ACCESS TO BANK CREDIT BY SMALLHOLDER FARMERS IN TANZANIA:
CHALLENGES, OPPORTUNITIES AND PROSPECTS

A CASE OF MVOMERO DISTRICT

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A CASE OF MVOMERO DISTRICT

By

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A Research Report Submitted in Partial Fulfillment of the Requirements for Award of the Degree of Master of Science in Accounting and Finance (MSc. AF) of Mzumbe University

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation titled, **Access to Bank Credit by Smallholder Farmers in Tanzania: Challenges, Opportunities and Prospects: A Case of Mvomero District,** in partial fulfillment of the requirements for the award of Degree of Master of Science in Accounting and Finance (MSc. AF) of Mzumbe University

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DECLARATION AND COPYRIGHT

I, **Madafu, Elias G**, Do 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 other degree award.

Signature...

Date…………………………………

ACKNOWLEDGEMENT

DEDICATION

To my family, **I LOVE YOU ALL.**

ABBREVIATIONS AND ACRONYMS

ASDS	-	Agricultural Sector Development Strategy
BOA	**-**	Bank of Africa
CVI	-	Content Validity Index
DSE	**-**	Dar es salaam Stock of Exchange
FDI	-	Foreign Direct Investment
FGT	-	Foster, Greer and Thorbecke class of measures
FINGO	-	Financial Non-Government Organization
GDP	-	Gross Domestic Product
IFAD	-	International Fund for Agricultural Development
MAFAP	**-**	Monitoring African Food and Agricultural Policies
NBC	**-**	National Bank of Commerce
NBS	**-**	National Bureau for Statistics
NMB	-	National Microfinance Bank
NSGRP	-	National Strategy for Growth and Reduction of Poverty
OECD	-	Organization for Economic Co-operation and Development
PASS	-	Private Agricultural Sector Support Limited
ROSCA	-	Rotating savings and credit association
SACCOSs	-	Savings and credit co-operative societies
SMEs	-	Small and Medium Enterprises
SPSS	-	Statistical Package for Social Sciences
TADB	-	Tanzania Agricultural Development Bank
TIB	**-**	Tanzania Investment Bank
TDV	-	Tanzania Development Vision
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
URT	-	United Republic of Tanzania
VIF	-	Variance inflation factor

ABSTRACT

Tanzania like many other developing countries highly depends on agriculture for income generation and job creation for her citizens. Owing to the sector being highly dominated by smallholder farmers, lack of finance remains the leading obstacle and yet banks – the major supplier of finance are quoted to be the least suppliers of finance to farmers despite capital adequacy and ability to lend to smallholder farmers at lower interest rates compared to other suppliers. This study therefore aimed at determining factors that affect access to bank credit by smallholder farmers; analyzing the influence of access to bank credit on the performance of smallholder farmers; examining obstacles encountered by smallholder farmers in raising bank finance and finally assessing perceptions of banks towards lending to smallholder farmers in Tanzania.

Methodologically, both qualitative and quantitative research approaches were utilized in the study. Data from 162 smallholder farmers in Mvomero Districts and 3 banks operating in Morogoro region was collected and used in examining accessibility of bank credit to smallholder farmers, while descriptive statistics and the Logit regression model were employed for analysis. The Logit regression model was particularly utilized to determine factors that affect smallholder farmers' access to bank credit while descriptive statistics were used to analyze the obstacles and influence of access to bank credit on smallholder farmers' performance.

The study revealed that the value of assets invested in farming activities and education were significant factors affecting smallholder farmers' access to bank credit and; lack of collaterals, vital bank information, proximity to banks and high interest rates were some among the major obstacles hindering smallholder farmers' accessibility to bank credit. Further still, access to bank credit was found to have a significant influence on the performance of smallholder farmers as it influenced both output and increase in annual returns. Among others, it was recommended that the government should establish a bank that will exclusively provide financial services to agriculturalists by establishing a credit guarantee scheme. It was also recommended that banks should develop new financial products that will cater for the needs of smallholder farmers.

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CHAPTER ONE

INTRODUCTION

1.0   Introduction

This chapter presents the background of the study and statement of the problem as regards obstacles to accessibility of bank financing in the agriculture sector and the gap of knowledge in the field under consideration. The researcher further presented objectives of the study from where research questions were developed. The scope and significance of the study are also provided in this chapter.

1.1   Background of the Study

The agricultural sector is recognized as a driving force for income generation, job creation, and a backbone of economies as it continues to play a vital role in economic growth and sustainable development (Miller et al, 2010; Salami et al, 2011; Bee, 2007; World Bank, 2013). Apart from its role as a significant source of economic growth especially in developing countries, it is widely acknowledged that the development of the agricultural sector is an effective instrument for alleviating poverty and enhancing food security (Miller et al, 2010; Louw, Nhemachena and Zyl, 2008).

Tanzania just like many other developing countries highly depends on agriculture for her citizens' income generation and job creation. Salami et al (2011) report that by 2001 half of the total rural household income was realized from farming, 46.6 percent from nonfarm employment (wages and self-employment) and less than 4 percent from remittances. In 2012, it was reported that the sector employed more than 80 percent of the population consequently contributing an estimated 28 percent of the Gross Domestic Product (GDP) and 30 percent of export earnings (InfoDev, 2012; Salami et al, 2011).

Tanzania has tremendous potential to support a thriving agriculture sector. According to InfoDev (2012) and UNESCO (2010), of the 44 million hectares of arable land suitable for agriculture in Tanzania, only 23 percent (about 10 million hectares) is utilized. 31 percent of the total land area (29.4 million hectares) is in fact suitable for irrigation

although only about 1 percent of the same was irrigated by the end of 2008. This implies a great deal of potential for further agricultural development. The sector is diverse and extensive with a wide range of agricultural commodities being produced, including fiber (sisal and cotton), beverages (coffee, tea), sugarcane, grains (a diverse range of cereals and legumes), horticulture (temperate and tropical fruits, vegetables and flowers) and edible oils (InfoDev, 2012).

The production or manufacturing stage in the agriculture sector in Tanzania and Africa as a whole is highly dominated by smallholder farmers. According to IFAD (2001), smallholder farmers account for over 90% of the total output although more than half of the farmers produce only food crops.

Despite of all the potential in agriculture, smallholder farmers still encounter a number of challenges that hinder their agricultural productivity and growth. To mention but a few, the key long-standing challenges are low productivity stemming from the lack of access to markets and technology; inadequate sustainability of product grades, standards and quality in agricultural products marketing; weak legal and regulatory framework on agricultural marketing; inadequate marketing research, and above all lack of access to formal financial services from the manufacturing stage, processing all the way to the marketing stage (Salami et al, 2011; URT, 2008).

Inaccessibility to formal financial services is frequently cited as one among the leading obstacles that globally confronts the agricultural sector especially in Africa. Tanzanian smallholder farmers are limited in obtaining the financial means necessary in facilitating the acquisition of productivity-enhancing inputs such as seeds, fertilizers, chemicals and pesticides, or intensification technologies. Despite the availability of various sources of finance such as Commercial institutions that range from micro-financing institutions to corporate banking institution; Non-financial institutions; Savings and credit co-operative societies (SACCOS) and rotating savings and credit associations (ROSCAs); Financial

non-government organizations (FiNGOs); Government and donor programs, smallholder farmers continue to suffer financial obstacles.

While commercial institutions particularly banks are the major suppliers of finance to business enterprises and the agriculture sector in other countries, the situation is exceptional in Tanzania. In his study, Bee (2007) found that 32 percent of business financing came from informal sources; 33 percent from ROSCAs; 19 percent from SACCOs; and 16 percent from commercial financing institutions. Very few banks are reported to offer financial products to facilitate agriculture in the country such as the Tanzania Postal Bank and Twiga Bancorp.

Commercial institutions play an imperative role in agriculture and other sectors by providing term loans and working capital. Enhancing smallholder farmers' financial accessibility majority of who are poor has been considered an avenue for economic development and poverty reduction. According to Auma and Mensah (2014), access to finance plays a crucial role in relieving farmers of the distress faced in purchasing of seeds, fertilizers and cattle. This has been known to improve the welfare of the rural poor through financing consumption and reducing the opportunity cost of highly valued assets and adopting labor saving technologies.

Lending to the poor or lower income groups remains a debatable issue among practitioners and academicians. The poor are usually excluded from credit facilities for various reasons and among these include; insufficient collateral to support their loans, high transaction costs, unstable income, lower literacy and high monitoring costs (Nawai and Shariff, 2010). On the other hand, challenges such the prerequisite of extensive collateral that smallholder farmers may luck; a poor credit history as well as inadequate accounting records are among the major aspects limiting smallholder farmers' access to bank credit.

According to Auma and Mensah (2014) the rural poor are hampered by inaccessibility to formal credit services. The authors insist that formal institutions such as commercial banks and/or development banks are unreachable to poor smallholder farmers and even when they (formal banks) provide credit; it is directed to specific production activities disregarding the demand aspect. InfoDev (2012) reports that commercial financing institutions consider agriculture a high risk venture due to unfavorable weather changes and political interference in the sector; and have thus limited penetration into the sector; they are constrained by inadequate infrastructure, the challenge of reaching customers and limited Products that may be unsuitable for agro-processing growth enterprises.

Because of predicaments such as lack of collateral and/or stained credit history, most smallholder farmers are bypassed not only by commercial and national development banks, but also by formal micro-credit institutions. In addition to own sources, smallholder farmers thus rely on incomes loaned by friends and relatives, remittances, and informal money lenders (Salami et al, 2011). As a result, 48 percent of Tanzanian agribusiness persons self-finance their activities (InfoDev, 2012).

According to Wolter (2010) financial institutions negatively perceive lending with the intent to facilitate agricultural activities, explaining the meager number of banks established in rural areas. Only 3 percent of agricultural households have access to credit. Even medium- and large-scale commercial farmers and agricultural investors face major financing constraints thus; they refrain from larger-scale investments in the agricultural sector.

1.2   Statement of the Problem

Agriculture continues to be a fundamental instrument for sustainable development and poverty reduction; yet, financial constraints in the sector remain pervasive, agriculture remains costly and finances inequitably distributed, severely limiting smallholders' ability to compete (Miller and Jones, 2010; Miller et al, 2010; Salami et al, 2011; Bee, 2007; World Bank, 2013).

The role of credit in agricultural economy cannot be overemphasized as it has been put forward as a tool for agricultural development. Credit for smallholder farmers is gaining relevance in many parts of the world in response to the needs of less privileged entrepreneurs with limited capital base in the sector (Obisesan, 2013).

Gaisina (2010) reported lack of credit as one of the major reasons for minimal investment in agriculture. This in turn creates a situation where farmers are unable to ensure optimal distribution of resources in the short-term (profit - liquidity effect), thus resulting in a decline of long-term investment in land and equipment (investment demand effect).

Commercial institutions particularly banks are the major suppliers of finance to business enterprises and agricultural sectors in other countries. It is reported that loans from United Kingdom (UK) banks provide funding for around two thirds of her businesses and they are also the largest source for over 25 percent of firms (Irwin, 2006). Although bank financing is considered helpful in other countries however, the situation is different in Tanzania especially in her agricultural sector.

According to Salami et al (2011) the share of commercial banks' loans to agriculture has been very low compared to loans issued to manufacturing, trade, and other service sectors hampering expansion and technology adoption. Access to formal credit in Tanzania is mainly confined to large urban centers, where collateral requirements are

high and less attention has been paid to agribusiness due to the fact that a huge number of activities in the sectors are conducted in rural areas by smallholder famers.

In an effort to boost agricultural production and productivity, smallholder farmers have to use improved agricultural technologies however, the adoption of these technologies is relatively expensive and yet small holder farmers cannot afford to self finance it (Obisesan, 2013). Enhanced provision of rural credit would therefore accelerate agricultural production and productivity.

In spite of the importance of the agribusiness sector especially in developing countries, relatively little research exists on whether, why and how banks finance the agriculture sector around the world and especially smallholder farmers. Several studies have been conducted around the world to address the issue of access to finance but majority of them have focused on Small and Medium Enterprises (SMEs) in broad spectrum (Schiffer and Weder, 2001; Beck et al, 2006) leaving the smallholder farmers segment less explored. Moreover, there is no study that has been conducted in Tanzania, particularly, Mvomero District, where the economy is agriculture – based and highly dominated by the smallholder farmers to address the problem of accessibility of bank credit to these smallholder farmers. On the other hand, there is hardly any study addressing appropriate means to improve the sector's financial accessibility with a particular focus on banks as a potential financial source. Therefore, the researcher intended to investigate the challenges, opportunities and prospects regarding smallholder farmers' accessibility to bank credit in Tanzania in an effort to bridge this knowledge gap.

1.3   Research Objectives

The objectives of the study are categorized into main and specific objectives described as hereunder;

1.3.1   Main Objectives

The main objective of this study was to investigate the challenges, opportunities and prospects regarding smallholder farmers' accessibility of bank credit in Tanzania.

1.3.2   Specific Objectives

i.   To determine the factors that affect smallholder farmers' accessibility to bank credit in Tanzania

ii. To analyze the influence of access to bank credit on the performance of smallholder farmers in Tanzania

iii. To examine the obstacles encountered by smallholder farmers in raising bank finance in Tanzania

iv. To assess the perceptions of banks towards lending to smallholder farmers in Tanzania

1.4   Research Questions

The objectives of the study presented above were guided by research questions categorized as main and specific questions provided as follows;

1.4.1   Main Research Question

As per main objective and specific objectives stated above, this study was conducted to answer the following main question: What are the challenges, opportunities and prospects regarding smallholder farmers' access to bank credit in Tanzania?

1.4.2 Specific Questions

i. What are the main factors affecting smallholder farmers' access to bank credit in Tanzania?

ii. What influence does access to bank credit have on the performance of smallholder farmers in Tanzania?

iii. What are the major obstacles encountered by smallholder farmers in raising bank finance in Tanzania?

iv. How do banks perceive lending to smallholder farmers in Tanzania?

1.5 Significance of the Study

Successful smallholder farming investments stimulate agricultural growth through the provision of emerging markets and the development of a vibrant input supply sector thus, as long as the agriculture sector remains a backbone of Tanzania's economy, smallholder farming will continue to play a vital role for economic growth and sustainable development. This study provided a stepping stone through which smallholder farmers can straightforwardly obtain funds from banks at lower costs compared to other financial suppliers hence, realizing huge profits from the agriculture sector as to stimulate economic growth and sustainable development.

On the other hand, the study provided literature that bridged the knowledge gap in bank financing in regard to the agricultural sector in Tanzania. The study contributed to business models that will be beneficial to banks in the course of trading with smallholder farmers. It also provided imperative information to smallholder farmers and agribusiness entrepreneurs in general on what is required for the smooth accessibility of finances from banks.

Furthermore, the study provided recommendations imperative in the formation of policies and best practices to improve smallholder farmers' accessibility of bank credit in Tanzania. For instance, to the government, the study recommended for the

establishment of a bank that exclusively caters for agriculture; Strengthening Banking Policies and establishment of a credit guarantee scheme.

1.6   Scope of the Study

There are a variety of financial sources available to smallholder farmers categorized as internal and external sources. Internal financing also the most common source for most smallholder farmers includes owner investment, as well as funding through retained profits, and/ or the sale of assets (Whittle and William, 2009). External financing includes traditional debt finance in the form of loans from banks and other financial institutions, micro and leasing and hire purchase, risk capital venture capital and equity financing and mezzanine instruments, which may be appropriate for high-growth firms, factoring and trade credit (Whittle and William, 2009).

Despite various sources of finances available, this study only focused on bank financing as it is the largest source of external finance of all businesses. Banks take a dominant position regarding external loan finance. Unlike other sources of finance, Bank loans are used for financing investments, working capital and stock financing (Whittle and William, 2009) justifying the researchers efforts in studying the financial institution.

On the other hand, the researcher collected primary data from smallholder farmers located at Mvomero District, Morogoro and banks located in Morogoro.

1.7 Definition of Key Concepts

Smallholder Farmers

Currently, there is no universally accepted definition of smallholder farmers that is applicable and consensually used by all countries, but there are common criteria that are used to define and categorize smallholder farmers. Some of these criteria are the size of the farm or land cultivated, amount of capital invested and type of labour to mention but a few.

Smallholder farming involves producing agricultural yields on relatively small plots of land, where smallholder farmers cultivate land areas that are less than five hectares predominantly located in rural provinces (Jari, 2009). It involves direct operation by the farmer and the use of family labour, although they are sometimes supplemented by temporary employees. Smallholder farmers usually contribute an inadequate amount of capital to their farming activities which is the reason they make more use of labour rather than capital. Commonly, smallholder farmers occupy very small scales of operation which attract the provision of the services one needs to be able to significantly increase productivity.

Bank

Briefly, banks are financial institutions which mobilize funds from the public and open different types of accounts like savings, fixed deposit and current accounts for their customers. Banks also perform other functions such as advancing of loans, providing various checks, keeping valuable items, transferring of funds from one area to another or from one person to another through traveler cheques and telegraph transfers.

What differentiates a bank from most other financial institutions is that it can accept deposits of funds that it may re-lend but need to be repaid to the depositor at full value at a future specified or unspecified date (Johnson and Kaufman, 2008). There are so many

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different types of banks such as commercial banks, central banks, saving banks, specialized banks, cooperative banks and merchant banks to mention a few. This study mainly focused on commercial banks.

Bank Financing

This can be briefly defined as an act or a process whereby a bank advances credit or loans to its customers for a given time period and charges interest on the money lent. Such a loan can either be secured or unsecured, but a large percentage of the loans are secured to mean that they are issued against a certain asset used as recovery tool in case the customer fails to service the loan and its interest. Therefore from this point of view, access to bank financing refers to not only the ability of a borrower to apply for a loan from the bank, but also receive the loan from the respective bank.

Access to Bank Credit

Access to bank credit occurs when there is an absence of price and non-price barriers in the use of bank loans or credit. Improving access to bank credit thus means improving the degree to which bank credit are available to all at a fair price. It is easier to measure the use of financial services since the data of use can be observed although use differs from access. Access essentially refers to the supply of bank credit or availability of bank financing (Ganbold, 2008; Manganhele, 2010).

According to Ganbold (2008), theoretically a problem of access to credit for firms exists when a project that would be internally financed if resources were available, does not have external financing. This happens because there is a wedge between the expected internal rate of return of the project and the rate of return that external investors require to finance it.

From the smallholder farmers' definition and the above point of view, capital inadequacy of the smallholder farmers in their farming activities implies that there is a demand for external financing. Therefore in this study, access to bank credit by

smallholder farmers means the ability of a smallholder farmer to obtain the amount of capital or fund s/he needs from the bank, in the absence of price and non-price barriers in the use of bank loans or credit.

1.8   Organization of the Dissertation

This study is organized into six chapters. Chapter one is the introduction of the research problem which presents the background of the study, statement of the problem, research objectives, research questions and the scope and significance of the study. Chapter Two presents the Review of existing literature both theoretical and empirical; it also presents the conceptual framework of the study as well as the hypotheses. Chapter three describes the methodology that was used in the whole process of data collection and its analysis which includes the research design, a brief description of the study area, sampling techniques used, methods of data collection and data analysis.

Chapter four presents' findings obtained during data collection and analysis while chapter five presents discussion of findings. Finally, chapter six provides the summary of the entire study, conclusions, and policy implications. The chapter further presents recommendations for improving access to bank financing and suggestions of areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0   Introduction

This chapter presents the theoretical review of the study with a particular focus on the overview and development of the agriculture Sector in Tanzania, challenges of and contribution of smallholder farming to Tanzania. The researcher further discusses smallholder farmers' accessibility to bank financing. The chapter also presents the conceptual framework of the study and previous empirical studies relevant to the determinants of access to credit and challenges in accessing bank financing by agribusinesses.

