957	.568
	FRUITS	CEREALS	.37241	.17449	.085
		VEGETABLES	-.23299	.22957	.568
Access to information of buyers who need you crops	CEREALS	VEGETABLES	-.36216	.21487	.213
		FRUITS	-.28621	.18273	.263
	VEGETABLES	CEREALS	.36216	.21487	.213
		FRUITS	.07596	.24041	.946
	FRUITS	CEREALS	.28621	.18273	.263
		VEGETABLES	-.07596	.24041	.946
Access to information on agricultural loan	CEREALS	VEGETABLES	-.6074*	.2494	.041
		FRUITS	-1.0888*	.2121	.000
	VEGETABLES	CEREALS	.6074*	.2494	.041
		FRUITS	-.4814	.2791	.198
	FRUITS	CEREALS	1.0888*	.2121	.000
		VEGETABLES	.4814	.2791	.198
Access to information on extension services	CEREALS	VEGETABLES	.08514	.24764	.937
		FRUITS	-.67069*	.21061	.005
	VEGETABLES	CEREALS	-.08514	.24764	.937
		FRUITS	-.75582*	.27709	.019
	FRUITS	CEREALS	.67069*	.21061	.005
		VEGETABLES	.75582*	.27709	.019

*. The mean difference is significant at the 0.05 level.

Accessibility of agricultural marketing information basing on location

Apart from comparing accessibility of agricultural marketing information among farmers who engaged in cultivating three categories of crops, a researcher compared accessibility of agricultural marketing information among farmers who are located in three different villages which are Nyandira, Kibaigwa and Kinole. The focus was to identify if there is different in accessibility of agricultural marketing information among farmers who are located in different areas.

Using One way ANOVA to compare if there is differences in accessibility of agricultural marketing information among the three villages, the results obtained was that on accessibility of information of price for agricultural crops the sig value was 0.006, on accessibility of information of buyers who need agricultural crops the sig value was 0.023, on accessibility of information on agricultural loan the sig value was 0.000 and on accessibility of information on extension services the sig value was 0.000.

From this result, since the Sig. value are less than 0.05, so there is statistically significance that there is difference in accessibility of agricultural marketing information among farmers who are located in the three villages of Nyandira, Kibaigwa and Kinole.

Table 4.22: Accessibility of agricultural marketing information for famers located in Nyandira, Kibaigwa and Kinole
ANOVA

Variable		Sum of Squares	Df	Mean Square	F	Sig.
Accessibility of information of price for agricultural crops	Between Groups	12.358	2	6.179	5.185	.006
	Within Groups	252.638	213	1.192		
	Total	264.995	215			
Accessibility of information of buyers who need agricultural crops	Between Groups	9.920	2	4.960	3.862	.023
	Within Groups	272.294	213	1.284		
	Total	282.214	215			
Accessibility of information on agricultural loan	Between Groups	65.914	2	32.957	19.661	.000
	Within Groups	355.370	213	1.676		
	Total	421.284	215			
Accessibility of information on extension services	Between Groups	60.378	2	30.189	19.529	.000
	Within Groups	327.715	213	1.546		
	Total	388.093	215			

As was done for table4.21 above, after identifying that there was statistically significance differences on accessibility of agricultural marketing information among farmers who are located in the three villages of Nyandira, Kinole and kibaigwa, a researcher was interested to identify in which villages does the difference in

accessibility of information was indicated. A multiple comparisons were carried out to identify villages where the difference occurs.

As results from table 4.23 indicates, on accessibility of information on price and traders who need for agricultural crops there are difference among farmers from Kibaigwa and Nyandira. On accessibility of agricultural loan there are difference also among farmers from Kibaigwa and Nyandira and Kinole and Kibaigwa. On accessibility of information on extension services for farmers there are different among farmers Nyandira and Kibaigwa and farmers from Kinole and Kibaigwa.

Table 4.23: Multiple Comparisons for accessibility of agricultural marketing information for famers located in different villages

Dependent Variable	(I) village	(J) village	Mean Difference (I-J)	Std. Error	Sig.
Accessibility of information of price for agricultural crops	Nyandira	Kinole	.23596	.17303	.362
		Kibaigwa	.60633*	.18830	.004
	Kinole	Nyandira	-.23596	.17303	.362
		Kibaigwa	.37037	.19652	.146
	Kibaigwa	Nyandira	-.60633*	.18830	.004
		Kinole	-.37037	.19652	.146
Accessibility of information of buyers who need agricultural crops	Nyandira	Kinole	.17650	.17964	.589
		Kibaigwa	.54224*	.19549	.017
	Kinole	Nyandira	-.17650	.17964	.589
		Kibaigwa	.36574	.20402	.174
	Kibaigwa	Nyandira	-.54224*	.19549	.017
		Kinole	-.36574	.20402	.174
Accessibility of information on agricultural loan	Nyandira	Kinole	-.3151	.2052	.277
		Kibaigwa	1.0970*	.2233	.000
	Kinole	Nyandira	.3151	.2052	.277
		Kibaigwa	1.4120*	.2331	.000
	Kibaigwa	Nyandira	-1.0970*	.2233	.000
		Kinole	-1.4120*	.2331	.000
Accessibility of information on extension services	Nyandira	Kinole	-.09020	.19708	.891
		Kibaigwa	1.17832*	.21446	.000
	Kinole	Nyandira	.09020	.19708	.891
		Kibaigwa	1.26852*	.22382	.000
	Kibaigwa	Nyandira	-1.17832*	.21446	.000
		Kinole	-1.26852*	.22382	.000

*. The mean difference is significant at the 0.05 level.

The role of Agricultural technology, Extension education, and credit on income development of small scale farmers

In conducting this study apart from the accessibility of agricultural marketing information, a researcher was also interested to see the impact of other variables to income development of farmers, the variable assessed were the use of technology, extension education and agriculture credit.