2.1   Overview of Smallholder Farming in Tanzania

The economy of the United Republic of Tanzania (URT) is predominantly rural-based with relatively low levels of manufacturing and value addition to commodities produced. Agriculture is a major contributor to the economy and provides livelihoods for the majority of the population. Primary production plays an important part in maintaining the country's food security, while the industrial and horticultural crops subsectors are important foreign exchange earners. An estimated 55 percent of the land in the URT could be used for agriculture and more than 51 percent for pasture. However, approximately 23 percent of the vast agricultural land is cultivated and yet the practice of shifting cultivation causes deforestation and land degradation on pastoral land (MAFAP, 2013).

The agriculture sector is the dominant source of livelihood in Africa especially in low-income rural areas. About 70% of the population is directly employed in the sector and it accounts for approximately 30% of the region's gross domestic product (GDP) (Faye et al, 2013). According to MAFAP (2013), the weight of Tanzania's agriculture sector in

total GDP decreased from 50 percent in 2000 and further decelerated to 28 percent in 2010 and is forecast to decline further to 18 percent by 2025.

Recently, the agriculture and agribusiness sector in Africa has been challenged by mining and hydrocarbons as the latter two continue to attract the interest of foreign investors. The sector is reported to have boosted Foreign Direct Investment (FDI) inflows to Africa. Faye et al (2013) detailed that FDI inflows in Africa went from about United State Dollar (USD) 1 billion in 1990 to over USD 43 billion in 2011. In the second half of the last decade, the share of FDI going to the agribusiness sector in Africa is reported to have increased from approximately USD 2 billion in 2011 to about USD 5 billion in 2005 in spite of the sector being relatively small.

Smallholder farming involves producing agricultural yields on relatively small plots of land, where smallholder farmers cultivate land less than five hectares predominantly located in rural provinces (Jari, 2009). It involves direct operation by the farmer and the employment of family labour although they are sometimes supplemented by temporary employees. Smallholder farming in Tanzania involves the production of agricultural activities such fiber (sisal and cotton), beverages (coffee and tea), sugarcanes, grains (a diverse range of cereals and legumes), horticulture (temperate and tropical fruits, vegetables and flowers) and edible oils (InfoDev, 2012).

In Africa and Tanzania in particular, the production process of the agribusiness sector is largely conducted by poor households majority of who are located in rural areas. According to Kimathi et al, (2008), rural areas are characterized by higher transaction costs for both the financial institutions and their clients, higher systemic risks, more volatile cash flows; as well as lower risk-bearing ability and higher vulnerability due to higher incidences as well wide spread and depth of poverty. Therefore, while a large majority of the poorest households are directly linked to agriculture in many ways, agricultural lending remains mostly an uncharted territory for development finance.

2.2   The Need to Improve Smallholder Farmers' Access to Bank Financing

Limited access to finance for agribusiness firms is one of the main barriers to increased competitiveness in the sector. Despite the number of challenges facing the sector including access to finance, the agricultural sector as well as the agribusiness sector have continually been cited as the driving force for income generation, job creation, and as a backbone of most economies (Miller et al, 2010; Salami et al, 2011; Bee, 2007; World Bank, 2013). According to MAFAP (2013), the sectors' role in providing employment in Tanzania is forecast to remain close to 50 percent until 2025. Therefore easing the sectors' access to finance implies an increase in the level of employment and consequently increased income generation for the vast majority of people.

The agricultural sector continues to play a vital role for economic growth and sustainable development and it is widely acknowledged that the development of the agricultural sector is an effective instrument to alleviating poverty and enhanced food security (Miller et al, 2010; Louw et al, 2008). Kimathi et al, (2008) state that enhanced access to financing triggers real incomes that will increase substantially across poor communities, value chain players and market players. Therefore growth in agricultural productivity is likely to directly impact on economic growth with strong effects on poverty.

On the other hand, access to finance will enable producers in the agriculture sector to dispose of the surplus realized to neighboring countries. Market is one of the major obstacles facing producers in the agribusiness sector resulting to the spoilage of the surpluses blamed on insufficient capital to afford quality and standard package materials. Easing access to finance will enable producers to pack their produce in standard packages so as to export them to other countries and hence earn foreign currency.

2.3   Constraints in Financing Agriculture and Agribusiness Sector

It is not only farmers or agribusiness entrepreneurs who experience difficulties in accessing finance, but also banks as major suppliers of finance face various challenges in providing the same to agribusiness enterprises. According to the World Bank (2010), unfavorable interest rates, complex application procedures, information asymmetries and high collateral requirements are some among the major challenges arising from both the demand and supply factors.

Poor infrastructure has been cited by many researchers as one among the major demand factors hindering accessibility of bank financing to agribusiness enterprises. The Organization for Economic Co-operation and Development (OECD) (2013) reported that the lack of physical, information and communication infrastructure escalates the difficulty of connecting borrowers and lenders in a fragmented market. This was supported by Coates et al (2011) who stated that poor storage facilities affect the quality of the produce and as a result great value is lost by failing to adequately sort, grade and certify produce according to the increasingly strict standards expected by major buyers.

Poor infrastructure multiplies the transaction costs of companies when applying for a loan (OECD, 2013) and poor transportation systems force farmers to sell their produce at the gate and usually at a very heavy discount which in turn affects their cash flows and their loan repayment ability if they used borrowed fund (Coates et al, 2011).

Agribusiness entrepreneurs also lack asymmetric information on banks' requirements and specific financial instruments which are issued by banks particularly for the agribusiness sector. OECD (2013) report that the problem of asymmetric information on banks' requirements and financial instruments is aggravated by limited branch networks of most banks. Most agribusinesses are located outside main cities making it difficult for them to reach banks and gain access to credit information and offers.

Informational asymmetries make it difficult for lenders to adequately differentiate between high and low quality businesses and projects. Once the lenders/investors have supplied funding, they may be unable to assess whether enterprises appropriately utilize funds (OECD, 2004).

Coates et al (2011) point to distant dysfunctional markets, inadequate farming and inappropriate techniques, volatile prices and unpredictable weather as some among the issues impeding lenders and farmers towards easing accessibility of finance. All these factors lead to lower quality of produce by enterprises. This is supported by OECD (2013) who reported that lower quality of output and profit is realized by SMEs due to higher transaction costs for lenders, making banks more reluctant to lend to them.

On the supply side, banks also have insufficient asymmetric information as they have difficulty in assessing the creditworthiness of agribusiness entrepreneurs, especially of those located in remote areas. Agribusiness entrepreneurs are said to lack credit history and accounting reports which can be used by banks to assess their credit worthiness, as a result banks tend to require more collateral and to set higher interest rates to compensate for these risks (MAFAP, 2013; Coates et al, 2011; OECD, 2013; Wattanapruttipaisan, 2003).

According to OECD (2006) banks and other investors may overcome the aforementioned problem by adopting precautionary measures such as requiring that financing be collateralized. Ultimately, they may simply turn down requests for financing credit rationing. Under these conditions, outside financiers tend to adopt a very cautious attitude towards SME, and either reduce the amount of financing sought or deny it altogether.

Collateral requirements by commercial banks in developing countries have been a contentious issue in SME financing particularly in the agribusiness sector (Wattanapruttipaisan, 2003). The amount of collateral required by owners/operators of

SMEs in relation to the loan size applied is a measure frequently adopted to empirically assess the severity of the financing gap (Wattanapruttipaisan, 2003). In some cases, commercial banks may deem the collateral insufficient in view of the size of the loan requested. In other words, the proposed expansion project may be too large in comparison with the current size of the firm (OECD, 2004).

Insufficiently developed legal systems of the country prevent the development of certain financing instruments, including the use of collateral as a risk-mitigating element. However there are often problems with enforcement even when adequate legislation is available. There are lengthy procedures for filing mortgages, pledges and ascertaining the status of particular assets. There are also often cases of corruption among personnel (OECD, 2006).

2.4 The Role of Government in Financing Smallholder Farmers

Globally, every government has a major role to play in the agribusiness sector through the formulation and implementation of strategies and policies as well as ensuring that the legal and regulatory environments are supportive to the sector so as to increase agricultural production.

Tanzania has adopted different policies and strategies to increase agricultural production since the later part of 1960s. Agricultural Sector Development Strategy (ASDS) and the National Strategy for Growth and Reduction of Poverty (NSGRP) are the two latest formulated strategies by the government of URT. The ASDS that set the agricultural vision for time frame 2002 – 2005 had the primary objective of creating an enabling and conducive environment for improving the productivity and profitability within the sector while the NSGRP recognizes the importance of agriculture in poverty reduction efforts by keeping in focus the aspiration of the Tanzania Development Vision (TDV) - 2025 (Mpagalile et al, 2008).

Apart from the strategies explained above, the government of URT has formulated a number of policies that aim at supporting the growth of the agriculture sector in general. These include the Tanzania Land Policy of 1997 that aims to promote and ensure a secure land tenure system so as to encourage optimal use of land resources; the Agricultural and Livestock Policy of 1997 aims at improving the well being of the people whose principal occupation and way of life is based on agriculture and; the National Employment Policy of 1997 clearly states that the agriculture sector is an important employer in the country. Other important agriculture policies which were formulated include the Energy Policy (1992), Water Policy (2002), National Microfinance Policy (2000), National Trade Policy (2003), and the Small and Medium Enterprises Policy (2002).

In recent years, the United Republic of Tanzania has also implemented several policy measures for agricultural development which tends to affect the needs of both producers and consumers. According to MAFAP (2013), among the policies formulated under the producer-oriented policies is the access to credit in which the government disbursed Tshs 22 billion to the Tanzania Investment Bank to provide for agriculture financing window. The loan facility supports the procurement of tractors, small hand-operated power tillers, irrigation equipment, livestock, commercial vehicles and other farm implements such as tractor-trailers and storage equipment.

On the other hand, the government puts a great effort in endorsing a number of laws which enable the farmers to conduct their activities in a conducive environment. For instance during the last decade, the government has enacted new land laws, although MAFAP (2013) reports that despite the implementation of those new land laws, most Tanzanians are yet to realize their full potential benefits. Some among the benefits include increased access to land or improved management of communal land however, most occupancy rights have not been registered and small landholdings rarely if ever, can be used as collateral for borrowing or property for commercial investment.

Furthermore, the Government commenced the new Kilimo Kwanza (Agriculture First) initiative which envisages increasing the growth rate of the agricultural sector from 4 to 10 percent. Kilimo Kwanza was launched as Tanzania's Green Revolution strategy aiming at modernizing and commercializing agriculture (Mbunda, 2011). It was also meant to boost private sector participation by increasing concessionary lending to agriculture, empowering agricultural cooperatives, creating commodity exchanges, removing market barriers to agricultural commodities, enhancing trade integration, promoting public–private partnerships for investment in agriculture-related infrastructure and agricultural services delivery, improving access to and use of agricultural knowledge and technologies, and accelerating land reform (MAFAP, 2013).

The Kilimo Kwanza's implementation resolution comprises of ten pillars and financing agriculture is the second pillar which includes activities such as establishment of the Tanzania Agricultural Development Bank (TADB) where USD 500 million was allocated to establish the Bank; Legislation for Commercial Banks to lend a percentage of their deposits on concessionary terms to agricultural production and; Extend the establishment of community banks in every region of Tanzania (URT, 2009; MAFAP, 2013).

There are various ways the government of URT directly intervenes to ensure that smallholder farmers have access to credit. Some alternatives may include: Providing information and recommending viable enterprises to lending institutions; capacitating smallholder farmers with production and financial management skills and helping smallholder farmers to secure market contracts.

2.5   Smallholder Farmers' Access to Bank Credit

Business owners who engage with banks mostly use transactional and saving facilities. Whilst nine in ten banked business owners use savings-type products, only one in ten use bank credit for their businesses.

There are 32 commercial banks (which offer checking or other demand deposit accounts) and 18 other financial institutions in Tanzania. The former include CRDB, National Microfinance Bank (NMB), National Bank of Commerce (NBC), Akiba, Barclays and EXIM Bank, among others. All of these are headquartered in Dar es Salaam with the exception of one. The latter include community and cooperative banks such as the Njombe Community Bank and Kagera Farmers Cooperative Bank, and are headquartered around the country. All may provide micro-financing (InfoDev, 2012).

The commercial bank sector deploys a variety of financial instruments or facilities for financing agribusinesses sector such as term loans, trade financing, revolving loans/overdrafts, working capital and factoring (RAM, 2004) however there are challenges that limit access.

The belief with commercial banks is that the agribusiness sector is under-capitalized with weak management. They feel that these fundamental problems need to be addressed before they can develop a viable business model around them amidst sector-specific risks that they perceive in agriculture (Coates et al, 2011).

Credit guarantee initiatives have been introduced to encourage greater lending by the formal sector. These have been unsuccessful because they do not cover 100 percent of the risk therefore; risk for the formal financing institution persists. The Private Agricultural Sector Support Limited (PASS) has been exceptionally successful because it works closely with beneficiaries and financiers thus reducing risk for the financing sector (InfoDev, 2012).

2.6   Determinants Used by Banks in Financing Smallholder Farmers

Banks usually prepare a lending policy which acts as a guide for its operations in all matters relating to lending. The type of financial institution and its policy will often determine the accessibility of credit to a borrower. Policies between different banks usually vary in all approaches, but in most circumstances, factors such as credit duration,

terms of payment, required security and the provisions of supplementary services must be taken into consideration to determine the accessibility of credit. Where the mentioned factors above do not meet the needs of the target group, potential borrowers will not apply for credit even where it exists and when they do, they will be denied access (InfoDev, 2012).

Collateral requirement is one of the main determinants considered by financial institutions around the world while advancing credit to borrowers. According to the NMB Banking Lending Policy (2008) collateral may be in the form of guarantees backed by tangible assets, chattel mortgages, legal mortgages, liens on bank balances and life policies. The main reason as to why banks require collateral is to reduce the bank's risk exposure particularly default risk, and also demonstrate the borrowers' good faith.

Despite the fact that collateral requirement is a major determinant in many banks, it is not a significant determinant in accessing credit by agribusiness entrepreneurs in others. Hossain (1988) as cited in Yehuala (2008) reported the Grameen Bank experience showing that most of the conditions imposed by formal credit institutions like collateral requirements should not actually stand in the way of smallholders and the poor in obtaining credit. The poor can use the loans and repay if effective procedures for disbursement, supervision and repayment have been established. A number of researchers have reported that collateral requirement is the major constraint to accessibility of credit in the agribusiness sector. Salami et al (2010) reported that access to formal credit in Tanzania is mainly confined to large urban centers, where collateral requirements are high.

Apart from the collateral requirements, researchers have cited income level of the smallholder farmers, credit history and the total amount of money to be granted or Loan size as the other major determinants. Atieno (2001), Miller and Ladman (1983) and Getaneh (2005) indicate that income level, past credit participation or credit history, loan

size and assets owned or collateral requirement were significant determinants that explain borrowers' participation in formal credit markets.

Size of the loan and credit history is given much consideration by Tanzanian's banks when advancing credit to other sectors (Such as manufacturing, retailing, service). There are usually limits imposed on small businesses on the first and second loan, and any further loan will depend on the loan officer's evaluation while taking into consideration the borrower's repayment tendency of the previous loan (Credit history).

The banking sector outreach also referred as the proximity or distance to credit sources and the purpose of the loan have also been cited among the most important determinants considered by banks when granting a loan to all type of businesses. Hussien (2007) reported that farm households are discouraged to borrow from the credit sector if it is distantly located. The researcher found that proximity has an effect on borrowers cost because both temporal and monetary costs of transaction, especially transportation cost, increase with lender-borrower distance which raises the effective cost of borrowing at otherwise relatively lower interest rate in the sector.

The NMB Bank lending policy (2008) recommends that clients may use loan funds for working capital and purchase of inventory, light materials, equipment and other expenses associated with operating a micro enterprise. Furthermore, the policy entails that loans are not meant for purchasing fixed assets which requires a long amortization period; although the borrower can buy equipment which will promptly begin to produce streams of return upon installation.

Apart from the determinants explored above, other researchers investigated the effects of borrowers' characteristics on credit accessibility. Hussien (2007) and Mohieldin and Write (2000) found that among others, the probability of choosing the formal credit sector was positively affected by the gender, educational level, household labor and farm size. He further explained that education and credit information increase the information

base and borrowers' decision making abilities. Other factors such as number of cattle, level of market integration, and use of improved technology were among the determinants of small businesses and farmers' access to bank credit. Credit period and costs such as interest rate, transaction costs and initial deposits are also considered as key determinants of credit access.

2.7   Theoretical Framework

2.7.1   The Five Cs of credit – Approaches Used by Banks When Giving Loan

This can be defined as a method used by lenders to determine the credit worthiness of potential borrowers. The system weighs five characteristics of the borrower, attempting to gauge the chance of default. The said characteristics are termed as the Five Cs that represent capacity, character, conditions, collateral and capital. These are briefly explained as hereunder;

Capacity represents the business's ability to repay debt. Lending institutions review historical and projected financial performance to determine whether or not the business can repay the requested loan. The business's cash flow must meet a ratio above the proposed debt repayment to ensure repayment even if there is a decline in performance (Brown, 2004). Lack of past information of the business makes it difficult for Banks to assess the ability of the business to repay debts.

Collateral is security for the loan as a secondary source of repayment. In most instances, collateral consists of business assets acquired with the requested loan. Lending institutions will always discount the current value of the collateral to a more realistic liquidation value. At times, lending institutions may require additional collateral (OECD, 2006; Brown, 2004).

Capital represents the equity invested in the business by the owners. Capital provides a cushion for a business to rely on during periods when cash flow is tight. Also, Lending

institutions will ensure that owners have sufficient personal investment to remain dedicated to the business should difficult times arise. Most lenders look at a ratio of debt to equity to get a sense of the stability of the business (OECD, 2006)

Conditions refer to the economy in which the business operates. Lending institutions will attempt to identify the main risks for the business, industry, and the local and national economy. Once these risks are identified, lending institutions will determine if the business is prepared to mitigate these risks as much as possible (Brown, 2004).

Character covers the "people" aspect of business lending. Lending institutions will assess the business owner's management ability, experience in the industry, business references, and personal credit and integrity. Lending institutions desire the assurance that the business owner will stand by business obligations in times of crisis (Whittle & et al, 2009).

To be a suitable borrower, the loan applicant must successfully meet the "Five Cs of credit": (both macroeconomic and industry-specific) to ensure the banker that adequate funds will be available to service the loan and to repay it at maturity or on an earlier call date. Among the major reasons as to why loan applications are turned down is the lack of sufficient high-quality collateral (to secure the loan) or capital, the own funds invested to ensure the borrower bears some risk (OECD, 2006). Understanding the 5 C's will better prepare a small business owner for the application process. NMB is one among the banks which uses this model when lending to smallholder farmers. Through an interview conducted with the commercial manager of Wami Branch, the banks mainly consider capacity and collateral as the two main prerequisites when dealing with smallholder farmers.

2.7.2 Pecking Order Theory

According to this theory, firms tend to cover their investment needs by drawing on their own (internal) financial sources rather than applying for external finance (Myers 1984).

After the internal available funds, firms can then go for debts and finally external equity. However, if firms' own resources are insufficient in maintaining 'reproduction on a simple scale' at minimum, and their access to formal external finance is limited because of the credit rationing behavior of lenders, they face the problem of under-investment (Gaisina, 2010). This is particularly imperative for growing firms because to finance growth, they must be able to access loans.

Consider Figure 2.1: The investment structure of agriculture in Tanzania which shows the applicability of the pecking order theory in Tanzania's agriculture sector:-

Figure 2.1: Investment structure of agriculture in Tanzania
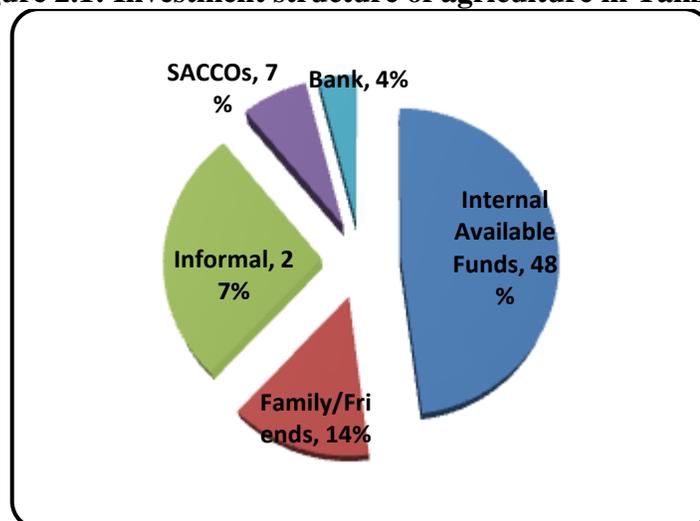
Source: InfoDev (2012)

Figure 2.1 above shows that 48 percent of Tanzanian agribusinesses self-finance their activities. The relevance of the pecking order theory in this study can be explained via the effects of gearing ratio on bank financing. Usually banks consider the company's gearing ratio before deciding to advance credit to a borrower. With the pecking order theory encouraging the utilization of internal available funds first, before external borrowing, the gearing ratio of the company is kept low to allow the agribusiness to access bank credit with ease in this respect. On the other hand the theory provides that there is a negative relationship between profitability and borrowing, specifically

borrowing from banks, hence encouraging smallholder farmers to utilize their internal available funds before opting for external borrowing.

As per pecking order theory as portrayed in figure 2.1 above, the question was whether the said percentage represents the ability of smallholder farmers to finance their activities without external finance or whether they lack access to finance. The same percentage of smallholder farmers using savings to financing their activities was obtained in this study as well. However it was further revealed that 48 percent of smallholder farmers use their own savings because they had limited access to bank credit and other sources of external financing.

2.7.3 Capital Constraint Model

This model describes the behavior of financial institutions particularly banks, to restrain advancing loans to borrowers, in this case agribusiness entrepreneurs, because of the limitation of available financial resources from banks.

According to Obamuyi (2007) banks are subject to market and regulator imposed capital requirements. Banks are required to maintain their capital at a certain level set by the central bank of the state or banks' regulator. The liquidity ratio to deposits that Tanzanian's banks are required to maintain is 40%. As a result banks are limited in providing loans to agribusiness entrepreneurs because of the nature of their operations and the fact that they are fragmented.

2.8 Empirical Studies

The economic impact and financial role of banking institutions has been globally studied enormously and extensively in economic theory literature. Undoubtedly it has been factually established in many empirical studies that banking institutions have a huge impact through financial intermediation on economic growth and development of an economy (Rahman, 2012). In other countries, a number of studies have also been

conducted to address the issue of financing smallholder farmers using different sources of financing including credit from banking institutions.

In one study by Obisesan (2013) that sought to examine credit accessibility and poverty among cassava smallholder farmers in Ogun state, Nigeria, cross-sectional data was collected from 150 smallholder cassava farming households using descriptive statistics, logistic regression model and the Foster, Greer and Thorbecke class of measures (FGT) as the main analysis tools. The Logistic regression model was also employed to examine factors influencing farmers' credit accessibility while the FGT class of measures was used to determine the incidence, depth and severity of poverty among cassava farmers.

Obisesan (2013) established that majority of farmers had access to credit with co-operatives serving as the major source of credit to households. The results of the logistic model showed significant determinants of credit accessibility as gender, age, main occupation, participation in off-farm activities, membership of farmers' association and crop yield; and a high rate of poverty among cassava farming households was revealed with 66.7% households being poor while households with limited credit access had higher poverty incidences.

In another study by Yehuala (2008) that employed a two stage sampling method to select three out of eighteen rural peasant associations and 130 farm households, the researcher sought to ascertain factors that affect smallholder farmer's access to formal credit and also the status of women and different wealth groups' access to formal and informal credit sources. The researcher used Focus group discussion, group interview and field observations to generate qualitative data and descriptive statistics while the logit model was used for analyzing quantitative data.

Yehuala (2008) found that 43.1% of the sampled farm households were formal credit users, whereas the remaining 56.9% were non-users and at the same time, the researcher found out that credit access to female headed households is still limited. Group lending

was found to be a technique that solves the problem of collateral requirement and minimizes the risk of default. Moreover, the smaller loan size, earlier saving requirement, and repayment period were among the critical problems. Yehuala (2008) also found that participation in extension package programs, experience in credit use from formal sources, total cultivated land size, number of livestock, collateral or group formation were highly vital in influencing access to formal credit use as evidenced by the model output.

Gaisina (2010) conducted a study to analyze determinants affecting access to credit. The study employed the bivariate probit model to predict the probability that corporate farms have received credit from commercial banks, in the presence of an opportunity to receive credit from rural credit partnerships, and to describe the factors influencing this choice. Findings revealed that the main determinants that predict whether an agricultural enterprise will be given credit are the size of a farm, the farm's productivity and collateral. The analysis also showed that the profit is not significant for obtaining bank credit and has an inverse relation to the probability of having credit.

A study by Chauke et al (2013) ascertained factors that affect smallholder farmer's access to credit sources in the Capricorn District Municipality of Limpopo Province, South Africa. 250 smallholder farmers in the study area were selected using a stratified sampling technique and the logistic regression model was employed in the analysis. The model revealed that factors that contributed significantly to credit access were the need for credit, attitude towards risk, distance between lender and borrower, perception on loan repayment, perception on lending procedures and the total value of assets.

In a study conducted by Dzadze et al (2012) in the Abura Asebu Kwamankese district of the central region of Ghana aimed to identify the factors that limit or increase smallholder farmers' access to formal credit, 100 previous credit applicants from five towns of Abura Asebu Kwamankese district were selected and descriptive statistics and a binary logistic model were used to analyze quantitative data collected. The logistic

regression model revealed that extension contact, education level and saving habit had significant positive influence on farmers' access to formal credit. The odds of a smallholder accessing formal credit increased by a factor of 601.09, 371.40 and 10.98 for savings habit, extension contact and education level respectively, and therefore 35% of sampled farmers had access to formal credit.

Byaruhanga (2013) conducted a study to examine the empirical relationship between credit terms, credit accessibility and the performance of agricultural cooperatives in Rwanda. The researcher used a random sample of 196 active agricultural cooperatives and correlation and regression models to determine whether the performance of agricultural cooperatives is affected by credit terms and credit accessibility and also if a relationship was existent between the two.

Findings revealed a positive and significant relationship between credit accessibility and the performance of agricultural cooperatives as credit accessibility together with credit terms explain about 17.6% of the performance of agricultural cooperatives. Byaruhanga further found that credit accessibility was the most significant determinant of performance of agricultural cooperatives.

On the other hand, this study examined the obstacles that constrain the accessibility of bank credit to smallholder farmers. OECD (2013) presented constraints from both demand and supply aspects. Lack of physical, information and communication infrastructure and lower quality of output and profit were reported to be the constraints on the demand side. While high stock of non-performing loans was a major obstacle on the supply side.

OECD (2013) also reported difficulties such as unfavorable interest rates, complex application procedures, asymmetric information and high collateral requirements coming from both demand and supply factors. These constraints are consistent with findings established in this study. Additionally, this study also found Distance to a bank as one among the major obstacles.

2.9   Conceptual Framework

A concept is an abstract or general idea inferred or delivered from specific circumstances. It is a word or phrase that symbolizes several interrelated ideas. Unlike a theory, a concept does not need to be discussed to be understood (Kombo & Tromp, 2006).

Figure 1 below presents the model as derived from literatures and offers the conceptual foundation of the research. The following conceptual model aims to show the determinants of access to bank credit by smallholder farmers and it also explains the impact of access to bank credit on the performance of smallholder farmers. In addition it also aims to explain how the relationship of the independent and dependent variables are modified or rather altered by moderating factors.

Figure 2.2: The Conceptual Framework
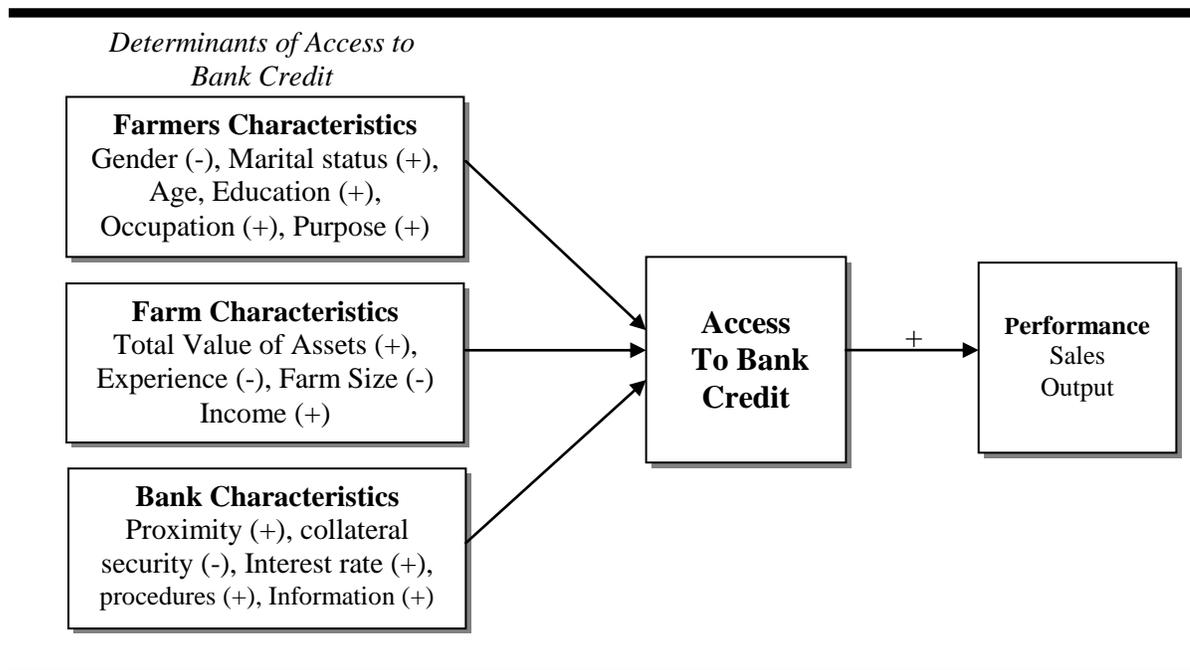
Source: Researcher's design (2015) based on reviewed literatures

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2.10   Variables Specification and Hypotheses Derivation

Following the conceptual framework established above, the following hypotheses were tested

2.10.1 Dependent Variable

Access to Bank Credit

The dependent variables in this study include; Access to Bank Credit and Performance of smallholder Farmers depicted in Figure 1: Conceptual framework as **ACCESS TO BANK CREDIT** and **PERFORMANCE** respectively**.** Access to Bank Credit variable is measured by the demand for the bank credit by smallholder farmers and supply of bank credit by the banks while performance was measured in terms of increase in output of the produce and increase in the annual returns from the sale of the produce. According to the nature of the study, Access to bank credit was a dependent variable which was dichotomous and hence suited the use of Logit regression model in the study. The Variable used value "1" for smallholder farmers with access to bank credit and "0" for otherwise.

2.10.2 Independent Variable

Apart from other factors relating to smallholder farmers' access to bank financing in this study, the following factors which focus on the supply side of finance was hypothesized to explain the dependent variable.

Age [AGE]

This is an independent variable which measures chronicle age in years. Older smallholder farmers were expected to be mature and more exposed to financial matters, and therefore have the high ability to manage bank credit when advanced. Therefore, it was hypothesized that much older smallholder farmers may have more access to bank credit than their younger counterparts.

Gender [GENDER]

This is an independent variable measured in terms of male and female. The variable took value "1" for male smallholder farmers and "0" for their female counterparts. It is reported that women are more constrained to access credit than men because they lack control over economic resources and the nature of their economic activity (Yehuala, 2008). Therefore, it was hypothesized that female smallholder farmers are more constrained to access bank credit than their male counterparts.

Marital Status

This independent variable was tested as to determine whether it influences smallholder farmers' accessibility of bank credit. According to Auma and Mensah (2014), married persons are more likely to have access to credit than their unmarried counterparts. This is attributed to the fact that smallholder farmers who are married have access to cheap family labour which reduces costs to boost profitability. Therefore, it was hypothesized that smallholder farmers who are married have more access to bank credit than their unmarried counterparts.

Education [EDUC]

This independent variable was measured in terms of level of education. According to Pandula (2011) education infuses to smallholder famers the ability to present positive financial information and strong business plans and the ability to maintain a better relationship with financial institutions. Also formal education enables smallholder farmers to possess necessary managerial skills vital to the financial management aspect of the business. Therefore, it was hypothesized that Smallholder farmers with high level of education have more access to bank credit compared to less educated smallholder farmers.

Other Non Farming Activities [OCCUPATION]

Another independent variable is other non farming activities smallholder farmers engage in. This variable measures whether smallholder farmers have other occupations apart

from farming. The availability of other non farming activities implies that smallholder farmers have other income sources and therefore less constrained to access bank credit as farmers demand less credit from the bank due to the small loan size and reduced value of collateral security. On the other hand however, it may imply less efficiency in farming activities in terms of less concentration and the diversification of the little capital possessed, and hence hinders access to bank credit due to such inefficiency. Therefore, it was hypothesized that other non farming activities positively affect access to bank credit.

Income from Farming Activities

This is a continuous independent variable measured in Tanzania Shilling currency unit. This variable shows the degree of profitability attained by a respective smallholder farmer in a given year as a result of many factors such as cost controlling, farming techniques, and marketing strategies to mention but a few. Therefore it was expected that smallholder farmers who attain higher level of income from farming activities have more access to bank credit. This is because with high profits, smallholders are capable of repaying the principal as well as the interest to the bank.

Total Value of Assets

Apart from the above independent variables, total value of assets is another independent continuous variable measured in Tanzania's shilling currency unit. This variable explains the monetary value of smallholder farmers' resources. It is expected that the more sufficient assets the smallholder farmer accumulates, the more access to bank credit. This is because assets enable smallholder farmers to meet the collateral requirements of the bank. Therefore it was hypothesized that smallholders with sufficient valuable assets have more access to bank credit.

Farming Experience

This is another continuous independent variable that measures the number of years that the smallholder farmer has been engaged in farming. The more farming experience, the

more the smallholder farmer is likely to have adequate financial information that may be required by the bank for the purpose of applying for the loan. Therefore, it was hypothesized that smallholder farmers with lesser years of farming experience are more constrained to access bank credit. This is supported by Pandula (2011) who states that new firms are unlikely to meet the financial information requirements of the banks which makes it difficult for lenders to assess lending proposals submitted by new firms.

Farm Size

This is a continuous independent variable measured in acres and represents the total size of the land cultivated by a smallholder farmer per year. The size of the farm has implications on the labour or equipments to be employed, and the return on the investment. This is supported by Yehuala (2008) who stated that the larger the cultivated land size the more labor is required thus demanding additional capital that might be obtained through credit. Therefore, it was expected that the larger the size of the farm, the more the return from the investment earned, which means that a smallholder farmer becomes stable to repay the cost of borrowing with ease.

Interest Rate

Another independent variable is the interest rate which represents the price on of principal amount or loan granted to a smallholder farmer. According to Babajide (2011), due to the size of the loan and lack of information on the quality of operation of the informal and small firms including smallholder farmers, commercial banks and other financing companies demand higher rates of return, which come in the form of high interest rate and high cost of capital. However borrowers usually prefer to borrow from institutions where the interest rate is low as higher interest rate results into a burden of paying high interest expenses and may sometimes cause a default on repayment of the loan by smallholder farmers, this in turn soils their credit history when demanding for further borrowings. Thus, it was expected that higher interest rate negatively affects smallholder farmers' access to bank credit.

Lending Procedures

Lending procedures is among the independent variables tested as a determinant of smallholder farmers' access to bank credit. Usually these procedures are complex and time consuming for applicants. According to Yehuala (2008) farmers prefer to borrow from informal credit institutions as they are time effective although they charge higher interest rates on loans in comparison to banks. Therefore, it was expected that the more complex the lending procedures are, the lesser the access to bank credit by smallholder farmers.

Information

Dissemination of information regarding bank disbursement of loans is also among the independent variables tested in regard to smallholder farmers' access to bank credit. Information acts as basis of decision to smallholder farmers on whether to apply for a loan or not, and what needs to be fulfilled for a loan to be granted. Therefore, any information asymmetry hinders the smallholder farmers' access to bank credit. Thus, it was hypothesized that, smallholder farmers with inadequate information about the bank are likely to be more constrained.

Distance to a Bank [PROXIMITY]

Distance to the bank is another variable which affects accessibility of bank credit by smallholder farmers; this is also referred to as bank outreach or proximity. Schiffer and Weder (2001) and Beck (2007) state that poor outreach of the banking sector remains a constraint especially for SMEs which generally report more difficulty than large companies in obtaining loans from banks.

According to Yehuala (2008), farmers near the lending institutions have a location advantage and can contact the lender easily and have more access to information than those who live more distant locations. The geographical outreach of the banking sector in Tanzania is rather low as well. Few banks managed to establish local branches in rural areas where the majority of smallholder farmers reside. Transaction costs increase for

smallholder farmers as they need high travelling times to reach the nearest local bank branch. Therefore, it was hypothesized that the distance between the bank and smallholder farmers negatively affects access to bank credit.

Access to Bank Credit and Performance

Performance is another dependent variable in the provided conceptual framework above. The availability of bank credit to smallholder farmers enables them to obtain the financial means to facilitate the acquisition of productivity-enhancing inputs, such as seeds, fertilizers, chemicals and pesticides, or intensification technologies, and therefore improve their performance.

The above is supported by Byaruhanga (2013) who reported that small and medium scale farmers are likely to improve their performance if they improve their productivity by employing techniques such as the use of fertilizers, spraying their crops against pests and diseases, training labor, quality seeds and machinery. The limited capital possessed by smallholder farmers is an obstacle towards improving productivity and hence smallholder farmers also need to apply for bank credit. Byaruhanga (2013) found a positive and significant relationship between credit accessibility and the performance of agricultural cooperatives. Therefore it was hypothesized that access to bank credit positively affects the performance of smallholder farmers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0   Introduction

A research methodology is the conceptual structure within which research is conducted; it constitutes the blue print for the collection, measurement and analysis of data. Under this chapter, the researcher presents the instruments that were employed during the process of collecting data from various sources. Therefore, the chapter states and presents, research approach, research design, target population, area of the study, sampling procedure, research instruments, the data collection process and analysis tools

3.1   Research Design

Research design is an assemblage of conditions for specifying relationships among variables in a study, using these variables and controlling effects of extraneous variables and plan for selecting the source and types of information to be used in answering the research questions (Ndunguru, 2007). According to Kothari (2004) the research design facilitates the collection of relevant evidence with minimal effort, time and money. The author further argues that the design presents the purpose of conducting researches hence research designs include; explanatory, descriptive, and comparative, survey and predictive research.