Contribution of Agricultural technology to the income development of farmers

Under the context of this study technology was considered as the instrument and techniques used by farmers in production of their crops. Normally use mechanization lead to cultivation of larger area which can lead to increase in production volume. Another technology considered under the context of this study was those used to add value for the crops produced by farmers, on this area a researcher was interested to identify if farmers have been adding value to their crops. In most cases value addition to crops facilitate selling the crops at relatively higher prices and hence increasing income.

In assessing the technology used by farmers in production, three main technology was identified which are the use of hand hoe, animal traction plough and tractors. Out of all, 163 (75.8%) respondents that they use hand hoe while 29 (13.5%) respondent use animal traction plough and 23(10.7%) respondent uses tractors in cultivation. Animal traction plough and tractors were mainly used by cereal growers in Kibaigwa and neither in Kinole nor Nyandira villages.

Table 4.24: Technology used by farmers in production

Technology used in production	Frequency	Percent
Hand Hoe	163	75.8
Plough	29	13.5
Tractor	23	10.7
Total	215	100.0

Assessing farmers who process their crops so as to assess the contribution of technology in increasing the quality of crops, it was evidence from this study that farmers do not use any technology for processing their crops as 99.5% of all the

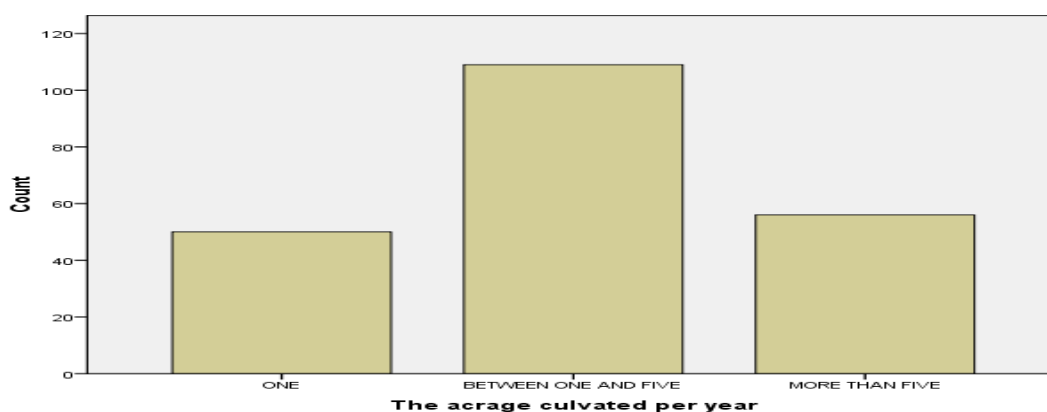
interviewed farmers mentioned that they do not process their crops but sell raw crops from the farm. Only one farmer who mentioned that he has been processing part of the maize he harvest and sell maize flour.

Table 4.25: Farmer processing crops before selling crops

Processing of crops before selling	Frequency	Percent
Farmer who process crops before selling	1	.5
Farmers who does not process crops before selling	214	99.5
Total	215	100.0

The use of mechanized technology can lead to cultivation of larger area which later can lead to production of high volume. A researcher was interested to assess if the technology used has facilitated farmers cultivating large areas. So assessing the area cultivated, results obtained indicate that 50 (23.3%) respondents cultivate only one acre per year, 109 (50.7%) respondents cultivate between one and five acres per year and only 56 (26.0%) cultivate more than five acre per year. This information justify that there are low volume produced by farmers due to small area cultivated per year.

Figure 4.2: Acres cultivated by farmers from Nyandira, Kinole and Kibaigwa villages



As a way of assessing the contribution technology used by farmers on production level, a researcher asked farmers to indicate the level at which the technology used contribute in changing the production level and the results is as they are presented in table 4.26.

Table 4.26: Contribution of technology on crops production level

Level at which technology contribute to production level	Frequency	Percent
High	42	19.5
Medium	63	29.3
Low	16	7.4
Not at all	94	43.7
Total	215	100.0

From the results above, it shows most of the farmers use poor technology which does not contribute to the increase in an area cultivated and hence cultivating less than 5 acres per year. Also farmers does not use any technology in processing their crops, they does not add value on their crops and hence selling at lower prices. From table 4.26 majority of the respondents, 80.4% mentioned that the technology they use has medium, low or no contribution on the increasing production of their crop.

Basing on this information the technology used by these farmers has less contribution on their income development.

Contribution of Extension education to the income of small scale farmers

As it is explained in part 4.2, findings of this study indicate that there is less accessibility of information on extension services. Farmer in all areas where the study was conducted mentioned that there is less accessibility of extension services. As the results appears in table 4.27 out of all respondents 51.6% does not access the extension services while 33.1% of the respondents has low or medium access to extension services. This result indicates that in the village where the study was conducted extension education has low contribution in improving productivity and hence income of small scale farmers.

Table 4.27: Extension education to production of crop

Extension education and its contribution to production	Frequency	Percent
High	33	15.3
Medium	50	23.3
Low	21	9.8
Not at all	111	51.6
Total	215	100.0

Contribution of Agricultural credit on economic development of small scale farmers

Analyzing the contribution of agricultural credit to income development of small scale farmers, 44% of the respondents mentioned that they don't have access to agricultural credits. In Nyandira villages almost all farmers who were interviewed mentioned that they don't have access to agricultural credit. It is only in Kinole where farmers explained that they have been obtaining loan from Kinole SACCOS which they use in Agriculture. From Table 4.28 it show that 74.4 of the respondents mentioned that agricultural loan is either not accessible, low or medium accessible to be invested in agriculture. Using these facts it evidence that there is low accessibility of agricultural credit to farmers in these village. Farmers lack capital to invest in buying inputs and increasing production level, so in these villages agricultural credit has low contribution for the income development of farmers in these villages.