The researcher made use of the survey research design as it was convenient and cost effective for the collection of large data that informed this study due to the use of the logit regression model. On the other hand, the survey research design enabled the researcher to obtain data about practices, situations or views at one point in time through questionnaires and interviews. Quantitative analytical techniques were used to draw inferences from data regarding existing relationships. The use of the survey research design also permitted the researcher to study more variables at a point in time.

3.2 Research Approach

With the mixed methods approach to research, the researcher incorporates methods of collecting or analyzing data from both quantitative and qualitative approaches in a single study (Creswell, 2003). This would enable the researcher to strengthen and overcome the weaknesses that either approaches may pose (Jonson and Owuegbnzie, 2004). Therefore from this point of view, the researcher involved the use of both quantitative and qualitative approaches in this study.

3.2.1 Qualitative approach

This is a research approach which was used by the researcher to collect qualitative data. Qualitative data is collected in the form of words, pictures, descriptions or narrations (Sullivan, 2001). On the other hand, a qualitative research is one which permits and takes into consideration the opinions of respondent and the researcher.

The researcher used the qualitative approach in analyzing data that was collected from banks in form of interviews. This involved details such as the banks' perception towards lending to smallholder farmers as well as their suggestions on improvements as to enable smallholder farmers obtain their funding requirements. Likewise, smallholder farmers were also asked to provide their suggestions for improvement that will enable banks to improve the disbursement of their loans.

On the other hand however, a minor qualitative aspect was employed as the researcher provided final recommendations aimed at bridging the financing gap by establishing a link between smallholder farmers and bank credit. This was highly dependent on the opinion of the researcher.

3.2.2 Quantitative approach

Quantitative research is based on the measurement of quantity or amount; and is applicable to phenomena that can be expressed in terms of quantity. The investigation is normally reported in terms of numbers (Kothari, 2004). The study is categorized as quantitative because data that was be collected from the field such as socio-economic characteristics of smallholder farmers was analyzed using descriptive statistics such as mean, percentage, standard deviation, ratio and frequency distribution. Also tools such as Chi-square statistics and tabulation were employed in the analysis.

On the other hand, the researcher also employed the Logit regression model to analyze and determine factors that affect smallholder farmers' access to bank credit in Tanzania.

3.3 Study area

The study area can be defined as the target coverage place in which the research is to be conducted basing on the research problem as justification for the selection of a particular area (Corbetta, 2003). This is a place from which a researcher collects information that aids data analysis and so acts as basis for the formulation of recommendations. Mvomero District in Morogoro was the main study area from where the researcher collected information regarding smallholder farmers. On the other hand however, the researcher interviewed bank officers around other places in Morogoro other than Mvomero District.

Mvomero District is one among the six districts in Morogoro region and others include; Kilosa, Kilombero, Morogoro Rural, Morogoro Urban and Ulanga. Mvomero is located at northeast of Morogoro region between latitudes 8º 00" and 10º 00" south of the equator and between longitudes 37º 00" and 28º 22" east of Greenwich (URT, 2008). The population is about 260,525 people as per 2002 population census and the altitude of the district is between 380 meters and 1,520 meters above sea level thus providing a suitable climate for tropical and subtropical varieties of crops (URT, 2008).

The district's economy like most of Morogoro districts depends on agriculture mainly from crop production. The main crops grown are cassava, rice, maize, sugarcane and bananas. Other crops include beans, millet, peas, potatoes, coffee, groundnuts, citrus fruits, mangoes, jackfruits, coconut, tomato and eggplants. With exception of a few paddy and sugarcane fields, cultivation is carried out mainly by use of the hand hoe, using primarily family labour and hired labour when the situation demands (URT, 2008).

The selection of this study area was based on the fact that smallholder farmers constitute the majority of the population in Mvomero District who heavily depend on income from agricultural activities. This was done purposefully to accelerate the collection of information from large groups of individuals within a short period of time thus cost effective and time saving.

Figure 3.1: Morogoro Map
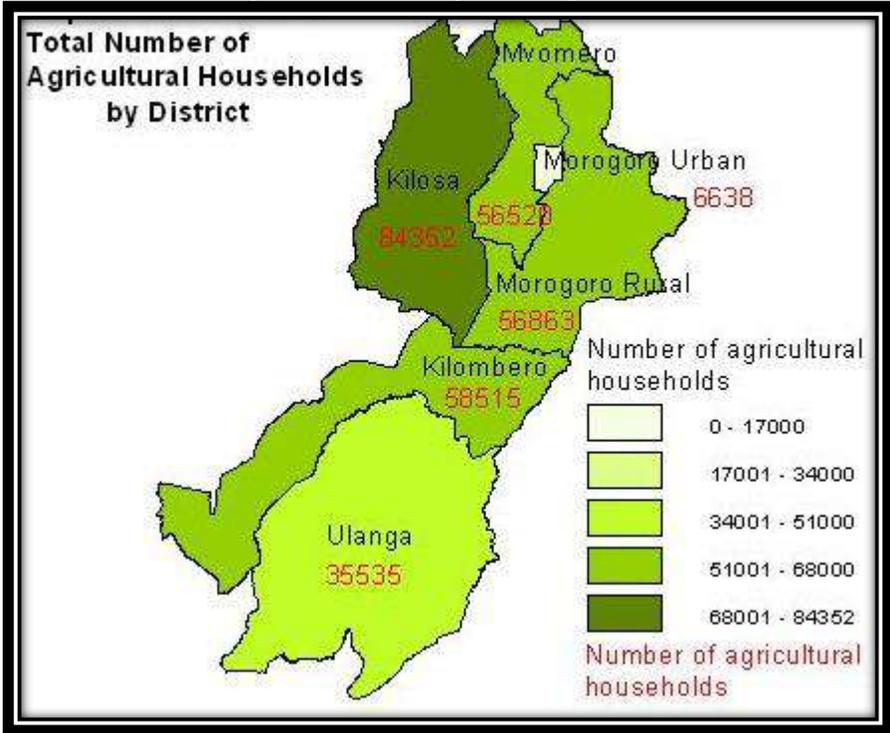
Source: National Bureau of Statistics (NBS), (2012)

3.4 Study Population and Sample

A population is the total collection of elements from which the researcher wishes to make some inferences (Cooper & Schindler, 2007). Adam and Kamzora (2008) point out that mathematicians normally define a population as the universal set and a sample as a subset as depicted in figure 3.2.

Figure 3.2: Population and sample
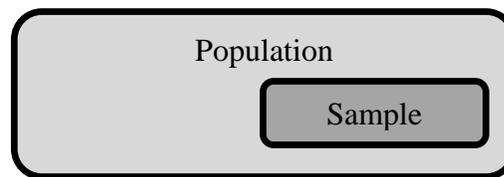
Source: Adam and Kamzora, 2008

There are two different kinds of populations investigated in this study from which the samples were selected namely; Smallholder farmers and banks.

There are 56 banks operating in Tanzania categorized into; commercial banks (34), regional community banks (20) and development banks (2). From the Banks, the researcher was able to extract relevant information that enabled the achievement of objectives of the study such as the major constraints that limit smallholder farmers' access to finance from banks in Tanzania; and the perception of banks regarding lending to smallholder farmers in Tanzania.

3.5 Sample Size and Sampling Techniques

In consideration of the sampling procedure, one has to think about two basic choices that are; probability and non probability sampling techniques (Cooper and Schindler, 2007). The basic idea of sampling is to select some of the elements in population that the researcher can draw conclusions about an entire population (Cooper and Schindler, 2007; Kothari, 2004).

As per this study, the researcher used the simple random sampling technique to obtain the sample for smallholder farmers and banks for the study. The researcher expected to collect information from a total of 300 smallholder farmers around Mvomero District however due to limited time and financial resources, the researcher managed to collect data from 162 smallholder farmers and; three banks were interviewed. On the other hand, the choice of using this sampling technique was justified as its size was subject to the conditions of using the Logit Regression Model of analysis.

Moreover, the researcher employed convenience sampling, a non probability sampling technique in the selection of area of study. Convenience sampling involves selecting a unit primarily on the basis of their availability and willingness to respond. The researcher selects a number of persons or other sampling units because they are easily accessible (Adam and Kamzora, 2008).

Therefore Morogoro, specifically Mvomero district was selected as area of study by way of convenience sampling. This is because a large percentage of households in Mvomero are engaged in agricultural activities and yet there are various Banks in Morogoro from where the researcher directly extracted information.

3.6   Units of Analysis

According to Kothari (2004) a unit of analysis also referred to as a sampling unit, can be described as the unit about which information will be obtained. The study involved the use of two different types of units of analysis namely; the smallholder farmers from the demand side, and director of credit or loan officers as it is referred to other banks from the supply side. In order to obtain reliable information that would answer the research questions, the researcher distributed and administered survey questionnaires to smallholder farmers and also conducted an interview with the director of credit of respective sampled banks and branch managers.

3.7   Types and Sources of Data

3.7.1   Primary data

Primary data refers to data collected afresh and for the first time and thus happen to be original in character (Kothari, 2004). The researcher collected fresh data from smallholder farmers as well as banks. Data such as that relating to the determinants of access to bank credit by smallholder farmers; major constraints that limit smallholder farmers' access to finance from banks in Tanzania; and banks' perception towards lending to smallholder farmers was collected by the researcher for the very first time from the field area by the researcher. The researcher prepared a questionnaire that was distributed to smallholder farmers and conducted an interview with directors of credit of the sampled banks for the collection of primary data.

3.7.2 Secondary Data

Secondary data can be defined as data which is already available and previously collected and analyzed by someone else (Kothari, 2004). This involves data collected from published books, journals, pamphlets, news papers, magazines, official reports and other acceptable literatures. The researcher utilized secondary data that informed this study. Secondary data used was extracted from official reports issued by different ministries of Tanzania and other countries; data from Tanzania's NBS; data from Journals and Published theses and dissertations from other places around the world.

3.8   Data Collection Methods

These can be briefly defined as the tools employed by the researcher to gather information from the field. The most popular methods of data collection used in various studies are questionnaires, interviews, observations and focus groups (Kombo and Tromp, 2006; Kothari, 2004).

3.8.1 Questionnaires

A questionnaire is an instrument aids the gathering of information from a large sample using a prepared set of questions designed by the researcher to obtain data needed to answer study questions (Kombo and Tromp, 2006). This method involves preparing a list of organized questions relevant enough to collect required data needed by the researcher when answers are being provided by selected individuals in a sample (Mouton and Marais, 1996). The researcher prepared a survey questionnaire which was distributed to smallholder farmers and thus, necessary information that facilitated answering the research questions was obtained.

3.8.2 Interview

This is a data collection method that requires direct contact between the researcher and the interviewee as the two engage in oral questioning or discussion (Adam and Kamzora, 2008). The researcher thus conducted interviews with Branch Mangers of sampled banks enabling the acquisition of in-depth information on research questions. There are different kinds of interviews that can be used by researchers however as per this study, the researcher used a semi structured interview that is normally aided by an interview guide or prepared questions to guide the interviewer (Kombo & Tromp, 2006).

3.9   Validity and Reliability of the Study

Descriptive validity can be simply defined as the factual accuracy of the account. It attempts to answer questions such as whether what was reported as taking place actually occurred; or if the researcher accurately reported what was seen and heard (Lupyana, 2009). Descriptive validity increases credibility and defensibility of a research. Therefore, in this study, the researcher took into account the whole issue of validity and reported data as gathered without alteration.

To enhance the validity and reliability of data collected from the field, the researcher conducted a pilot study by distributing questionnaires to few smallholder farmers and conducted interviews in a few banks and amended the questionnaire as well as interview questions where necessary.

Moreover, the researcher used both quantitative and qualitative research methods in analyzing data collected. The use of triangulation methods in collection of data and in the analysis process also enhances research validity and reliability.

On the other hand, the researcher used the Cronbach's Alpha Coefficient to test research instruments' ability to yield desirable results. Cronbach's alpha has been popularly used to measure internal consistency that is, the degree to which items that make up the scale all measure the same underlying attribute (Pallant, 2002). The researcher tested for Cronbach's Alpha Coefficient using Likert Scale items that were used to measure the perceptions towards bank credit on efficiency.

According to Pallant (2002) satisfaction with a scale has good internal consistency with a Cronbach alpha coefficient of .7 and above. In the this study, having dropped one of the variables from the list of variables measuring the perception of bank credit on efficiency, the expansion of Market, which had a mean of 4.04 and the highest standard deviation of 4.247, the Cronbach's Alpha Coefficient was 0.823 (See Table 3.1).

Table 3.1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
.823	.829	6

Moreover, the position, level of education of education and the experience of the bank officers interviewed by the researcher are enough factors to convince for the reliability of the information provided regarding the perception of banks on lending smallholder farmers.

3.10   Variables and Measurements

The following were used as variables and measurement in the process of analyzing primary data that informed this study. The table below also provides observed sign for each variable, a negative sign indicates that the stated hypothesis per given variable has a negative influence on the accessibility of bank credit by smallholder farmers, and a positive influence on the accessibility of bank credit by smallholder farmers is identified by a positive sign.

Table 3.2: Variables and Measurements

S/N	Variable	Indicator	Observed Sign
1	Gender	Sex of the smallholder farmer	-
2	Marital Status	Marriage standing of the smallholder farmer	+
3	Education		+
		Level of formal education of the smallholder farmer	
4	Total value of Assets	Value of assets invested in farming activities	+
5	Farming Experience	Number of years the smallholder farmers engaged in farming activities	-
6	Farm size		-
		Number of Acres owned by the smallholder farmer	
7	Income	Income from farming activities	+
8	Collateral	Available assets to guarantee the loan	-
9	Interest rate	Price of the loan	+
10	Procedures	Processes involved to obtain a loan	+
11	Proximity	Distance from a bank	+

Source: Primary data

3.11   Data Analysis

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data (Lupyana, 2009). Qualitative data was obtained via interview and it was simultaneously obtained throughout the data collection process. Quantitative data was however analyzed using various tools.

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The researcher used descriptive statistics such as mean, percentage, standard deviation, ratio and frequency distribution in the analysis process. The researcher also employed the use of Logit Regression Model to determine the factors that affect smallholder farmers' access to bank credit in Tanzania.

3.12   The Logit Regression Model

Due to the nature of variables particularly the dependent ones, the logistic regression model was employed to assess how well a set of independent variables such as education, gender, banking outreach to mention but a few, determine smallholder farmers' access to bank credit. This model is usually used when the dependent variable is dichotomous. Also known as Logit model, logistic regression provides an indication of the adequacy of a set of predictor by assessing suitability and also provides an indication of the relative importance of each predictor variable or interaction among predictor variables (Pallant, 2013).

According to Yehuala (2008), logistic distribution (logit) enjoys advantage over others in the analysis of dichotomous outcome variable in that it is extremely flexible and easy to use model from a mathematical point of view and results in a meaningful interpretation. The logistic regression coefficient can be used to estimate odds ratios for each independent variable in the model. The term "logit" refers to the natural logarithm of the odds (log odds) which indicates the probability of falling into one of the two categories on some variable of interest (Chauke et al, 2013).

The generic form of the logit model as presented by Dzadze et al (2013) is as follows;

Logit P(Y) = β_0 + $\sum\beta_i X_i$ + μ

$$Y = \beta_0 + \beta_1(GNDR) + \beta_2(AGE) + \beta_3(MRTST) + \beta_4(EDUC) + \beta_5(TVAST) + \beta_6(INCM) + \beta_7(OTRCH) + \beta_8(ONFA) + \beta_9(XPRNC) + \beta_{10}(SCRTY) + \beta_{11}(INRST) + \beta_{12}(PRCDR) + \beta_{13}(FRMSZ) + \mu$$

Whereas:-

Y = ("1" if respondent has access to bank credit and "0" if respondent has no access to bank credit);

β_0 = Constant term

GNDR = Gender (1 if male, 0 if female)

AGE = Age of the respondent (years)

MRTST = Marital Status;

EDUC = Educational Level;

TVAST = Total Value of Assets;

INCM = Income Level;

OTRCH = Bank Outreach;

ONFA = Other Non Farming Activities;

XPRNC = Farming Experience;

SCTRY = Collateral Security;

INRST = Interest on principal amount;

PRCDR = Procedures;

FRMSZ = Farm Size;

β_I = Logistic coefficients for the independent variables;

μ = Error term

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0   Introduction

This chapter presents findings obtained from the field as per research objectives. The tools employed in the quest to answer the research questions were formulated in consideration of study objectives. Prior to data presentation, it is essential to refer to research objectives as stated below:-

i.   To determine factors that affect smallholder farmers' access to bank credit in Tanzania

ii. To analyze the influence of access to bank credit on the performance of smallholder farmers in Tanzania

iii. To examine the obstacles encountered by smallholder farmers in raising bank finance in Tanzania

iv. To assess the perception of banks towards lending to smallholder farmers in Tanzania

4.1   Description of the Respondents

The research involved the collection of data from both the supply side of finance that is banks around Morogoro Region and the demand side that is smallholder farmers living in Mvomero District.

4.1.1   Description of Smallholder Farmers

The study involved a total number of 162 smallholder farmers from Mvomero District in an effort to gather valuable information intended to answer the research questions. 102 Smallholder famers that is 63% of the total sample were Females while 60 smallholder farmers (33%) were Males (See Figure 4.1). 57 Smallholder farmers accounting for 35.2% of the total sample were aged between 36 – 45 years old (See Figure 4.2). 111 of

the smallholder farmers (64 Female and 47 Males) that is 68.5% of the total sample were married, while 41 accounting for 25.3% of the total sample were single.

Figure 4.1: Gender
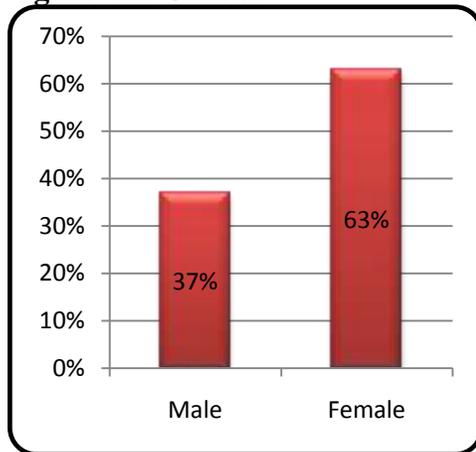
Figure 4.2: Age
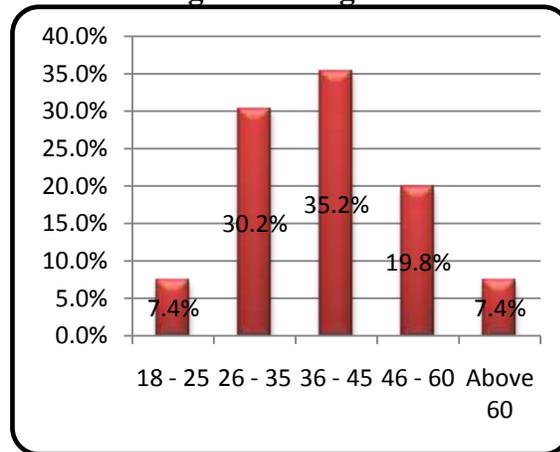
Source: Primary Data

26 – 35 and 46 – 60 age categories are the second highest ranges with a total number of 49 and 32 smallholder farmers respectively. Of the 57 total number of the highest age category of smallholder farmers, 34 smallholder farmers are females (59.6%) while 23 are males (40.4%) (See Table 4.1).