Table 4.28: Agricultural credit and its contribution production level

Level at which agricultural credit contribute on production	Frequency	Percent
High	55	25.6
Medium	59	27.4
Low	7	3.3
Not at all	94	43.7
Total	215	100.0

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

This chapter present the discussion of the findings obtained during the study. The discussion focuses on the accessibility of agricultural marketing information and its contribution on increasing selling price, production, sales volume and farmer's income.

5.1 Levels of accessibility to different kinds of agricultural market information by farmers

This study was conducted to determine the level of accessibility of agricultural marketing information. An analysis was done for the accessibility of information on prices for the produce cultivated, information of traders who need their crops (demand information), information on agricultural loan and information extension services.

According to the findings from this study, generally results indicated that agricultural marketing information i.e. information on prices for the produce cultivated, information of traders who need their crops (demand information), information on agricultural loan and information extension services are less accessible to farmers. A mean average of 2.59 was obtained from the analysis, this indicate that agricultural marketing information is frequently inaccessible to 51.8% the farmers interviewed. During the discussion with farmers they mentioning that information are not available to them when they need to make agricultural decisions like selling their crops. In some cases even when farmers try to search for information they lack proper sources of agricultural marketing information and sometimes decide to ask traders or middle men who then offer lowers prices for their crops. In case of agricultural inputs like fertilizers due to lack of proper information they ask the suppliers of charge them higher prices on the inputs. The challenges they mentioned which they face due to lack of proper information is that they buy inputs at higher prices but sell their crops at lower prices.

However analyzing accessibility of each category of information separately, i.e. information on price, traders who need crops, agricultural loan and extension services, results shows that information on price of crops and information of buyers who need agricultural crops are relatively more accessible to more farmers than information on agricultural loan and information on extension services. A mean average of 3.0 was obtained for accessibility of information on price and traders who need crops while an average of 2.20 was obtained on farmer's accessibility to information on agricultural loan and information extension services. This indicated that the information on price and traders who need crops are relatively more accessible to the farmers than information on agricultural loan and extension services.

For the information on price of agricultural crops farmers it was identified that the presences of agricultural markets in the village contribute in accessibility of information. In order for farmers to get information on prices of agricultural crops they need to go to the market and observe on the notice board where they were getting price not for the same day but for the last day. On the other side in order to obtain information on price or traders farmers has to call using mobile phone to other farmers who are at the market. For farmers who remains at home and rarely use the mobile phone it was difficult to access information on traders and price of the crops.

On the case of information on extension services farmers mentioned that in their villages there are one extension officer who serve a ward comprising more than 5 village each with more than 5000 farmers. It become difficult to access information on extension services, in order for them to access the information they have to go the agro dealer's shops where they receive information from sellers who sometimes are not qualified extension officers. On the accessibility of information on agricultural credits farmers mentioned that the only sources of agricultural loans in the villages are Savings and Credit Cooperative Societies (SACCOS) and Village Community Banks (VICOBA). In Kinole village where SACCOS is more strong farmers showed to have more information on loan that in Nyandira villages where there is no active SACCOS.

Apart from the recent improvement in communication technology especially the use of mobile phone and apart from the initiatives of the government through Ministry of Industries, Trade and Marketing, and apart from the initiatives from private sector like MVIWATA, Tigo Kilimo, Tanzania Horticultural Association (TAHA) of disseminating agricultural marketing information to farmers in the villages, results from this study indicate that there is low accessibility of agricultural marketing information to farmers. Farmers who frequently visit the market infrastructures in the village and who make efforts of calling their fellow farmers are the one who at least get information on prices and traders who need crops at the market. There is no system which facilitates availability of marketing information to farmers all the time in the village and the information is not available when required by farmers. Farmers who are located in the villages face a challenge of lacking agricultural marketing and make most of agricultural decision without being well informed on the market demand and costs associated with agricultural activities.

This findings tally with the finding from a study conducted by Ibrahim, findings from this study show that apart from various initiatives of the government and private sectors to support MIS in Tanzania, the current MIS in Tanzania still lags behind the rapid changing agricultural commodity markets, lacking efficient, timely performance, covering small proportion of the market and lacking coordination among the actors who are involved (Ibrahim, 2007).

This study does not tally with the study conducted by Aloyce which indicate that the recent advances in information technology especially the use of mobile phones are making it more feasible to provide farmers with the marketing information they need. The increase in accessibility of market information to farmers has helped overcoming middlemen which were conspiring lower crop prices in order to reap unfair profits from farmers (Aloyce, 2005).

This study also does not tally with the findings from Binayee findings, according to Binayee one exciting is the development in information and communication technologies such as mobile phones and the internet. These are enabling farmers to

get information about current prices in different markets and are linking them directly to buyers. (Binayee, 2005).

Findings from this study indicate that farmers can use the mobile phone with their own efforts to ask for marketing information but there is no system known by farmers which use the opportunity of availability of mobile phone to disseminate agricultural marketing information to farmers.

Sources of agricultural marketing information

After assessing the level of accessibility of agricultural marketing information to farmers, a researcher was interested to identify the source of information to farmers. Analyzing the sources of different kind of market information to farmers, finding from this studies indicate that farmers who have access to agricultural marketing, the main source of information is friends. Even the farmers who responded on receiving agricultural information using mobile phone explained that when they want to sell their crops they call their friends who stay near the markets asking them on information about prices and buyers. So generally the main source of agricultural marketing information to farmers is friends.

Results of the study indicate that 32.6% of farmers respondents that they get information through friends, 18.1% respondents that they get information through mobile phone, 10.2% respondents that they get market information through the notice boards which are installed in the markets located in their villages, 16.7% of the respondents receive the information through radio and 0.5% respondent get information through newspaper while 21.9%) of the respondents did not access any kind of market information using any of these media.

In the recent three years there have been promotion of different systems that provide agricultural marketing information to farmers using mobile phone SMS. The systems which are promoted include that of Ministry of Industries, Trade and Marketing MIS, Tigo Kilimo, MVIWATA Agricultural Marketing Information System (MAMIS), TAHA Vegetable and Fruits Market Information Systems. When farmers were asked

if they know and use mobile phone SMS to get market information it was amazing that in all village visited there were no even a single farmer who mentioned to know any of these systems. They even mentioned if there were to be systems which provide agricultural marketing information this will help them as they real need information but lack the source for this information.

Apart from that there have been dissemination of agricultural marketing information by actors but farmers receiving information mainly using friends it come to the knowledge of the researcher that may be the systems are being promoted in town only while farmers stay in the villages, or the media which are used to sensitize the use of agricultural marketing information are not easily accessible to farmers. In order to facilitate more accessibility of information to farmers there is a need to use a system which ensures high farmer participation as this would increase the utility and reliability of information reaching farmers.

Farmers have less access to some media like news papers and internet so dissemination agricultural marketing information using these media will not facilitate farmer's accessibility to information.

So generally findings from this study indicate that apart from the introduction of different ways of dissemination agricultural marketing information including the use of mobile SMS but majority of the farmers receives information through their fellow farmers. Even when mobile phones are used by farmers they are used to ask information from fellow farmers.

Finding from this study tally with the findings from the study by Agness which was conducted in Rungwe district where a sample 200 farmers were used. Findings from this study show that farmers who received marketing information mainly from fellow farmers were 88.8%, while others were receiving information relatives and traders. A considerable number of respondents that is of 25% and 23%, used mobile phones and radios, respectively to get market information. Farmers who received market information through newspapers and primary cooperative societies comprised of 9% and 2.5%, respectively, (Agness, 2010).

5.2 Accessibility to agricultural marketing information and its contribution to economic development of small scale farmers.

After assessing the accessibility and sources of different kinds of agricultural information, a researcher was interested to identify if accessibility of information has a contribution in increasing farmer's income.

An analysis was conducted to measure if access to price information has contribution on collective selling, change in income, change in production level, change in sale volume and change in selling price of agricultural crops. An assessment was also conducted to measure the access to information on crops demanded in the market contribute on the increase of farmers income, increase in crop production, increase sales volume and increase of selling price of farmers crops.

Finding of this study indicate that access to agricultural marketing information has a contribution in increasing the income of farmers, 65% of the respondents indicated that access to information on price and traders facilitated transparency and enabled farmers to select where to sell their crops which facilitated increase in selling price of their crops. The results of the finding indicated that generally accessibility of price information and information for crops demanded in the market has a contribution to the increase of income earned by small scale farmers.

Access to information and its contribution on collective selling

Farmers in the three villages mentioned that knowing the price of crops offered in the market and having information on traders who need crops has been helping them to organize together their crops and transport to the market. When farmers have large volume they are able to bargain and traders have been offering relatively higher prices. They also mentioned that having information on prices offered to the crops in other the market, this information create transparency and help them to negotiate with buyers and agree on price of crops. Selling their crops at relatively higher prices contribute in increasing income which they could have not earned if they were not exposed to information.

For farmers who produce cereals they mentioned that by knowing the price of crops in the village or in other market they even decide when to sell their crops, they sometimes store their crops waiting for price to rise. Farmers who produce vegetable mentioned that sometimes it a challenge to them as even if they have information on prices they decide to sell at lower prices because they have no alternative of storing their crops, but generally they mentioned that access to information on prices help to increase their bargaining power.

Access to information and its contribution on production level and change in selling price of agricultural crops

Farmers also mentioned that having information on crop demanded in the market has been facilitating them to decide the crop varieties to be cultivated but also increasing the area cultivated so as to increase the volume sold. This case was more evidence in vegetable producers who mentioned that they have been increasing area of their farm basing on information of demand.

Findings from this study indicate that 65% of farmers who has access to agricultural marketing information mentioned that access to market information facilitate market access and better prices to agricultural crops through creating transparency and increasing negotiation capacities of farmers and traders. For farmers who have access to information, market information has been making transparency in the market chains so that farmers and traders agree on prices and avoiding exploitation to farmers offering agreed price among farmers and traders. So generally findings from this study indicate that access to price information and information on crop demanded in the market has a significance contribution to the increase of farmer's income.

The finding from this study tally with different studies which indicate that accessibility of agricultural marketing information contribute to an increase in production of crops, volume sold, selling price and income of farmers. According to the study conducted in Rungwe district to 200 farmers, results shows that farmers who have access to markets information resulted in producing large quantities of crops and were engaged in production of crops that are in great demand (Agnes,

2010). The results also show that people who access market information sold a lot more and received relatively better prices, which has a positive impact on poverty alleviation.

Access to information makes it possible to enhance economic opportunities through increased market access, improved negotiating powers and better production methods (Muganga, 2011).

Findings from the study by Jacob shows that informed farmers benefit from higher farm revenues (due to reduced market frictions) while farm income falls for uninformed farmers due to the change in market prices, (Jakob, 2010). The provision of information improves farmers to try to sell in those markets where the price is highest as a result of these farmers get better price and increase their income.

The study conducted in 20 villages of Cambodia shows that farmers who have access to market information through the use of mobile phone are more likely to sell their rice at higher prices. The results of this study imply that improved access to market information through the use of mobile phones improves farmers bargaining power against traders enabling them to sell their rice at higher price, (Yamada, 2012).

The finding also indicates that farmers who have access to information from formal channel consistently obtain higher farm-gate prices than those who obtain information from informal channel, (Barbabas, 2010).

According to Nnenna, having accessing to agricultural information is an essential ingredient that would always lead to better crop and livestock production in any community (Nnenna, 2011).

The study by Nowakunda for banana producers in Uganda indicated that, farmers who accessed timely and accurate market information sold a larger proportion of bananas to bulk buyers at higher prices (Nowakunda, et al, 2010). Access to information on ruling market prices contributed to increase of farm-gate prices and farmers' marketing decisions.