Table 4.1: Gender - Age Cross Tabulation

			Age					Total
			18 - 25	26 - 35	36 - 45	46 - 60	Above 60	
Gender	Female	Count	8	34	34	21	5	102
	Male	Count	4	15	23	11	7	60
Total		Count	12	49	57	32	12	162

Source: Primary Data

Majority of respondents that is 91 smallholder farmers (61 Females and 30 Males) had primary level of education accounting for 56.2% of the total sample, followed by 43 smallholder farmers (26 Females and 17 Males) at the secondary level of education that

is 26.5% of the total respondents; and only 5 smallholder farmers (2 Females and 3

Table 4.2: Gender - Education Cross Tabulation

			Education					Total
			No formal education	Primary	Secondary	Diploma	Bachelor	
Gender	Female	Count	11	61	26	2	2	102
	Male	Count	9	30	17	1	3	60
Total		Count	20	91	43	3	5	162

Males) representing 3.1% of all respondents had bachelor degree level of education.

Source: Primary Data

Younger smallholder farmers had at least primary school level of education while of the 12 smallholder farmers (5 Females and 7 Males) within the age category of 60 years and above, the majority 11 lacked formal education (See Table 4.3)

Table 4.3: Age - Education Cross Tabulation

			Education					Total
			No formal education	Primary	Secondary	Diploma	Bachelor	
Age	18 - 25	Count	0	5	7	0	0	12
	26 - 35	Count	0	26	20	2	1	49
	36 - 45	Count	1	38	14	1	3	57
	46 - 60	Count	8	21	2	0	1	32
	Above 60	Count	11	1	0	0	0	12
Total		Count	20	91	43	3	5	162

Source: Primary Data

4.1.2 Description of Banks and Bank Officers

The study involved data inquiry from banks where by the researcher conducted an interview with bank officers from three different banks. Of the three bank personnel interviewed, two of them were Branch Managers and the other was a commercial

manager. All interviewees were males with at least bachelor degree level of education and at least eight years of experience in the banking industry. Two banks had a branch each in Mvomero District located at Mtibwa and Mvomero centers.

4.2 Raising of Bank Credit

The study also gathered information concerning raising of bank credit by smallholder farmers so as to determine if they have access to bank credit, obstacles to and determinants of access to bank credit. To start with, smallholder farmers were asked to mention the source of capital invested in their farming activities as presented hereunder;

4.2.1 Sources of Capital for Farming Activities

Findings show that almost half of smallholder farmers (79) that is 48.8 percent finance their farming activities using internal sources. On the other hand, only 3 smallholder farmers that is 1.9%, of the total sample finance their farming activities using bank credit. Bank credit is the least source of capital used by farmers even in comparison to other sources of external funds such as MFIs and Cooperative unions (See Figure 4.3).

Figure 4.3:   Sources of Capital for Farming Activities
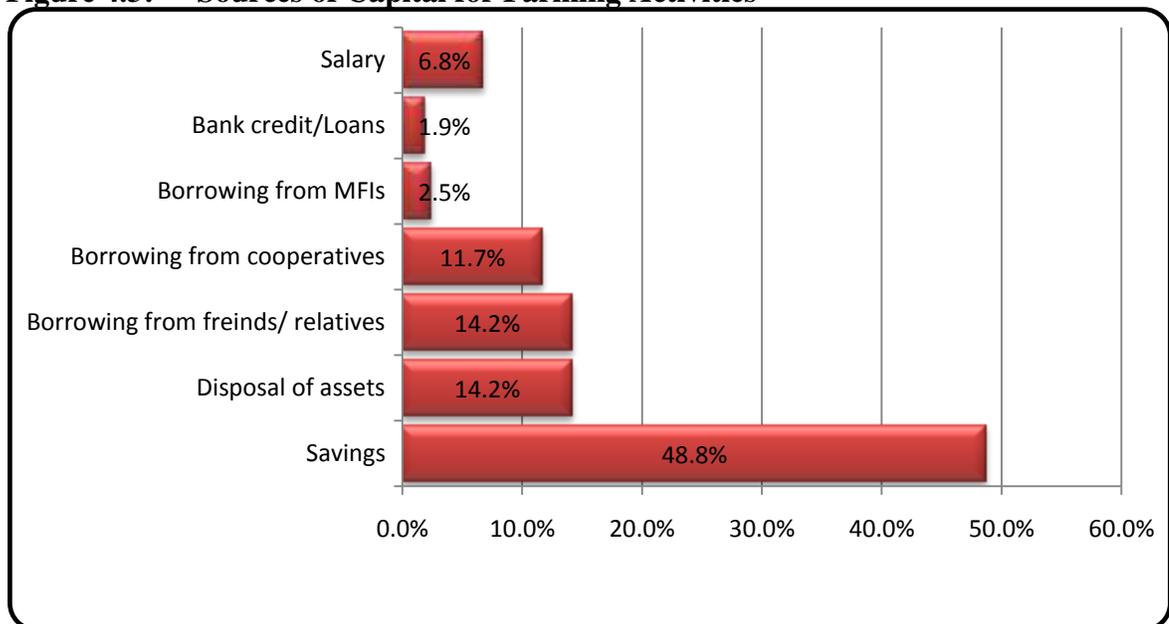
Source: Primary data
4.2.2   Access to Bank Credit

Of the 162 farmers, only 18 (12 Females and 6 Males) that is 11.1% have ever applied for a bank credit.14 smallholder farmers (9 Females and 5 Males) had gained access to finances from banks accounting for 8.6% of the total sample (See Figure 4.4; Figure 4.5 and Table 4.5).

Figure 4.4: Applied for Bank Loan   **Figure 4.5: Access to Bank Credit**
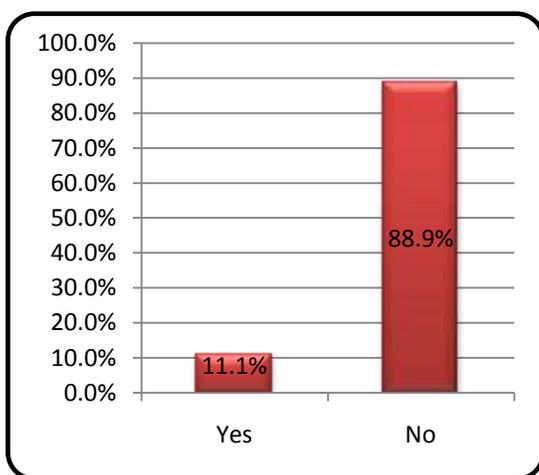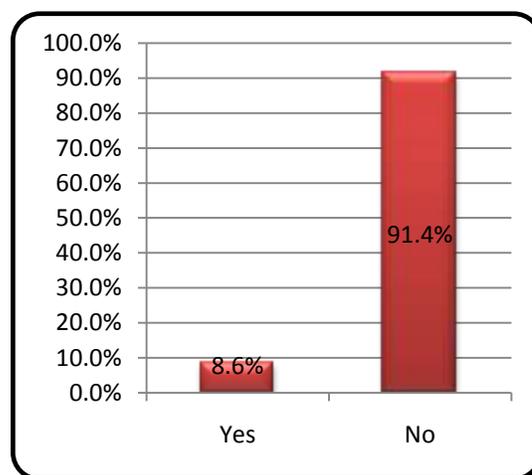
Source: Primary Data

Table 4.4: Gender - Applied for bank loan and Access to Bank Credit Cross Tabulation

			Applied for bank loan		Total	Access to Bank Credit		Total
			No	Yes		No	Yes	
Gender	Female	Count	90	12	102	93	9	102
	Male	Count	54	6	60	55	5	60
Total		Count	144	18	162	148	14	162

Source: Primary Data

Education appears to be an important variable that banks use in advancing credit to smallholder farmers. Of the 5 Smallholder farmers with bachelor degree level of education, all (100%) had access to bank credit. On the contrary, none of the smallholder farmers without formal education had access to bank credit. Out of the 90 smallholder farmers with primary level of education, only 1 that is 1.1% had access to bank credit (See Table 4.7).

Table 4.5: Access to Bank Credit - Education Cross Tabulation

			Education					Total
			No formal education	Primary	Secondary	Diploma	Bachelor	
Access to Bank	No	Count	20	90	37	1	0	148
Credit	Yes	Count	0	1	6	2	5	14

Source: Primary Data

Table 4.6: Access to bank credit - Other non farming activities and value of assets Cross Tabulation

		Other non farming activities		Total	Value of assets invested in farming activities					Total
		No	Yes		Below 500,000	500,000 - 1 Million	1 - 3 Million	3 - 5 Million	5 - 10 Million	
Access to Bank	No	86	62	148	105	32	9	1	1	148
Credit	Yes	0	14	14	1	2	5	5	1	14
Total		86	76	162	106	34	14	6	2	162
Total		Count	20	91	43	3	5	162

Source: Primary Data

All the smallholder farmers (14) who had access to bank credit also had other sources of revenue other than farming however, this is not expected to be a good determinant used by the bank because close to half (41.9%) of smallholder farmers who lacked access to bank credit also had other sources of revenue other than farming. Furthermore, 80% of

the smallholder farmers who had access to bank credit had invested more than 1 million in their farming activities. Likewise, this is a good determinant of access to bank credit by smallholder farmers (See Table: 4.7).

Despite the fact that majority of smallholder farmers who had access to bank credit also invested more than 1 million shilling in their farming activities, 85.7% had secured loans by pledging salaries as collateral. Some of them applied for personal loans for their private establishments while part of it was injected into agricultural activities.

Other statistics relating to smallholder farmers who applied for bank loan are presented

Table 4.7: Summary of statistics of smallholder farmers who applied for a bank loan

	Mean	Mode	Variance	Standard deviation
Offered interest rate	18.44	18%	1.791	1.338
Repayment period in years	4.39	5	0.722	.850

as here under (See Table 4.8).

 Source: Primary Data

4.3   Logit Regression Model Results

4.3.1   Assumptions and Collinearity Diagnosis

The study employed the Logit Model Regression to establish the determinants of smallholder farmers' access to bank credit in Tanzania. The assumptions attached to running the Logit Regression Model were considered prior to its application. 162 smallholder farmers which is a substantial sample size was included in the study and descriptive statistics were run on each variable to ensure that each predictor did not suffer from a limited number of cases and hence, collapsing the categories with limited number of cases. No outliers were found in the study and also, collinearity diagnosis was conducted to check the existence of the Multicollinearity problem that is, high inter-correlations among independent variables.

The collinearity diagnosis was undertaken and results are as presented on the table labeled Coefficients using Tolerance and Variance inflation factor (VIF) values (See Table 4.8) with a 95% level of confidence interval. According to Pallant (2002), tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model and is calculated using the formula $1-R^2$ for each variable. Multicollinearity exists when the value is less than 0.10. The other value given is the VIF which is the inverse of the Tolerance value. VIF values above 10 would be a concern here indicating multicollinearity.

Therefore as portrayed in Table 4.9 below, it can be concluded that there was no high inter-correlations among independent variables, as independent variables had a Tolerance value below 0.10, and neither was there a variable with a VIF value above 10.

Table 4.8: Collinearity Diagnostics

Coefficients[a]

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Sex	0.820	1.219
Age	0.497	2.012
Education	0.539	1.854
Marital Status	0.751	1.331
Distance to a bank [Proximity]	0.830	1.204
Purpose of farming	0.362	2.761
Farm size in acres	0.712	1.405
Farming experience in years	0.720	1.389
Value of assets invested in farming activities	0.480	2.082
Income from Farming Activities	0.409	2.443
Other Non Farming activities	0.588	1.701
Lending Procedures [Procedures]	0.769	1.300
Collateral	0.865	1.155
Interest rate	0.787	1.271
Information	0.859	1.165

a. Dependent Variable: Access to Bank Credit

4.3.2 The Model Output

To achieve the mentioned objective above, fifteen Variables (See Table 3.2) were hypothesized to determine smallholder farmers' accessibility of bank credit. Only two variables had a significant influence on smallholder farmers' accessibility of bank credit. The remaining nine variables had negligible influence on smallholder farmers' access to bank credit while four variables did not show variation among sample smallholder farmers and hence were not retained in the model.

The Logit model was run using IBM SPSS statistics where access to bank credit was coded as 0 = No (for smallholder farmers without access to bank credit and 1 = Yes (for smallholder farmers with access to bank credit). At Block 0: Beginning Block, from the classification table (See Table 4.10), it shows that out of 162 smallholder farmers, 148 were predicted and observed by the IBM SPSS Statistics to have no access to bank credit and 14 smallholder farmers were predicted and observed to have access to bank credit. It also shows that the overall percentage of correctly classified cases is 91.3 percent. In this case IBM SPSS Statistics classified (guessed) that all cases would not have access to bank credit only because there was a higher percentage of smallholder farmers answering No to the question).

Table 4.9: Block 0 Classification Table[a,b]

Observed		Predicted		
		Access to Bank Credit		Percentage
		No	Yes	Correct
Access to Bank Credit	No	148	0	100.0
	Yes	14	0	0.0
Overall Percentage				91.3

a. Constant is included in the model.

b. The cut value is .500

Source: Primary Data

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Through the Omnibus Tests of Model Coefficients, the model appears to perform as well as the results obtained for Block 0, which has none of the predictors entered into the model. In Block 0: Beginning Block the model had a highly significant value of 0.000 which was also found in the Block 1. Omnibus Tests of Model Coefficients is also referred as a suitable test for the model and Sig. value should be less than 0.05. Additionally, the Omnibus Tests of Model Coefficients had a Chi Square value of 85.810 with 5 degrees of freedom. Therefore, the model with the set of independent variables is better than SPSS's original guess shown in Block 0, which assumed that every smallholder farmer would report not having any access to bank credit.

The Hosmer Lemeshow Test which is the most reliable test of model fit available in SPSS also supports the model as worthwhile. In this study, the chi-square value for the Hosmer Lemeshow Test is 0.359 with a significant level of 1.000. This value is larger than .05, therefore indicating support for the model (See Table 4.11). Note that, for the Hosmer Lemeshow Goodness of Fit Test poor fit is indicated by a significance value less than .05, so to support the model, a significance value must be greater than .05 (Pallant, (2000).

Table 4.10: Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	0.359	8	1.000

Source: Primary Data

The Cox & Snell R Square and the Nagelkerke R Square values available from the Summary Model provide an indication of the extent of variation in the dependent variable explained by the model. The two values in this study are 0.413 and 0.926, suggesting that between 41.3 percent and 92.6 percent of the variability is explained by this set of variables.

From the Block 1's Classification table obtain information about how well the model is able to predict the correct category for each case van extracted. In this study, the model correctly classified 98.8 percent of cases overall, showing an improvement over the 91.3 percent in Block 0 when compared.

The other table produced from the logit regression model output is the Variable in the equation table which provides information about the significance of each independent variable, the contribution of each variable to the equation and for this study and the determinants of access to bank credit by smallholder farmers. The table provides information about the Wald Test to show the contribution of each variable to the model; the B values used in an equation to calculate the probability of a case falling into a specific category and the direction of the relationship and; the odds ratios (OR) for each independent variable via an Exp (B) column.

In Block 1, it was found that out of fifteen variables which were tested, only two variables were found significant each at a 95% confidence interval. These variables are Value of assets invested in farming activities and Education. Therefore in this study, the major factors influencing whether a person reports having access to bank credit are Value of assets invested in farming activities and Education. Other remaining variables did not contribute significantly to the model.

Value of assets invested in farming activities was found significant at a 95% degree of Confidence Interval with a Sig. Value of 0.01. This variable has a Wald test value of 6.611 above all other variable and a positive B value of 3.109. This suggests that smallholder farmers who declared having invested more assets in their farming activities were more likely to answer yes to the question whether they considered they had access to bank credit. On the other hand, this variable has an OR value of 22.396. Since this value is above 1, this implies that the odds of a smallholder farmer answering Yes, they had access to bank credit was 22.396 times higher for a smallholder who reports having

invested more assets in farming activities than for a smallholder farmer who did not, all other factors being equal.

The second significant variable is Education at 5 percent confidence interval witha Sig. value of 0.05. The variable had a Wald test value of 3.799 and a positive B value of 5.563. This suggests that smallholder farmers who said they had higher level of education were more likely to answer yes to the question whether they considered they had access to bank credit. Furthermore, Education has an OR value of 260.542 which means that the odds of a smallholder farmer answering Yes, they had access to bank credit is 260.542 times higher for a smallholder who reports having higher level of education than those without with all other factors being equal.

Other nine variables were found to be less significant within the 95% level of confidence interval. These include Gender, Distance to a bank [Proximity], Farm size, Experience, Income from farming activities, marital status, interest rate, lending procedures [Procedures] and collateral. The Wald test values, B values and OR values for these variables are presented in the following table (See Table 4.13).

Table 4.11: Results of Logit Analysis on Bank Credit Accessibility

Variable	B	Wald	Sig.	Exp(B)
Gender	-5.365	2.986	.084	.005
Education	5.562	3.799	.050	260.542
Distance to a bank [Proximity]	1.391	.911	.340	4.020
Farm Size	-.666	.044	.833	.514
Farming Experience	-3.790	1.875	.171	.023
Value of Assets invested in farming activities	3.190	6.611	.010	22.396
Income from farming activities	15.068	.711	.399	3497533.589
Marital Status	.049	.001	.977	1.050
Interest rate	19.423	.000	.996	272401545.567
Lending Procedures [Procedures]	12.567	.000	.998	286824.269
Collateral	9.294	.000	.999	.000
Constant	54.572	.000	.996	.000

Source: Primary Data

The remaining four variables did not show any variation among the sample of the smallholder farmers under consideration, and were thus dropped from the model. These include Income from non farming activities, Age, Information and Purpose of farming.

4.4 Influence of Bank Credit on Performance

The study was also conducted to analyze the influence of access to bank credit on the performance of smallholder farmers in Tanzania. In this case, performance was measured using two variables namely; increase in output level and increase in returns from farming activities by each smallholder farmer. Due to the small number of cases with access to bank credit, descriptive statistics analysis was suitable to achieve the concerned objective.

4.4.1 Access to Bank Credit and Output Level

Results imply that out of the 14 smallholder farmers who had access to bank credit, all (100%) agreed that bank credit can increase the output level of their farming activities. Corresponding to that, 11 smallholder farmers (78.7%) strongly agreed to the increase of output level following accessibility of bank credit (See Table 4.14). Note that, apart from the majority of smallholder farmers who had access to bank credit strongly agreeing to the influence of bank credit on output level, 119 smallholder farmers (80 percent) out of 148 who reported lacking access to bank credit also agreed to it.

Table 4.12: Access to Bank Credit - Increase in Output Cross tabulation

		Increase Output Level					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Access to Bank Credit	No	8	18	3	53	66	148
	Yes	0	0	0	3	11	14
Total		8	18	3	56	77	162

Source: Primary Data

4.4.2 Access to Bank Credit and Increase in Annual Returns

Increase in annual returns is another variable that is used to measure the influence of access to bank credit on the performance of smallholder farmers. As it was in the preceding variable, 100 percent of smallholder farmers who had access to bank credit agreed that increase in annual return is highly influenced by the availability of bank credit, while the percentage of those who strongly agreed were 85.7 percent thus higher than that in the output level (See Table: 4.15).

Table 4.13: Access to Bank Credit - Increase in Annual Returns Cross Tabulation

		Increase in annual returns				Total
		Strongly Disagree	Disagree	Agree	Strongly Agree	
Access to Bank Credit	No	8	16	55	68	147
	Yes	0	0	2	12	14
Total		8	16	57	80	161

Source: Primary Data

Apart from assessing the performance, the study also assessed the influence of access of credit on efficiency using a number of variables namely; Recruitment of skilled labour, Use of technology, Use of fertilizers and chemicals, Increase in farm size and Market Expansion. Results show that smallholder farmers agreed that access to bank credit influences Recruitment of skilled labour, Use of technology, Use of fertilizers and chemicals, Increase in farm size, and Market Expansion by 55.6 percent, 78.4 percent, 92.6 percent, 77.1 percent and 72.8 respectively (See Table 4.16).

Table 4.14: Influence of Access to bank credit on Efficiency

Variable Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Enabling Recruitment of Skilled Labour	20 (12.3%)	46 (28.4%)	6 (3.7%)	58 (35.8%)	32 (19.8%)
Facilitating the use of technology	1 (0.6%)	31 (19.1%)	3 (1.9%)	76 (46.9%)	51 (31.5%)
Enabling the use of fertilizers and chemicals		12 (7.4%)		84 (51.9%)	66 (40.7%)
Increase in farm size	5 (3.1%)	28 (17.3%)	4 (2.5%)	30 (18.5%)	95 (58.6%)
Market Expansion	15 (9.2%)	26 (16%)	3 (1.9%)	65 (40.1%)	53 (32.7%)

Source: Primary Data

4.5 Obstacles Encountered by Smallholder Farmers in Raising Bank Finance

Another objective that was accomplished by the study was to examine the obstacles encountered by smallholder farmers in raising bank finance. A total number of nine obstacles were put in likert scale format for selection of how challenging they considered the problem while allowing smallholder farmers to mention other obstacles which did not fall in the list of obstacles provided. The results were found and analyzed using the descriptive statistics technique mainly by the frequencies and percentages as they are presented in the following table (See Table 4.14).

Collateral was mentioned as the leading obstacle as 152 smallholder farmers that is 93.8 percent of the total sample agreed that it does hinder their accessibility of bank credit. Out of 152 smallholder farmers who agreed that collateral is an obstacle to accessibility of bank credit, almost 70 percent strongly agreed.

The second obstacle that was stated as hindering the accessibility of bank credit to smallholder farmers is the lack of information about how banks issue loans. A total number of 154 smallholder farmers that is 95% of the total sample pointed to it as an obstacle while 100 smallholder farmers (65%) strongly agreed.

Furthermore, results show that smallholder farmers mentioned distance to banks as the third leading obstacle as 130 smallholder farmers (80%) of the total sample did agree to

the statement while the total number of smallholder farmers who strongly agreed was 71 smallholder farmers accounting for 54.6%. In one way or another, this can also be a reason for most of smallholder farmers' lack of the necessary information on how banks disburse credit.

On the other hand, other obstacles such as complex lending procedures and interest rates also obstacles at percentages of 80% and 70% respectively, while grace period, lack of business plan, lack of education and informality were not significant obstacles as they accounted for percentages below 50% such as 45.1%, 45.1%, 13.6% and 48.7% (See Table 4.14).

Table 4.15: Obstacles to access to bank credit by smallholder farmers

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Distance to a bank	8 (4.9%)	23 (14.2%)	1 (0.6%)	59 (36.4%)	71 (43.8%)	162 (100%)
Lending Procedures		14 (8.6%)	18 (11.1%)	71 (43.8%)	59 (36.4%)	162 (100%)
Collateral		4 (2.5%)	6 (3.7%)	46 (28.4%)	106 (65.4%)	162 (100%)
High interest rate		14 (8.6%)	29 (17.9%)	81 (50%)	38 (23.5%)	162 (100%)
Grace period	6 (3.7%)	21 (13%)	61 (37.7%)	48 (30.2%)	25 (15.4%)	162 (100%)
Information	1 (0.6%)	7 (4.3%)		54 (33.3%)	100 (61.7%)	162 (100%)
Business plan	8 (4.9%)	25 (15.4%)	51 (32.1%)	59 (36.4%)	18 (11.1%)	162 (100%)
Education	43 (26.5%)	76 (47.5)	20 (12.3%)	19 (11.7%)	3 (1.9%)	162 (100%)
Informality	12 (7.4%)	48 (29.6%)	23 (14.2%)	58 (35.8%)	21 (13%)	162 (100%)

Source: Primary Data

4.6 Perception of the Banks on Lending to Smallholder Farmers in Tanzania

On the other hand the study was conducted to assess the perception of banks on lending to smallholder farmers in Tanzania. The perception of the banks was mainly assessed using two factors, namely, profitability and the degree of risks involved in lending to Smallholder farmers and therefore, respondents were asked to identify their perception in terms of risk and profitability regarding lending to smallholder farmers.

The study revealed that banks perceive smallholder farmers' segment to possess a high degree of risks. On the demand side, a number of factors were highlighted by bank officers to have contributed to such levels of risk namely; lack of collaterals that will be used to compensate the outstanding balances in case of defaults; heavy dependency on unpredictable weather; poor farming techniques and plantation of seasonal crops and lately conflicts between farmers and pastoralists. Also on the supply side, lack of banks' experienced and qualified agricultural expertise to analyze smallholder farmers' projects highly increases the risks in lending to them. It was discovered that banks employed a number of similar techniques to mitigate the risks of lending to smallholder farmers and these involve; the use of collaterals, insurance and the use of credit bureaus to evaluate farmers' borrowing history (if they ever made any defaults) and to analyze the ability to repay the principal and interest rate.

In reference to profitability, it was found that all interviewed banks personnel perceive smallholder farmers segment of agriculture as highly profitable and yet very few banks provide financial services to the segment and particularly lending services. Currently, banks that serve the smallholder farmers segment provide loans to farmers who cultivate commercial crops thus marginalizing farmers who grow seasonal products and yet bank officers acknowledged that the demand is still very outsized despite marginalization. NMB Bank is looking forward to lending to smallholder farmers growing maize to expand its portfolio and thus profitability. Moreover, it was found that banks are willing to provide loans to smallholder farmers growing seasonal products if the farmers will employ reliable irrigation techniques in their activities and stop depending on rain.

4.7   Respondents' Recommendations

Smallholder farmers were asked to provide recommendations on what could be done in order to improve their accessibility of bank credit. Various opinions were offered and some of them reflected solutions to overcoming obstacles. These recommendations were grouped into 11 different categories. Majority of smallholder farmers that is 52 accounting for 32.1 percent confirmed that they lacked farming literacy and therefore

requested the government to offer them training in advanced technologies of farming. On the other hand, a good number of smallholder farmers recommended that there was a need for financial literacy. This is important because lack of necessary financial management skills may result to poor management of bank loans and confiscation. Other recommendations are presented on Table: 4.18 below.

Table 4.16: Smallholder Farmers Recommendations

Recommendation	Frequency	Percent
Farming Literacy	52	32.1
Financial Literacy	31	19.1
Loan Priority to Irrigation Farming	4	2.5
Farmers Bank	1	.6
Banks should reduce interest rate	12	7.4
Joint Liability	9	5.6
Land Registration	4	2.5
None	23	14.2
Easy conditions	5	3.1
Banks should start operating in Rural areas	4	2.5
Others	17	10.5
Total	162	100.0

Source: Primary Data

Smallholder farmers recognize education in terms of both acquiring modern farming skills and financial management skills is necessary for them to borrow from the banks and use fund for farming activities. Modern techniques of farming will enable them to produce crops of a high quality and hence expand the market for their produce. But on the other hand, they also need financial management skills which will enable them to manage their business effectively, including managing the loan repayments.

The interest rates offered by the banks appear to be higher for smallholder farmers as 12 of them which equals to 7.4 percent of the surveyed population recommended for the banks to reduce their interest rates. Normally, banks charge the same rate of interest rates to individuals borrowing from all sectors and require them to make monthly repayment. The higher rate of interest makes it difficult for smallholder farmers to meet

their repayments obligations in all the required months, not to mention the production for the majority of them is seasonal.

Moreover, smallholder farmers recognize joint liability technique of lending to be a helpful technique which will enable them to access credit from the banks and make the repayment without problems. This technique is extensively used by credit cooperatives, and it dispenses the principal and interest repayment obligations among smallholder farmers.

Bank officers also recommended that in order for smallholder farmers to easily access bank credit, they should consider joining cooperative unions such as SACCOSs and AMCOS. This will create a joint liability among members and therefore reduce the degree of defaults to banks.

Moreover, they recommended that smallholder farmers should quit depending on rain and hence employ irrigation scheme techniques in their farming activities. It was further recommended that smallholder farmers should quit producing seasonal products and engage themselves in the production of commercial crops such as Cocoa, Coffee, and Paddy. Furthermore, smallholder farmers need to be provided with education in terms of financial literacy and modern farming skills in order to improve their performance in the agribusiness sectors. Last but not least, bank officers recommended that the government should help smallholder farmers to obtain necessary documentations that will facilitate some assets' usage as collaterals for instance land.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.0   Introduction

This chapter presents the discussion of the findings obtained during the process of data collection from both smallholder farmers and bank personnel. The chapter further provides discussions regarding the achievement of objectives of the study and also answers research questions stated in chapter one.

5.1   Factors that Affect Smallholder Farmers' Access to Bank Credit in Tanzania

One of the objectives of this study was to determine factors that affect smallholder farmers' access to bank credit in Tanzania. In order to achieve this, data was collected from 162 smallholder farmers in Mvomero District. It was found that given the sample, 48.8 percent of smallholder farmers finance their farming activities using internal funds, 14.2 percent borrowed from friends/ relatives and 1.9 percent secured bank loans. These findings are consistent with similar discoveries made by InfoDev (2012) who reported that 48 percent of the investment structure of agriculture in Tanzania is derived from internally available funds, 14 percent from family/ relatives and 4 percent from banks.

Of the 162 smallholder farmers involved in this study, only 14 that is 8.6 percent of the total sample had access to bank credit. These findings support similar findings made by Mukiri (2008) who upon examining the determinants of access to bank credit by micro and small enterprises in Kenya found that out of 218 small manufacturing enterprises in Nairobi, only 8 percent of had access to bank credit.

Logistic regression analysis was employed to ascertain factors that affect smallholder farmers' accessibility to bank credit as used in many other studies to include; (Obisesan, (2013); Yehuala (2008); Chauke et al (2013); Dzadze et al (2012); Auma and Mensah

(2014)). In order to determine smallholder farmers' accessibility to bank credit, the variable as to whether smallholder farmers had access to bank credit or not was hypothesized on fifteen independent variables; namely, Gender, Age, Education, Marital Status, Distance to a bank [Proximity], Purpose of farming, Farm size in acres, Farming experience in years, Value of assets invested in farming activities, Income from Farming Activities, Other Non Farming activities, Lending Procedures [Procedures], Collateral, Interest rate and Information. Four variables were collapsed as they did not show any variation on the smallholder farmers' sample selected and these include; Income from non farming activities, Age, Information and Purpose of farming.

Only 2 independent variables out of the 15 hypothesized significantly affected smallholder farmers' accessibility of bank credit. This is clearly indicated in the Logistic regression model provided on Table 4.13. The 2 variables were Value of assets invested in farming activities and Education.

It was further established that Value of assets invested in farming activities has a positive relationship with access to bank credit. This implies that smallholder farmers who have invested more assets in their farming activities have high chances of accessing bank credit. This can be adduced to capacity and collateral of the Five Cs of credit theory also approaches used by banks when providing loans. More value of assets invested in farming activities means high capability of smallholder farmers to produce trustworthy outputs to generate adequate cash flows to repay the debt; it equally implies the availability of security and secondary repayment sources of the loan. These findings are consistent with those of Chauke et al (2013) who ascertained that value of assets was one among the six factors which significantly affected smallholder farmer's access to credit sources offered by banks in the Capricorn District Municipality of Limpopo Province, South Africa.

The second and the last variable of significance is Education. Having a higher level of education increases the odds in favor of access to bank credit by a factor of 260.542.

This could be attributed to high degree of financial literacy as the more educated the smallholder farmer is, the more skills and knowledge is attained in management and financial aspects. This also caters for character as one of the 5Cs, where lending institutions will assess the business owner's management ability, experience in the industry, business references, and personal credit and integrity. These findings are consistent with that of Dzadze et al (2012) and Obisesan (2013) who also found that Education is a significant determinant of smallholder farmers' credit access.

Other variables were found less significant due to a number of different factors and among such variables is the distance to a bank [Proximity]. According to Hussien (2007), farm households are discouraged to borrow when credit sources are located further away from their farming operations. In this study, it was hypothesized that smallholder farmers' access to bank credit would be enhanced by the closeness of bank locations however; it was found that there is only one CRDB branch at the study area. Despite having one bank branch, majority of smallholder farmers are located further away for instance in Mlali and Mngeta and had never even applied for a bank loan. As a result, distance to a bank [Proximity] as a variable was found to have a less significant influence on access to bank credit.

On the other hand collateral was also among the variables which was found less significant. It was hypothesized that the higher the value of collateral, the more chance that a smallholder farmer would have access to bank credit. In this study, 86% of smallholder farmers who had access to bank credit secured loans against their salaries. Salaries guarantee the repayment of debts owed however, lack value and in this case less consideration is put on the value of collaterals consequently, collateral had less significant influence on access to bank credit.

Gender was also one of the variables found less significant. It was expected and so hypothesized that Male smallholder farmers had more access to bank credit than their Female counterparts. Contrary however, the study revealed that Female smallholder

farmers (64.30%) had more access to bank credit in comparison to their male counterparts (35.70%), it was also interestingly found that the difference between the two was too insignificant to influence access to bank credit at 95% confidence interval. Lending procedures [Procedures] was also found less significant because majority of sampled smallholder farmers (89%) had never applied for a bank loan and therefore unfamiliar with the complexity or the simplicity of the lending procedures.

Furthermore, interest rate was also found to be less significant in influencing smallholder farmers' access to bank credit. This is because despite the fact that majority of smallholders lacked access to bank credit, there was an insignificant difference between offered interest rates to those who had access to bank credit. Marital status was never mentioned and so denied by other bank officers to be one among the criteria that they consider when issuing loans to smallholder farmers and therefore, it was expected that this variable would not significantly influence access to bank credit.

Income from farming activities was also found to be less significant. It was hypothesized that higher level of income from farming activities implied the ability of a smallholder farmer to repay the principal and the interest owed to the bank. It was however found that currently, despite the fact that 53.3% of smallholder farmers with access to bank credit earned over Tshs. 2 million annually, 86% of them secured loans against their salaries implying thus repayment of principal and interest was guaranteed. As a result, income from farming activities less significantly influenced access to bank credit.

Farm size and farming experience were also found to be less significant in influencing access to bank credit by smallholder farmers. These two variables were associated to the age of the smallholder farmer. The older the smallholder farmer becomes, the more experience gained however the lesser the number of acres cultivated. Only 7.4% of the sampled smallholder farmers were below 25 years old while 63% were above 35 years old. On the other hand farming experience had an insignificant influence on accessibility to bank credit as sampled smallholder farmers lacked modern farming skills thus, the

experience they possess does not count as it originates from traditional subsistence farming and therefore lacks impact on bank credit accessibility.

5.2 Influence of Access to Bank Credit on the Performance of Smallholder Farmers in Tanzania

The study was also conducted to analyze the influence of accessibility of bank credit on the performance of smallholder farmers in Tanzania. Performance was measured using output from production and the increase in annual returns from sales. This type of measurement was also adopted by Byaruhanga (2013) who conducted a study to examine the empirical relationship between credit terms, credit accessibility and the performance of agricultural cooperatives in Rwanda were performance of the agricultural cooperative was measured in terms of profitability and productivity.

The analysis was conducted using descriptive statistics and results present a 95 percent confidence interval, Access to bank credit and output level variables had chi square of 0.158 while Access to bank credit and increase in annual returns had a chi square value of 0.042. 14 smallholder farmers who had access to bank credit (100%) agreed that it increased their farming output level, 78.7% of them strongly agreed to the increase of output level following accessibility of bank credit.

Likewise in regard to increase in annual returns, 100 percent of smallholder farmers who had access to bank credit agreed that increase in annual returns was highly influenced by the availability of bank credit. It should be noted that the percentage of those who strongly agreed was 85.7 percent higher than those in the output level. It can be safely asserted therefore that the performance of smallholder farmers is highly enhanced by the availability of bank credit. These findings are consistent with those made in a similar study by Byaruhanga (2013) who found that there was a significant positive relationship between credit accessibility and performance of agricultural cooperatives (r = 0.419, P< 0.01) and thus concluded that credit accessibility highly enhances the performance of agricultural cooperatives.

The influence of access to bank credit was also assessed basing on the efficiency of smallholder farmers in their daily production activities using other five variables namely; Recruitment of skilled labour, Use of technology, Use of fertilizers and chemicals, Increase in farm size and Market Expansion. Smallholder farmers affirmed that access to bank credit has an influence on all the five variables with increase in farm size as the leading variable seconded by use of technology. Despite of the affirmation however, it was interestingly discovered that the Recruitment of skilled labour variable ranked last with the minority percentage (See Table 4.16). This could be highly affected by the level of education of respondent as the lack of or limited education impeded their ability to appreciate the need to utilize skilled personnel in production. 53.1 percent of smallholder farmers with primary and lack of formal education disputed that the variable in question influenced accessibility to bank credit.

5.3   Obstacles Encountered by Smallholder Farmers in Raising Bank Finance in Tanzania

Another objective of this study was to examine the obstacles encountered by smallholder farmers in raising bank finance. Five main obstacles were highly regarded by smallholder farmers as leading predicaments in their efforts to access bank credit. These problems are Lack of collaterals, Lack of information about how banks issue loans, Distance to a bank, Complex lending procedures and High interest rate. Note that, Lack of collaterals, Lack of information about how banks issue loans, Distance to a bank and High interest rate were also regarded as reasons as to why smallholder farmers were reluctant to apply for loans by 75 percent, 53.5 percent, 75 percent and 63.2 percent respectively.

These findings are consistent with those of Dzadze et al (2012) who found that out of five main obstacles revealed by the study, non guaranteed application was the second leading obstacle. In a study were he reviewed small Farmer access to agricultural credit in Nigeria, Badiru (2010) citing Okojie et al (2010) and Philip et al (2009) reported collateral, information, high interest rate and the short-term nature of loans with fixed

repayment as some among the major obstacles attached to the procedure of accessing credits from banks and formal institutions.

Complex procedures used by commercial banks in lending to smallholder farmers and lack of collaterals were also identified by Badiru (20010) as some among the leading obstacles facing small scale farmers. Similarly in this study, collateral was also identified by the commercial manager of NMB as the main reason for the rejection of most loan applications made by smallholder farmers.

Lack of business plans was another major obstacle hindering majority of smallholder farmers' accessibility of bank credit. Dzadze et al (2012) also discovered that the lack of business plans also limited viability of proposed projects. Results in this study show that 54.9 percent of the sample disagreed that lack of a business plan was actually an obstacle. The controversy in findings can be attributed to two factors namely; the number of smallholder farmers who have never applied for a bank loan before and the level of education of smallholder farmers who disagreed with the variable.

5.4   Perception of the banks towards lending to smallholder farmers in Tanzania

This study also sought to assess the perception of banks regarding lending to smallholder farmers. Three banks officers from three different banks were interviewed to achieve the objective. These banks are NMB, BOA Bank and BARCLAYS. It was found that only NMB lends directly to smallholder farmers and was the only bank with a separate unit in managing smallholder farmers' issues, the unit is called Agribusiness Banking. The other two banks appear to be lending to the agriculture sector prior to entering into a memorandum of understanding with other agricultural institutions such as PASS, PLAN international and TAPP that lend inputs to farmers.