Access to information and its contribution farmer's income

Assessing how access to information of prices and traders who need crops facilitate farmers increase their income, farmers mentioned in most cases there are middle men who visit in their village to buy crops. When farmers have no information on prices offered in the market they are being cheated and offered low price.

What was generally mentioned by farmers is that accesses to market information facilitate increasing bargaining power and hence selling crops at relatively higher prices which lead to increase of income. Access to information have been facilitating deciding the crop varieties to be planted basing on the market demand and also increasing the farm size so as to increase sell volume. So finding from this study indicated that farmers who has access to market information has benefits of increasing income than those who does not access information. This findings tally with results from different studies which indicate that access to market information lead to an increase in selling price of the crops and income to farmer.

Aker (2011) examined the impact that the introduction of cell phones has had on grain trade throughout Niger. Using an original dataset that combines data on prices, transport costs, rainfall and grain production, she shows that cell phones reduce grain price dispersion across markets by a minimum of 6.5% and reduce intra-annual price variation by 10%. The primary mechanism by which cell phones market-level outcomes appears to be a reduction in search costs, as grain traders operating in markets with cell phone coverage search over a greater number of markets and sell in more markets

Findings from the study by Agness, (2010) show that access to information had significant impact on the quantity sold and price received and these parameters are important for poverty alleviation. The results show a significant difference in the quantity of beans sold by farmers with access to information and a significantly higher price for farmers with access to information than those who lack information.

In a study by Svensson and Yanagizawa (2009) on the effect of agricultural price and radio broadcast on the spread of market information in Uganda. They find a significant impact on Farm prices increase for farmers having access to radio information.

Goyal (2010) carried out one of very few studies which attempt to quantify the impact of improved market information through IT technology. Her work demonstrated that in areas where there was much improved access to and dissemination of market price information farmers obtain wholesale prices of between 1 to 5% higher than in areas where market information was less transparent.

5.3 Accessibility of agricultural marketing information in different location and among vegetable, fruits and cereals producers.

Apart from the level of accessibility and the contribution of agricultural marketing information, a researcher did an analysis to investigate if there is a significance difference in accessibility of agricultural marketing information among farmers who are located in different area but also who produce different crops which are vegetables, fruits and cereals.

Assessing if there is a difference in accessibility of agricultural marketing among farmers who are located in the three villages, results indicate that there is statistically significance difference in accessibility of agricultural marketing information among farmers who are located in the three villages of Nyandira, Kibaigwa and Kinole

The different in accessibility of the marketing information may be due different factors. In Kibaigwa where most of the farmers are engaged in cereals production, most of the villages has notice boards where information on prices are written on daily basis and farmers have access on it. This is different from Kinole and Nyandira where marketing information notice boards are positioned in the market only. So farmers in Kibaigwa have more potential of accessing price information than farmers in Nyandira and Kinole.

Also in Kibaigwa two financial banks, the CRDB and National Microfinance Bank (NMB) has introduced their branches and they normally visit in the village to sensitize farmer on how to open bank account and accessing agricultural loan. In Kinole village there is no microfinance bank but there is well performing SACCOS that save more 50% of the village community. The SACCOS provide agricultural

loans, business and social loan. In Nyandira village there is neither microfinance nor a well performing SACCOS. So basing on these factors there is a high possibility of accessing information on agricultural loans at different levels among farmers in these three locations.

In Kibiagwa villages there is a cereal market which operates on daily basis and is located along a main road from Dar es Salaam to Dodoma, for Nyandira and Kinole there is a market for fruits and vegetable which operate twice a week, these markets are located more than 60 Kilometres from the main road, basing on these factors farmers in Kibaigwa has high potential of accessing information of traders who need crops that farmer in Nyandira and Kinole.

Generally these factors support the findings that there is different in accessibility of agricultural marketing information among farmers who are located in different villages who produce different kind of crops.

CHAPTER SIX

CONCLUSION AND RECCOMENDATION

6.1 Conclusion

Agricultural marketing information are information on Traders/Buyers and Sellers, Price, Volume and Production Data. Up to-date or current market information helps farmers to make informed decision on where to sells their crops and at what price. Access to information reduces market risk for both the trader and the farmer, reducing transaction costs and increasing the efficiency of the market.

In Tanzania there have been MIS initiatives which have been established by the government and private sectors with the aims at facilitating market access and better prices to agricultural crops through creating transparency and increasing negotiation capacities of farmers and traders.

However, apart from all the MIS established the level of accessibility to agricultural marketing information by farmers is low; most of the farmers still lack access to agricultural marketing information.

According to the findings from this study, results indicated that marketing information i.e. the information on prices for the produce cultivated, information of traders who need their crops (demand information), information on agricultural loan and information extension services are less accessible to farmers. Farmers have been straggling to access information and the main source identified which farmers receive the information is mainly using friends.

Extension serves are required by farmers in order to increase the quantity and quality of cop produced. Agricultural loans are also required by farmers so as to increase capital in financing agriculture. However findings indicates that there is very poor accessibility for information on agricultural loans and information on extension services than it is for information on price of crops and information of buyers who need agricultural crops.

Apart from all initiative which has been introduced to disseminate agricultural marketing information to farmers, the level of farmers accessing this information is

low and generally accessible to few farmers who make their own efforts in searching for information. The use of mobile phone and radio have not facilitated accessibility of agricultural marketing information to farmers at higher level as most of the farmers who access agricultural marketing information get information from friends.

Analysis also indicated that apart from low level of accessibility of information to farmers, there are differences in accessibility among farmers who are located in different areas and engaged in production of different crops. The nature of crops produced and the location of farmers are among the factors that determine accessibility of agricultural marketing information.