Policies, Mission and vision of each bank were the major driving factors for their involvement or the lack of it with smallholder farmers. Apart from NMB which lends to smallholder farmers, BARCLAYS current target is gas and oil, the bank however looks

forward to penetrating the agriculture sector in the near future, BOA Bank however targets SMEs.

The 5Cs model of lending was used to lend to smallholder farmers by NMB, whereby the bank assesses the Capacity and Capital in terms of the area coverage owned by the farmer which should be at least 10 acres. BARCLAYS considers the viability of the project depicted in the business plan and financial projections as the main prerequisite, which is also considered by NMB however on above 50 Million applications, while BOA Bank requires a farmer to be in a group or SACCOS recognized by COWASCO. COWASCO is considered to be a credit bureau for farmers as it assesses all SACCOSs in Morogoro to which banks lend funds.

Every bank considers the agriculture sector as profitable and hence those currently not lending to smallholder farmers are putting plans in place to enter into such a market segment in the near future. Furthermore, NMB and BOA Bank consider the risk in the agriculture sector to be very high however, a number of techniques have been installed to mitigate the risks such as insurance products and collaterals.

Banks have encountered several challenges while lending to smallholder farmers for instance, banks lack expertise in the field of agribusiness as they need to assess whether a certain farming project that is expected to be conducted will yield the targeted output. Second, most of the products that are currently issued by the banks require a monthly repayment of the debt farmers find difficult to service. Third, most of farmers do not have business plans and when they do, they are not viable. And also, the conflict between smallholder farmers and pastoralists has posed a great risk in lending to smallholder farmers.

CHAPTER SIX

SUMMARY, CONCLUSION AND POLICY IMPLICATION

6.0   Introduction

This being the final chapter of the report, it presents the summary of the whole study, limitations encountered by the researcher during the process of conducting the study, conclusion, recommendations in relation to the relevant applied policies within the country and finally areas for further studies are suggested.

6.1   Summary of the study

Tanzania is one among the developing countries highly dependent on agriculture for her citizens' income generation and job creation. Despite the fact that the country has tremendous potential to support a thriving agriculture sector, a number of challenges still hinder the productivity and growth of the sector, lack of finance has been cited as the leading obstacle. This is attributed to the sector being highly dominated by smallholder farmers; at the same reluctance of financial institutions to offer financial services to such farmers also highly affects their farming activities.

This study aimed at determining the factors that affect access to bank credit by smallholder farmers in Tanzania; analyzing the influence of access to bank credit on the performance of smallholder farmers in Tanzania; examining the obstacles encountered by smallholder farmers in raising bank finance in Tanzania and assessing the perception of the banks towards lending to smallholder farmers in Tanzania. Data was collected from 162 farmers living in Mvomero District and from commercial bank personnel operating in Morogoro region

The study found that only 8.6% of surveyed smallholder farmers had access to bank credit. In reference to factors influencing access to bank credit, results show that Value of assets invested in farming activities and Education are the major significant factors or

determinants that affect smallholder farmers' access to bank credit. Also, access to bank credit was found to have a significant influence on the performance of smallholder farmers as it influenced both output and increase in annual returns.

Furthermore, it was found that lack of collaterals, lack of information about how banks issue loans, distance to a bank and high interest rate are major obstacles that hinder the accessibility of bank credit from the smallholder farmers' point of view, while collateral was also identified by bank officers as a leading cause of many loan application rejections. Moreover, despite the fact that majority of bank branches in Morogoro do not lend to smallholder farmers, banks perceive that the agriculture sector in general is a very profitable segment. Although the risk is high however, collaterals and insurance products are used to mitigate loss.

6.2   Conclusion

For Tanzania to develop considering that agriculture is the backbone of the economy, financial institutions need to channel their resources to smallholder farmers who account for more than 80 percent of the population in the agriculture sector. Availability of bank credit to smallholder farmers will enhance their efficiency and boost their performance through acquiring new technological tools, knowledge and skills regarding modern farming system. Therefore, it was found that despite the fact that smallholder farmers are the major producers in the agricultural sector, a sector that acts as an effective instrument in offering employment, alleviating poverty and enhancing food security, they have very limited access to credit from banks which are also the major suppliers of finance in the economy.

6.3   Recommendation and Policy Implication

 Recommendations as per findings were categorized into three different groups namely; to the government, to the smallholder farmers and to the banks as here under:-

6.3.1 To the Government

Establishing a Bank that Exclusively Caters for Agriculture

The government of Tanzania currently has the Tanzania Investment Bank (TIB) in place as a bank that provides medium and long term loans to investors in commercial agriculture and other sectors in the country. Recently however, this bank been restructured into three different units such as TIB Development Bank Limited - A development finance institution (DFI); TIB Corporate Finance Limited and TIB Rasilimali Limited. DFI division is dedicated to serving developmental projects such as construction of dams and roads, while TIB Corporate Finance Limited serves large corporate clients both public and private; TIB Rasilimali Limited acts as a registered brokerage company that purchases and sells corporate bonds on the Dar es Salaam Stock Exchange (DSE).

From the aforementioned, it can be safely put that TIB has paid little attention to the agriculture sector and yet agriculture is considered the backbone of Tanzania's economy. It is therefore suggested that the government should establish a separate unit from the TIB that shall be devoted to all financial matters relating to agriculture within the country. Therefore, there is a great need for the government to establish a national bank of agriculture that will exclusively serve agriculture and the agriculture sector in the country.

Strengthening Banking Policies

In the recent past, both foreign and local banks have emerged in the Tanzania banking industry. Most of these banks have however been established in Dar es Salaam and other cities so as to compete for commercial and corporate customers. As a result, rural banks which suffer from capital inadequacy remain the only banks in rural areas where smallholder farmers live and agriculture is mainly conducted. Therefore, bank policies should be strengthened especially on emerging banks for example, within a specified

number of years if not during the time of incorporation, they must have established a certain number of branches or agencies in other regions especially in rural areas.

Establishing a Credit Guarantee Scheme

Government should establish a credit guarantee scheme that will enable banks to provide loans to smallholder farmers at low risk. The credit guarantee scheme will function to examine applications made by smallholder farmers, transmit its approval and its proof of solvency to the banks. The scheme will also serve as a solution to collateral problems because farmers will apply for the loans in banks and if found to have insufficient collaterals, farmers can apply for guarantees in Credit Guarantee Schemes.

Establishing a System that Will Facilitate the Smooth Issuance of Certificate of Occupancy

Certificate of occupancy is among the major documents which are considered by banks when a customer intends to secure a loan using real estates. Majority of smallholders farmers do own real estate that can be used to secure loans however the challenge is, they do not have certificates for those estates and the system that is installed to obtain such a certificate is complex and bureaucratic. Therefore, the government should establish a system that will facilitate the smooth issuance of certificate of occupancy, it will be easy for smallholder farmers to overcome the collateral barrier and secure access to bank credit.

6.3.2 To Smallholders Farmers

Shifting from Subsistence to Commercial Farming

Majority of smallholder farmers have engaged in subsistence farming, a type of farming mainly intended for food production purposes. It is very challenging for banks to advance loans to this kind of farming because a lesser amount of cash flows if any will be generated from the output thus incapable of servicing the interest and the principal repayments. Therefore, it is recommended that smallholder farmers should shift from subsistence to commercial farming to exploit the full potentiality of bank financing.

Joint Liability Borrowing

On the other hand as identified from an experience with NMB Plc, it is very easy for banks to lend to SACCOS or groups of farmers than to individuals. Therefore, it is recommended that smallholder farmers should join SACCOS establish a union or a group that will increase their accessibility to bank credit and lessen the burden of repayment.

6.3.3 To Banks

Overcoming the Distance Barrier and providing Financial Literacy to Smallholder Farmers

The distance between banks and smallholder farmers is said to have accelerated the problem of lack of information on how banks disburse their loans to smallholder farmers. As a result, with the combined effects of low level of education, majority of smallholder farmers lack financial literacy. Despite the fact that banks provide loans to smallholder farmers inform of inputs and not cash, financial literacy is still important among smallholder farmers. It is recommended that banks should first establish several branches or agencies in rural areas and conduct a number of colloquium that will enhance farmers' financial literacy as smallholder farmers are their potential profitable customers.

Developing New Financial Products for Smallholder Farmers

Furthermore, following the fact that the majority of smallholder farmers do not possess standard collaterals to secure their bank loans, it is recommended that banks should develop special financial products such as loans that cater for the needs of smallholder farmers which will increase the amount of credit rendered to them and equally reduce the burden of repayments.

6.4   Limitations of the Study

The researcher experienced various challenges in the course of data collection and report writing some of which were manageable and others not. Below is a summary of the said challenges:-

Access to information is one among the major challenges that the researcher experienced during the whole phase of report writing. During data collection, the researcher expected to collect data from all bank credit managers of banks operating in Morogoro region. Some of the banks such as NBC, FINCA and EXIM Bank however declined to conduct interviews with the researcher, claiming that the interview could potentially jeopardize their confidentiality. some banks did not to the least provide any feedback on researcher's request to conduct an interview with their personnel on a timely manner as feedback was obtained at the preparation of the research report phase and such banks included; Diamond Trust Bank, Kenya Commercial Bank, Tanzania Postal Bank and CRDB Bank Plc. Also there was no database from which Mvomero district's data could be extracted for research purposes, especially information that relates to financing smallholder farmers around the region.

Time and Financial challenges could not be avoided by the researcher; as a result the researcher could not reach all the wards in Mvomero district. Majority of smallholder farmers involved in the study are living in Mlali, Mgeta, Mzumbe and Sangasanga. Very few smallholder farmers from other places could be reached as there was a time bound for the submission of the report and inadequate financial resources. On the other hand the researcher mainly focused on smallholder farmers engaged in farming activities excluding those involved in livestock keeping.

6.5   Areas for Further Studies

This study focused on the challenges, opportunities and prospects regarding smallholder farmers' accessibility of bank financing. The results show that only a small percentage

of smallholder farmers have access to bank credit in Tanzania. Therefore, it will be very contributory for future researchers to conduct a similar study that will identify what should be done to improve smallholder farmers' access to bank financing in Tanzania

In today's contemporary world, it is unlikely to exclusively address agriculture without linking it to agribusiness and value adding activities further down the agricultural value chain. Smallholder farmers must be linked to other processes that occur after harvesting their produce such as marketing in order to exploit the full potentiality of agriculture. Therefore in order to motivate smallholder farmers to engage in commercial agriculture, one can further research on enhancing the agribusiness sector among smallholder farmers. Findings of such a research may provide further information about the prospects of not only making the most of local markets, but also exporting processed products produced by smallholder farmers to neighboring countries.

Moreover, joint liability is a famous technique that is used by MFIs and community cooperatives to lend to the poor. This technique is not recommended for banks although it can be helpful in improving the availability of bank credit to smallholder farmers. Therefore, a research can be conducted to analyze the challenges and opportunities of the joint liability type of lending when used by banks to lend to smallholder farmers.

Reference

Adam K. & Kamzora J. (2008). Research Methodology. MIT Press Inc, Cambridge, United Kingdom

Atieno, R. (2001). Formal and Informal Institutions' Lending Policies and Access to Credit by Small-scale Enterprises in Kenya: An empirical assessment. African Economic Research Consortium, Nairobi.

Auma, D. and Mensah, P. (2014). Determinants of Credit Access and Demand among Small-holder Farmers in Tigray Region, Ethiopia. Unpublished Master's Thesis. Norwegian University of Life Sciences, School of Economics and Business.

Babajide, A. A. (2011). Effects of Microfinancing on Micro and Small Enterprises (MSEs) in Southwest Nigeria. Ph.D Thesis.

Badiru, I. (2010). Review of Small Farmer Access to Agricultural Credit in Nigeria. International Food Policy Research Institute, Policy No. 25. Abuja, Nigeria.

Beck, T. and Demirgüç-Kunt, A. (2006). Small and Medium-Size Enterprises: Access to Finance as a growth constraint. Journal of Banking and Finance 30, Page 2931–2943.

Bee, F. K. (2007) "Rural Financial Markets in Tanzania: An Analysis of Access to Rural Financial Markets in Babati District, ManyaraRegion."PhD Thesis, University of South Africa.

Brown, K. (2004). Practice of Reforming the Business Environment: the Case of Business Environment Strengthening for Tanzania Programme (BEST). President Office, Planning Privatization, Dar es Salaam, Tanzania.

Byaruhanga, I. (2013). Credit Terms, Credit Accessibility and Performance of Agricultural Cooperatives in Rwanda. Journal of Emerging Issues in Economics, Finance and Banking Volume 1 (6) Page 554 – 570.

Chauke, P. K., Motlhatlhana, M. L. Pfumayaramba, T. K. and Anim, F. D. K. (2013). Factors Influencing Access to Credit: A Case Study of Smallholder Farmers in the Capricorn District of South Africa. African Journal of Agricultural Research Vol. 8(7), pp. 582-585

Coates, M., Kitchen, R., Kebbell, G., Vignon, C. Guillemain, C. and Hofmeister, R. (2011). Financing Agricultural Value Chains in Africa: Focus on Pineapples, Cashews and Cocoa in Ghana. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Cooper, L. and Schindler, P. (2007). Marketing Research, Concepts and Cases. Pearson Education, Inc: London, UK

Creswell, P. (2003). Social Research Methods, Pearson Education, Inc: US

Dzadze P., Osei M. J., Aidoo R. and Nurah G. K. (2012) Factors Determining Access to Formal Credit in Ghana: A case Study of Smallholder Farmers in the Abura-Asebu Kwamankese District of Central Region of Ghana. Journal of Development and Agricultural Economics Vol. 4(14), pp. 416-423

Esterhuizen, D. (2006). An Evaluation of the Competitiveness of the South African Agribusiness Sector. http://repository.up.ac.za/bitstream/handle/2263/30241/Complete.pdf?sequence=9 accessed on December 06th, 2015

Faye, I., Gagigo, O., and Mutambatsere, E. (2013), Large Scale Agribusiness Investments and Implications in Africa: Development Finance Institutions' Perspectives, Working Paper Series N° *193* African Development Bank, Tunis, Tunisia.

Gaisina, S (2010). Access to Bank Credit by Agricultural Producers in Kazakhstan: a Micro-Econometric Analysis. *The International Journal of Economic Policy Studies* Volume 5, 2010 Article 3. Page 33 – 48

Ganbold, B. (2008). Improving Access to Finance for SME. International Good Experiences and Lessons from Mongolia. IDE – JETRO, No. 238 of 2008.

Getaneh, G. (2005). Regulating Microfinance in Ethiopia: Making it more effective. Amhara credit and saving institution (ACSI) Bahar Dar, Ehtiopia.

InfoDev (2012). The Agribusiness Innovation Center of Tanzania Scaling Value Adding, Post-Harvest Processing Agribusinesses. *info*Dev, Finance and Private Sector Development Department. Washington, DC: World Bank.

International Finance Corporation, (2011) Scaling Up Access to Finance for Agricultural SMEs Policy Review and Recommendations. http://www.ifc.org/wps/wcm /connect/04da89804a02e2e19ce0fdd1a5d13d27/G20_Agrifinance_Report.pdf ?MOD=AJPERES accessed on March 04th, 2015.

Jari, B. (2009). Institutional and Technical Factors Influencing Agricultural Marketing Channel Choices amongst Smallholder and Emerging Farmers in the Kat River Valley. Unpublished Master's Thesis, University of Fort Hare.

Jonson, K and Owuegbnzie, M. (2004). Effective Proposal Writing. Don Bosco: Makuyu Kenya

Kimathi, M., Nandazi, M., Miller, C. and Kipsang, D. (2008). Africa Agricultural Value Chain Financing: 3rd AFRACA Agribanks forum Synthesis report. African Rural and Agricultural Credit Association and Food and Agriculture Organization.

Kombo, K. D. & Tromp A. L. D. (2006). Proposal and Thesis Writing, An introduction. Don Bosco: Makuyu, Kenya.

Kothari C. R., (2004). Research Methodology: Methods and Techniques. New delhi, wishwa Prakashan.

Louw, A. Nhemachena, C and Zyl, S. (2008). Agribusiness Linkages in the Southern African Region: Small Farmer participation. Regoverning Markets, Policy Brief 2.http://web.up.ac.za/sitefiles/file/48/2052/3_%20Agribusiness%20Linkages %20in%20SADC.pdf accessed on January 25th, 2015.

Lupyana, S. (2009). Business Opportunities in Municipal Solid Waste Management In Iringa Municipality.

MAFAP (2013). Review of Food and Agricultural Policies in the United Republic of Tanzania. MAFAP Country Report Series, FAO, Rome, Italy.

Manganhele, A. T., (2010). Improving Access to Credit for Smallholder Farmers in Mozambique. Lessons from Government Effort in Developing Countries of Africa and Asia. MSc Thesis. Department of Agricultural Economics, Extension and Rural Development. University of Pretoria. South Africa.

Mbunda, R. (2011). Kilimo Kwanza and Small Scale Producers: An Opportunity or a Curse?. Land Rights Research and Resources Institute in Tanzania.

Miller C., and Ladman, J. (1983). Factors Impeding Credit Use in Small Farm Households on Bolivia. J. Dev. Stud. 19(4):522-538.

Miller, C. and Jones, L. (2010) Agricultural Value Chain Finance: Tools and Lessons. Food and Agriculture Organization of the United Nations.

Miller, C., Richter, S., McNellis, P. and Mhlanga, N. (2010). Agricultural Investment Funds for Developing Countries. Food and Agriculture Organization of the United Nations.http://www.fao.org/fileadmin/user_upload/ags/publications/ investment_funds.pdf accessed January 22nd, 2015.

Mohieldin, S. and Write, W. (2000). Formal and Informal Credit Markets in Egypt. Center for Economic Policy Research and University of Nottingham.

Mouton, J. and Marais, H., (1996). Basic Concepts in Methodologies of Social Science, Fifth Edition. HSRC Publishers Pretotia, South Africa.

Mpagalile, J., Ishengoma, R. and Gillah, P. (2008). Agribusiness Innovation in Six African Countries: The Tanzanian Experience. Report Prepared for the World Bank Institute.

Mukiri, W. (2008). Determinants of Access to Bank Credit by Micro and Small Enterprises in Kenya.

Myers, S. C. (1984). The capital Structure puzzle, The Journal of Finance 39: 575-592

National Bureau of Statistics, (2012). National Sample Census of Agriculture 2007/2008 Volume Ve: Regional Report: Morogoro Region. Morogoro region Agriculture Sample Census Results 2007/2008

Nawai, N. and Shariff, M. (2010). Determinants of Repayment Performance in Microcredit Programs: A Review of Literature. *International Journal of Business and Social Science Vol. 1 No. 2; November 2010*

Ntungi, A. (2010). Internationalization Process of SMES: Development of Society and Technology. Arusha, Tanzania.

Obisesan, A. A. (2013). Credit Accessibility and Poverty among Smallholder Cassava Farming Households in South West, Nigeria. Greener Journal of Agricultural Sciences ISSN: 2276-7770 Vol. 3 (2), pp. 120-127, February 2013.

Organization of Economic Cooperation and Development (2004). Financing SMEs and Entrepreneurs. Policy Brief, November 2004. Retrieved from www.oecd.org/publications/Policybriefs accessed on March 14th, 2015.