Generally findings indicate that farmers who have access to agricultural marketing information sell their crops at an increased price, increase their production and sales volumes and hence increase their income. Access to information creates transparency in selling of crops between farmers and traders. Access to information also promote collective selling and increase the negotiation capacity of farmers and hence sell their crops at relatively higher prices. It is obvious from the findings that access to agricultural marketing information has positive contribution to the income of farmers. When farmers earn more income, they are better able feed to their families, send their children to school, provide for their family's health, and invest in their farms.

6.2 Recommendation

Since the level of accessibility of agricultural marketing information by farmers is low but for those who has access to information indicating that it contribute to make informed decisions and hence selling their crops at higher price, therefore for carrying out various activities by farmers and rural areas, among other things, information support is also vital, there is a need of the government and private sector to develop a system that will facilitate accessibility of information to farmers.

As discussed in the paper, majority of the rural farmers lack access to most of the required agricultural information. Therefore, application of ICT-based agriculture

information support systems is very much important for the dissemination of agricultural information and technological knowhow by rural farming community. The development of communication technology especially the increase use of mobile phone should be considered as opportunity to be used by the government and private sector to disseminate information to farmers in the village.

The information to be disseminated to farmers must be based on farmers' needs, since agriculture employ about 80% of Tanzania people who are located in rural areas, the government need to increase funding for facilitating easily access of agricultural marketing information to farmers in the village. For easy access and effective utilization of agricultural information in this digital age, there is need for establishment of information centers in each village providing agricultural information. Such information centers would be able to provide the rural farmers the desired agricultural information in a format that would be comprehensible to them. For effective dissemination of agricultural information in rural communities there is also a need to strength the collaboration between farmers and extension staff and research institutes in the villages.

Tanzanian farmers will benefit more from agriculture if an effective information system is established. On time accessibility of reliable agricultural marketing information is one he factor that will contribute to increase of farmer's income in Tanzania due to increasing transparency and negotiation capacity and hence accessing agricultural inputs at lower prices and selling their crops at higher prices.

REFERENCES

- Abdallah Gaaya (2004) Extension Education in Agricultural and Rural Development: Role of International Organizations. Institutions and Agrarian Reform Division, Rome (Italy)
- Abdul Razaque Chhachhar (2013) The Use of Mobile Phone Among Farmers for Agriculture Development, Department of Communication, Faculty of Modern Languages and Communication, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia
- Acharya, R. N. 2000. Market power and asymmetry in farm-retail price transmission. Paper presented at the AAEA Annual Meeting, Tampa, PL, August 2000.
- Aditya Mahajan (2012) Team Decision Theory: Characterization of Information Structures, Basic Concepts and Solution Methods Serdar, McGill University
- Agnes G. Mwakaje (2010) Information and Communication Technology for Rural Farmers Market Access in Tanzania, Journal of Information Technology Impact, Vol. 10, No. 2, pp. 111-128, 2010, University of Dar es Salaam, Tanzania
- Aguero, A. (2009). Education, mobile phone use and production decisions: a rural case study in Peru. En Mobile 2.0: Beyond Voice. Pre-conference Workshops at the International Communication Association (ICA)
- Aker, J.C and M. Fafchamps (2011), .Mobile Phones and Farmers.Welfare in Niger, University of California, Berkeley
- Aloyce, M. (2005), ICT for improved crop marketing in rural Tanzania,
- Andrew W. Shepherd (2011) Understanding and using market information
- Barnabas Kiiza (2010), Effect of Access to Formal Market Information on prices received by Smallholders farmers in Uganda. IGI Global

Binayee Surya, B (2005), Marketing Information System: An overview of agriculture marketing systems in South Asia, International (TCDC) Marketing Expert for FAO TCP project on Marketing System Development for NWFPs in Lao PDR

David K. Levine (20010), Economic and Game Theory, Department of Economic, UCLA

Edda Tandi Lwoga , Christine Stilwellb, Patrick NgulubecLwoga, E. T., Stilwell, C., & Ngulube, P. (2011), Access and use of Agricultural Information and Knowledge in Tanzania.

FAO, October 2005; Agricultural Management, Marketing and Finance Occasional Paper: Improving information flows to the rural community

Goyal, A. (2010), "Information, Direct Access to Farmers, and Rural Market Performance in Central India", American Economic Journal: Applied Economics, 2 (July 2010): 22-45

Hiroyuki Yamada (2012), The Impact of Improved Access to Market Information through Mobile phones Usage on Selling Prices: Evidence from rural areas of Cambodia. Osaka University, Japan.

Ibrahim H. Kawa and Loyce M. Kaitira (2007) *Enhancing Smallholder Farmers' Market Competitiveness in Tanzania*, Per Pinstup-Andersen, Fuzhi Cheng Cornell University

Jakob Svensson and David Yanagizawa (2010) Getting Prices Right: The Impact of Market Information Service in Uganda, IIES, Stockholm University

Kizito, Andrew M. (2012) Impact of Agricultural Market Information Systems Activities on Market Performance in Mozambique, MSU International Development Working Paper No. 124

- Kothari C.R. (2004), Research methodology, methods and techniques, Golden House, Daryagaj, New Delhi.
- Lipton, M. 2005. The family farm in a globalizing world: The role of crop science in alleviating poverty. 2020 Vision for Food, Agriculture, and the Environment Initiative Discussion Paper No. 40. Washington, D.C.: International Food Policy Research Institute.
- Marcel Fafchampsy (2011), Impact of SMS-Based Agricultural Information on Indian Farmers. Department of Economics, University of Oxford.
- Mattee, A.Z. & D.F. Rutatora 2000. Assessment of Performance of Past and Current Agricultural Extension Providers in Tanzania. A Consultancy Report submitted to the Ministry of Agriculture and Cooperatives, Dar es Salaam.
- Maurice M. Taylor (2002), Applications of Information Theory, Faculty of Applied Science and Engineering, University of Toronto
- Muganga A. K. (2011) The structure, conduct and performance of agricultural, Market information systems in Sub Saharan Africa
- Munyua, H. (2000). Information and communication technologies for rural development and foodsecurity: Lessons from field experiences in developing countries. CAB International, Africa Regional Center.
- Muto, M. and T. Yamano (2009). The Impact of Mobile Phone Coverage Expansion on Market Participation: Panel Data Evidence from Uganda. World Development, 37(12):1887-96
- Nnenna A. Obidike (2011) Rural Farmers' Problems Accessing Agricultural Information: A Case Study of Nsukka Local Government Area of Enugu State, Nigeria University of Nigeria

- Nowakunda, K., Ngambeki, D. and Tushemereirwe, W, (2010) Increasing Small-Scale Farmers' Competitiveness in Banana Production and Marketing.
- Ozowa, M. (2005) The role of Agricultural Information in an Economy, the University of Agriculture, Nigeria.
- R.A. Olawepo (2010), Determining rural farmers' income, Journal of African Studies and Development Vol. 2 (2) pp. 015-026 March, 2010
- Rehman, F. and Muhammad, S. (2013), Effect of farmers Social Economic Characteristics on Access to Agricultural Information: Empirical Evidence from Pakistan: The Journal of Animal and Plant Science Vol. 23, University College of Agriculture and Environment Science, Pakistan
- Rweyemamu, M.P. Kimaro and O.M. Urassa (2004) Assessing Micro-Finance Services in Agricultural Sector Development: A Case Study of Semi-Formal Financial Institutions in Tanzania, D.C.Economic and Social Research Foundation
- Sebastian W. Chenyambuga, (2012) Management and Value Chain of Nile Tilapia Cultured in Ponds of Small-scale Farmers in Morogoro region, Tanzania
- Svensson, J. and Yanagizawa, D. (2009), Getting prices right: The impact of market information services in Uganda, Journal of the European Economic Association, 7(2-3):435-45
- Temu, A.A., E.R. Mbiha, G.C., Nyange, D. (2010) A review of agricultural market information system in Tanzania, The changing role of market information system
- Von Braun, J. (2008). Poverty, Climate Change, Rising Food Prices and the Small Farmers. International Fund for Agricultural Development. Rome.
- http://en.wikipedia.org/wiki/Economy_of_Tanzania accessed on 25th April 2014.

APPENDICES

Annex 1: Questionnaire for a study on Agricultural market Information: assessment of its accessibility and contribution to the development of small scale farmers in Tanzania.

INTRODUCTION:

This questionnaire is designed so as to get information on farmers accessibility to agricultural marketing information and its contribution in farmers development. The questionnaire has been developed as part of the study required in order to awarded Master Degree at Mzumbe university. The information collected will also help advice the government and private organizations that are engaged in providing marketing information to farmers.

I kindly request you to respond to this questionnaire as accurately as you can so as to get correct information.

Your answers will remain for the use of the researcher only. It is my hope that my request will meet your favorable considerations. Please (tick or put an x and write as appropriate the responses in a space provided).

Part one: Personal profile

1. Name of a farmer
2.
3. Location: Village
4. District
5. Age Group [tick]: < 18 (), 18-35 (), 36-55 (), 55+ ().
6. Sex: Male () Female ()
7. Level of education a) Primary school b) Secondary School c) College
8. What is the acreage cultivated each year?
 - Less than 1 hector ()
 - Less than 2 hectors ()
 - More than 2 hector ()

9. Nature of the crop produced

- cereals ()
- vegetables ()
- fruits ()
- Others, Mention.....

10. How frequently are the following agricultural marketing information accessible to you? Use the following rating scale:

1= completely inaccessible, 2=frequently inaccessible, 3= accessible normally, 4= frequently accessible, 5= All the time accessible.

1	2	3	4	5
---	---	---	---	---

Price of crop you produce.....

--	--	--	--	--

Traders who need your crops.....

--	--	--	--	--

Finances/credit.....

--	--	--	--	--

Extension services.....

--	--	--	--	--

11. How do you get the information:

- Radio ()
- Mobile phone ()
- Friends ()
- Magazine ()
- Others (specify)
-

12. At what level does the access to price information help you in achieving the following, use the following rating scale: 1: High level 2: Medium 3: Low 4: Not at all

- Collective selling ()
- Income ()
- increase in production level ()
- sales volume ()
- Increase of selling price of their crops ()

13. At what level does the access to information on crops demanded in the market help you in achieving the following, use the following rating scale: 1: High level 2: Medium 3: Low 4: Not at all

- Income ()
- increase in production level ()
- sales volume ()
- selling price of their crops ()

14. At what level the following information are available to you before growing crops:

Use the following rating, 1: Highly available 2: Moderate available 3: not available

- information on varieties demanded in the market ()
- volume demanded in the market ()
- information on prices offered to crop in different markets ()

15. Do you get information at the time when you need them YES (), NO ()

16. At what level does each of the following factors contribute to increase production level of your crops? Use the following rating scale: 1: High level 2: Medium 3: Low 4: Not at all

- Access to finance ()
- Use of Improved technology ()
- Extension services ()
- Others Mention.....

17. In the past two years, has the selling price of your crop increased YES (), NO ()

If YES, what factors supported the increase in selling price of the crops

-
-
-

18. In the past two years, has production of your crop increased YES (), NO ()

If YES, what factors supported the increase in production of crops

-
-

19. Where do you sell your crops

- Traders at the market in the village ()
- Middle men who come in the villages ()
- Transport to town markets ()

20. What is the technology you use in production a) Hand hoe b) plough c) tractors

- Do you process your crops before selling? YES () No ()
- Where do you get the processing machine a) Own b) neighbors c) others

Annex2: Dodoso kwa ajili ya utafiti juu ya upatikanaji wa taarifa za masoko na mchango wake katika maendeleo ya wakulima wadogo Tanzania

Utangulizi:

Dodoso hili limeandaliwa kwa ajili ya kukusanya taarifa juu ya upatikanaji wa taarifa za masoko na mchango wake katika maendeleo ya wakulima wadogo. Taarifa zitakazokusanywa zitasaidia kutoa ushauri kwa serikali na wadau wengine katika kuboresha upatikanaji wa taarifa.

Ninaomba kujibu dodoso hili kwa umakini ili kupata taarifa za ukweli. Majibu yako yatabaki kuwa siri na yatatumika kwa ajili ya utafiti huu tu.

Sehemu ya kwanza: Taarifa binafsi

1. Jina la Mkulima:

.....
.....

2. Mahali: Kijiji Wilaya

.....

3. Umri [weka tiki kwenye umri wako]: chini ya miaka 18 (), miaka 18 hadi 35 (), miaka 36 hadi 55 (), zaidi ya miaka 55 ().

4. Jinsia: Mume () Mke ()

5. Kiwango cha elimu ulichofikia

a) elimu ya msingi ()

b) Sekondari ()

c) Chuo ()

6. Je kwa mwaka unalima eneo kiasi gani?

- Eka moja ()
- Kati ya eka moja na tano ()
- Zaidi ya eka tano ()

7. Unazalisha mazao ya aina gani?

- Nafaka ()
- Mboga mboga ()
- Matunda ()
- Mengine tofauti na yaliyotajwa hapo juu, yataje.....

8. Kwa kiasi gani unapata taarifa zifuatazo, tumia vipimo vifuatavyo kuonyesha upatikanaji wa taarifa hizo.

1= Sipati kabisa taarifa hizi, 2=Mara nyingi hazipatikani, 3= zinapatikana kawaida, 4= Mara nyingi zinapatikana, 5= zinapatikana muda wote.

1	2	3	4	5
---	---	---	---	---

Taarifa za bei ya mazao unayozalisha.....

--	--	--	--	--

Taarifa za wanunuzi wanaohitaji mazao unayozalisha.....

--	--	--	--	--

Taarifa za mikopo.....

--	--	--	--	--

Taarifa za huduma ya ugani.....

--	--	--	--	--

9. Unapata taarifa za masoko kwa njia gani:

- Radio ()
- Simu ()
- Marafiki ()
- Magazeti ()
- Njia

nyingine(zitaje)

.....

10. Ni kwa kiasi gani upatikanaji wa taarifa za bei ya mazao yako unasaidia kufanikisha mambo yafuatayo hapa chini: Tumia vipimo vifuatavyo kuonyesha jinsi upatikanaji wa taarifa za bei ya mazao unasaidia kufanikisha kila kimoja:

1=Sana, 2=Kati, 3=Chini, 4=hausaidii kabisa

- Kuuza kwa pamoja ()
- Kuongeza kipato ()
- Kuongeza kiasi cha uzalishaji ()
- Kuongeza kiasi cha mauzo ()
- Kuongezeka kwa bei ya kuuzia mazao ()

11. Ni kwa kiasi gani upatikanaji wa taarifa za uhitaji wa mazao yako kutoka kwa wanunuzi unasaidia kufanikisha mambo yafuatayo hapa chini: Tumia vipimo vifuatavyo kuonyesha jinsi upatikanaji wa taarifa za wanunuzi unavyosaidia kila kimoja: 1=Sana, 2=Kati, 3=Chini, 4=hausaidii kabisa

- Kuongeza kipato
- Kuongeza uzalishaji
- Kuongeza mauzo
- Kuongeza bei ya mazao

12. Ni kwa kiasi gani unapata taarifa zifuatazo kabla ya kuzalisha mazao yako: Tumia vipimo vifuatavyo: 1= Zinapatikana sana 2= Zinapatikana Kidogo 3= hazipatikani kabisa

- Taarifa za aina ya mazao yanayohitajika sokoni ()
- Taarifa za kiasi cha mazao kinachohitajika sokoni ()
- Taarifa za bei ya mazao yako katika masoko mbalimbali ()

13. Unapata taarifa kwa wakati unapozihitaji Ndiyo (), hapana ()

14. Ni kwa kiasi gani mambo yafuatayo yanachangia kuongeza uzalishaji wa mazao yako? Tumia vipimo vifuatavyo kuonyesha jinsi kila kimoja kinavyochangia kuongeza uzalishaji: 1=Sana, 2=Kati, 3=Chini, 4=hausaidii kabisa.

- Upatikanaji wa taarifa za bei ()
- Upatikanaji wa kiasi cha mazao kinachohotajika sokoni ()
- Upatikanaji wa mikopo ()
- Matumizi ya teknolojia bora ()
- Uwepo wa huduma za ugani ()
- Mengineyo, Taja.....

15. Katika kipindi cha miaka miwili iliyopita, je bei ya mazao imeongezeka?

Ndiyo (), Hapana ()

Kama jibu ni ndio, mambo gani yamesababisha bei ya mazao kuongezeka?

-
-

16. Katika kipindi cha miaka miwili iliyopita, je uzalishaji wa mazao umeongezeka?

Ndiyo (), Hapana ()

Kama jibu ni ndio, mambo gani yamesababisha kuongezeka kwa uzalishaji?

-
-
-

17. Unauza mazao yako wapi?

- Kwa wafanyabiashara katika soko la kijijini ()
- Kwa madalali wanaokuja kijijini ()
- Nasafirisha katika masoko ya mjini ()

18. Uzatumia teknolojia gani katika uzalishaji wa mazao yako:

a) jembe la mkono ()

b) jembe la kukokotwa na ng'ombe ()

c) trekta ()

- Je unasindika mazao yako? Ndiyo () hapana ()
- Kama unasindika mazao yako, unapata wapi vifaa vya kusindika
 1. Nimenunua
 2. Kwa jirani
 3. Sehemu nyengine, taja.....