Organization of Economic Cooperation and Development (2006). The SME financing gap volume 1 theory and evidence. Retrieved from http://www.insine.org/documenti/sme_financing_gap_oced.pdf accessed on April 07th, 2015

Organization of Economic Cooperation and Development (2013). Improving Access to Finance in Kazakhstan's Agribusiness Sector. Kazakhstan Sector Competitiveness Strategy Phase II. Private Sector Development Policy Handbook.

Pallant, J. (2002). SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS (Version 12). Allen and Unwin, Sydney, Australia.

Pallant, J. (2013). SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS (Version 16). Allen and Unwin, Sydney, Australia.

Pandula, G. (2011). An Empirical Investigation of Small And Medium Enterprises' Access To Bank Finance: The Case of An Emerging Economy. Proceedings of ASBBS Volume 18 Number 1Page 255 – 273.

RAM, (2004). Investigating the Perceptions of Credit Constraints in the European Union.

Salami, A., Kabyemera., J and John Anyanwu, J. (2011) Smallholder Agriculture in Africa's Changing Economy: Case Studies

Schiffer, M & Weder, B (2001). " Firm Size and the Business Environment": Worldwide Survey Results, IFC Discussion paper 43.

Sullivan, T. J. (2001). Research Methods for Business Studies Pearson Professional Limited, London.

United Republic of Tanzania (2008). Small Farmer Productivity through Increased Access to Draught Power Opportunities. Stakeholder mapping in Morogoro region, Consultancy Report. MOVEK Development Solution.

Wattanapruttipaisan, T. (2003). Four Proposals for Improved Financing of SME Development in Asean. Asian Development Review, Vol. 20, No. 2, December 2003.

Whittle, B. and William, R. (2006). Pro-cyclicality in the Financial System: Do We Need a New Macro Financial Stabilization Framework? BIS working papers 193.

Wolter, D. (2010). Tanzania – Why a Potential Food Exporter is Still Importing Food OECD Development Centre, Paris. http://www.oecd.org/dev/41302291.pdf

World Bank (2013) Growing Africa: Unlocking the Potential of Agribusiness http://siteresources.worldbank.org/INTAFRICA/Resources/africa-agribusiness-report-2013.pdf

Yehuala S (2008). Determinants of Smallholder Farmers Access to Formal Credit. A case of Metema Woreda, North Gonder, Ethiopia. Unpublished Master's Thesis. Haramaya University, Ethiopia.

Appendices

Appendix I: Survey Questionnaire (English Version)
SURVEY QUESTIONNAIRE
ACCESS TO BANK CREDIT BY SMALLHOLDER FARMERS IN TANZANIA:
CHALLENGES, OPPORTUNITIES AND PROSPECTS

Dear Respondent,

Thank you for your interest in this survey. My name is **Elias G. Madafu**. I am currently a student of Mzumbe University pursuing a **Master of Science in Accounting and Finance** and hereby conducting a study titled **Access to Bank Financing by Smallholder Farmers in Tanzania.** The study is aimed at establishing strategies that will bridge the agribusiness bank financing gap and improve the accessibility of bank financing to Tanzania's agribusiness sector. Information that will be provided in this questionnaire is confidential and will be used for academic purposes only.

Your participation is voluntary and if you have any questions concerning the survey, please, do not hesitate to contact me (+255-683-390270) or my supervisor (MS. Isaga Nsubili - +255-767/713-951355). Thank you very much.

A   Background Information

A1	Gender (Please, tick)	Male ☐	Female ☐

A2	Age (Please, tick)	Below 18 Years ☐	18 - 25 Years ☐
		26 - 35 Years ☐	36 - 45 Years ☐
		46 - 60 Years ☐	Above 60 Years ☐

A3	Educational Level	No formal education ☐	Primary education ☐
		Secondary education ☐	Certificate ☐
		Diploma ☐	University degree ☐

A4 Marital Status

Single	☐	Married	☐
In relationship	☐	Separated	☐
Widowed	☐	Divorced	☐

A5 Place of residence/District _____

A6 Type of Farming _____

A7 Purpose of farming   Food ☐   Commercial ☐   Both ☐

A8 Location of the farm _____

A9 Farm Size (Acres)

Below 0.5 acres	☐	0.5 - 2 acres	☐
2.1 - 5 Acres	☐	5.1 - 10 Acres	☐
10.1 - 20 Acres	☐	Above 20 Acres	☐

A10 Farming Experience

Below 1 Year	☐	1 - 2 Years	☐
3 - 5 Years	☐	6 - 10 Years	☐
11 - 20 Years	☐	Above 20 Years	☐

A11 Type of labor used in farming activities *(you may tick more than one)*

	Skilled	Number	Unskilled	Number
Family Labour				
Part time				
Full time				

A12 Total value of assets invested in farming activities (TZS)

Below 500,000	☐	500,000 - 1 Million	☐
1 - 3 Million	☐	3 - 5 Million	☐
5 - 10 Million	☐	Above 10 Million	☐

A13   Average annual turnover on farming activities (TZS)

Below 100,000	☐	100,000 - 250,000	☐
250,000 - 500,000	☐	500,000 - 1 Million	☐
1 - 2 Million	☐	Above 2 Million	☐

A14   Other non farming activities (Please, mention)

_____

Information on raising bank

B credit

B1   What is the source(s) of your farming activities capital?

(you may select more than one)

Own savings ☐		Disposal of assets ☐
Borrowing from Friends/Relatives ☐		Borrowing Co-operatives ☐
Borrowing from Microfinance ☐		Supplier Credit ☐
Bank Credit/Loans ☐		
Others *(Please mention)*		

B2   Have you ever applied for a bank loan?   Yes ☐   No ☐

*(If **Yes**, please answer question B2.1, B2.2, B2.3 and B2.4,*
*then go to question B3. If **No** answer question B2.5, then*
go to question C1)

B2.1   How many times?

B2.2   Mention the Bank(s)   (1).   (2).   3

B2.3   Indicate the Date/Month/Year of application

TZ

B2.4   Please indicate the amount applied   S

B2.5

Indicate if the following statements represent some of the reasons for not applying for a loan? *(you may select more than one)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
B2.4.1 I do not need a loan, my capital is adequate					
B2.4.2 I do not know how banks disburse the loans					
B2.4.3 I do not have sufficient collateral					

B2.4.4	I won't be able to repay the loan					
B2.4.5	I do not have enough skills to manage the loans					
B2.4.6	I borrow from other sources					
B2.4.7	The interest is too high					
B2.4.8	Banks are far from my home place					
B2.4.9	Others (Please, mention)					

B3 Was the loan applied for agricultural purposes(s)?   Yes ☐   No ☐

*(If **Yes,** please answer question B3.2, if **No,** answer B3.1 and*

go to question C1)

B3.1 What was the purpose of the loan? _____

B3.2 Was the application for the loan meant for the

following purpose(s)? *(you may select more than one)*

B3.2.1 Purchasing of inputs (Such as Seeds,

fertilizers, Pesticides and other chemicals)   Yes ☐   No ☐

B3.2.2 Acquisition of Equipments   Yes ☐   No ☐

B3.2.3 Payments of wages, salaries and rent   Yes ☐   No ☐

B3.2.4 Others, Please mention _____

B4 Was the loan granted?   Yes ☐   No ☐

(if Yes, go to question B4.1, if No, answer question B5.1 and

go to question C)

B4.1

Indicate if the following factors contribute to loan application rejection? *(Can select more than one)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	**2**	**3**	**4**	**5**
B4.1.1 Default of previous loans					
B4.1.2 Lack of quality/sufficient collateral					

B4.1.3	Lack of bankable and viable business plan					
B4.1.4	Inadequate financial management skills					
B4.1.5	Timing of applications					
B4.1.6	Poor formalities of my undertaking					
B4.1.7	Size of the loan					
B4.1.8	Others, please mention					

B5 Did you receive the same amount of loan applied for? Yes ☐ No ☐

(if Yes, go to question C1, if No, answer question B5.1 and go to

question C1)

B5.1 What is your supplementing source of capital? *(Can select*

more than one)

Own savings ☐ Disposal of assets ☐

Borrowing from Friends/Relatives ☐ Borrowing Co-operatives ☐

Borrowing from Microfinance ☐ Supplier Credit ☐

Bank Credit/Loans ☐

Others *(Please mention)*

C Obstacles encountered by smallholder farmers in raising bank financing

	The following statements represent the barriers in raising bank financing. Please tick(√) within the appropriate boxes	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
1	Most of the banks are located in town centers, where is difficult to reach					
2	Borrowing from banks involves complex and prolonged application procedures					
3	Banks require expensive collateral which many farmers do not possess					

4	The interest rate charged by the banks are too high					
5	The repayment period is not favorable as it must be more than one year					
6	Lack of clear information on the way that banks advance loans					
7	Banks require bankable business plans					
8	Banks prefer lending to registered and formal business					
9	Banks prefer to lend to formal and registered business					
10	Others, please mention.					

D   D1. Influence of access to credit on productivity

The following statements represent the impact of access to bank credit on output level and productivity. Please tick the appropriate boxes	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	**2**	**3**	**4**	**5**
1	Bank credit will enable the recruitment skilled number of labors					
2	Bank credit will facilitate the use of technology					
3	Bank credit will enable to use necessary fertilizers and chemical					
4	Bank credit will enable to increase the farming size					
5	Bank credit will increase the output level in the production					
6	Bank credit will expand the market for my produces					
7	Bank credit will increase the annual returns					
8	Others, please mention					

D2

Please indicate the **average level of output per acre** and **sales** obtained for the past five years

	Output level (Number of bags/ livestock)	Sales (Tshs)
2014		
2013		
2012		
2011		
2010		

D3 What are your suggested improvements for helping smallholder farmers with their funding requirements?

_____

_____

_____

_____

_____

Thank you for your cooperation, may God bless you

DODOSO YA UTAFITI

FURSA YA UPATIKANAJI WA MIKOPO YA BENKI KWA WAKULIMA WADOGO WADOGO TANZANIA

Ndugu mpendwa,

Nashukuru kwa kuonesha ushiriakiano katika tafiti hii. Naitwa **Elias G. Madafu**, Mwanafunzi wa **Chuo Kikuu Mzumbe** ninaesomea **Shahada ya Uzamili ya Uhasibu na Fedha** ambaye ninafanya utafiti juu ya **Fursa Ya Upatikanaji Wa Mikopo Ya Benki Kwa Wakulima Wadogo Wadogo Tanzania.** Tafiti hii inalenga katika kuboresha upatikanaji wa Mikopo ya Benki kwa wakulima wadogo wadogo wanaojishughulisha na Kilimo na ufugaji katika kukuza sekta ya Kilimo na uchumi wa nchi. Maelezo yatakayotolewa katika dodoso hii yatafanywa siri na yatatumika kwa ajili ya madhumuni lengwa ya kielimu.

Ushiriki wako ni wakujitolea na kama utakuwa na mchango au maswali yoyote kuhusiana na tafiti hii, usisite kunitafuta mimi (+255-683-390270) au Msimamizi wangu (Dr. Nsubili Isaga - +255-767/713-951355). Akhsante sana

A   Taarifa za muombaji kwa ujumla

A1   Jinsia (Tafadhali, tiki)   Mme ☐   Mke ☐

A2   Umri (Tafadhali, tiki)

Chini ya miaka 18 ☐   Miaka 18 - 25 ☐

Miaka 26 - 35 ☐   Miaka 36 - 45 ☐

Miaka 46 - 60 ☐   Juu ya Miaka 60 ☐

A3   Elimu   Hakuna Elimu Rasmi ☐   Msingi ☐

Sekondari ☐   Cheti ☐

	Stashahada			Shahada	

A4 Hali ya ndoa

Si Mwanandoa		Kwenye ndoa	
Kwenye Mahusiano		Tumetengana	
Mjane		Talaka	

A5 Sehemu ya makazi (Tafadhali, taja) _____

A6 Aina ya Kilimo *(Mfano. Mahindi, ufugaji wa kuku, mpunga, nk; Tafadhali, taja)* _____

A7 Sababu ya Kufanya Kilimo   Chakula ☐   Biashara ☐   Chakula na Biashara ☐

A8 Mahali Shamba lilipo _____

A9 Ukubwa wa Shamba

Chini ya ekari 0.5		Ekari 0.5 - 2	
Ekari 2.1 - 5		Ekari 5.1 - 10	
Ekari 10.1 - 20		Juu ya ekari 20	

A10 Uzoefu katika kilimo

Chini ya Mwaka 1		Miaka 1 - 2	
Miaka 3 - 5		Miaka 6 - 10	
Miaka 11 - 20		Juu ya Miaka 20	

A11 Aina ya wafanyakazi katika Shughuli zako za kilimo
(Waweza tiki zaidi ya moja)

	Wenye Ujuzi	Idadi	Wasio na Ujuzi	Idadi
Wana familia				
Wamuda				
Wakudumu				

A12   Jumla ya thamani ya mali uliyowekeza katika shughuli za kilimo (TZS)

Chini ya 500,000 ☐   500,000 – Milioni 1 ☐

Milioni 1 - 3 ☐   3 - 5 ☐

Milioni 5 - 10 ☐   Juu ya milioni 10 ☐

A13   Wastani mauzo ya kila **MWAKA** kutokana na shughuli za kilimo (TZS)

Chini ya 100,000 ☐   100,000 - 250,000 ☐

250,000 - 500,000 ☐   500,000 – Milioni 1 ☐

Milioni 1 - 2 ☐   Juu ya Milion 2 ☐

A14   Shughuli nyingine zisizo za kilimo (Tafadhali, taja)

_____

B Uombaji wa mkopo wa benki

B1   Upi kati ya ifuatayo ni mtaji wako katika shughuli zako za
      kilimo? *(Waweza tiki zaidi ya moja)*

Akiba	☐	Mauzo ya Rasimali	☐
Mikopo ya ndugu/rafiki	☐	Mikopo - vyama vya ushirika	☐
Mikopo-taasisi ndogondogo za fedha	☐	Manunuzi kwa mkopo	☐
Mkopo wa Benki	☐	Mshahara	☐
Nyingine (Tafadhali, taja)			

B2   Umewahi kuomba mkopo wa benki?   Ndio ☐   Hapana ☐

*(Kama **Ndio**, Tafadhali jibu swali B2.1 mpaka B2.8, kisha*
*nenda swali B3. Kama **Hapana**, jibu swali B2.5, kisha*
nenda swali C1)

B2.1   Umewahi omba mara ngapi?

B2.2   Taja majina ya benki
           ulizoomba   (1).   (2).   3

B2.3   Taja Siku/Mwezi/Mwaka Ulioomba

B2.4   Tafadhali, taja kiasi ulichoomba   TZS

B2.5   Taja aina ya dhamana uliyoweka rehani

B2.6   Tafadhali, taja thamani halisi ya dhamana hiyo

B2.7   Taja kiwango cha riba kilichopangwa   %

B2.8   Taja muda uliopangwa kurudisha mkopo huo

B2.5

Je, zifuatazo ni sababu zinazopelekea wewe kutoomba mkopo? *(Waweza tiki zaidi ya moja)*	Sikubaliani Kabisa	Sikubaliani	Sifungamani	Nakubaliana	Nakubaliana Sana
	1	**2**	**3**	**4**	**5**
B2.4.1 Sihitaji mkopo, mtaji wangu unatosha					
B2.4.2 Sijui namna benki zinavyotoa mikopo					

B2.4.3	Sina rasimali zakutosha kudhamini mkopo					
B2.4.4	Sitoweza kulipa deni					
B2.4.5	Sina ujuzi katika kutumia mikopo					
B2.4.6	Ninakopa kutoka katika vyanzo vingine					
B2.4.7	Riba ya benki ipo juu sana					
B2.4.8	Benki zipo mbali na eneo ninaloishi					
B2.4.9	Sababu Nyingine((Tafadhali, taja)					

B3   Je, uliomba mkopo kwa dhumuni la kilimo?   Ndio [ ]   Hapana [ ]

(Kama Ndio, Tafadhali jibu swali B3.2, Kama Hapana, jibu
swali B3.1 kiasha nenda swali *C1)*

B3.1   Ni nini ilukuwa dhumuni la mkopo? _____

B3.2   Je, Mkopo ulichukuliwa kwa dhumuni/madhumuni
yafuatayo? *(Waweza tiki zaidi ya moja)*

   B3.2.1   Ununuzi wa pembejeo (Kama mbegu, mbolea,
   na madawa mbalimbali)   Ndio [ ]   Hapana [ ]

   B3.2.2   Ununuzi wa vifaa vya kilimo   Ndio [ ]   Hapana [ ]

   B3.2.3   Kulipia vibarua, mishahara gharama za
   kukodia shamba   Ndio [ ]   Hapana [ ]

   B3.2.4   Nyingine (Tafadhali taja)

B4   Je, ulifanikiwa kupata mkopo?   Ndio [ ]   Hapana [ ]

*(Kama **Hapana**, jibu swali B4.1,Kama **Ndio**, jibu swali*
B5.1; na kisha nenda swali C)

B4.1

Je, mambo yafuatayo yamechangia kukataliwa kwa ombi lako la mkopo? *(Waweza tiki zaidi ya moja)*	Sikubaliani Kabisa	Sikubaliani	Sifungamani	Nakubaliana	Nakubaliana Sana
	1	**2**	**3**	**4**	**5**
B4.1.1 Kushindwa kulipa mikopo mingine ya zamani					
B4.1.2 Ukosefu wa dhamana ya kudhamini mkopo					
B4.1.3 Thamani ndogo ya dhamana iliowekwa rehani					
B4.1.4 Ukosefu wa mpango wa biashara uletao faida					
B4.1.5 Ujuzi duni wa usimamizi wa fedha					
B4.1.6 Taratibu duni na zisizo rasmi za ufanyaji kazi					
B4.1.7 Kiasi cha mkopo kilichoombwa kuwa kikubwa					
B4.1.8 Nyingine (Tafadhali, taja)					

B5.1 Je, ulipata kiwango kilekile ulichoomba?   Ndio ☐   Hapana ☐

*(kama **Ndio**,nenda swali C1,Kama **Hapana**, jibu swali B5.2 na kisha nenda swali C1)*

B5.2 Je nini chanzo cha mtaji wako uliokuwa umepungua?
(*Waweza chagua zaidi ya Moja)*

Akiba ☐   Mauzo ya Rasimali ☐

Mikopo ya ndugu/rafiki ☐   Mikopo - vyama vya ushirika ☐

Mikopo – tasasisi ndogo za fedha ☐   Manunuzi kwa mkopo ☐

Mkopo wa Benki ☐   Mshahara ☐

Nyingine (Tafadhali, taja)

C1

Vifuatavyo ni vikwazo vikubwa vinavyowakuta wakulima wodogo wadogo katika kupata mikopo kwenye mabenki. *(Waweza tiki zaidi ya moja*	Sikubaliani Kabisa	Sikubaliani	Sifungamani	Nakubaliana	Nakubaliana Sana
	1	**2**	**3**	**4**	**5**
1 Benki nyingi zipo mjini ambapo hakufiki kiurahisi					
2 Uombaji wa mikopo katika mabenki unahusisha taratibu tata na za muda mrefu					
3 Benki uhitaji dhamana za gharama kwa ajili ya kudhamini mkopo ambazo wakulima wengi hawazimiliki					
4 Riba ya mikopo katika benki ipo juu sana					
5 Muda unaopangwa kwa ajili ya kuanza kurudisha mkopo ni mfupi na hautoshi					
6 Ukosefu wa taarifa juu ya namna ambayo benki utoa mikopo					
7 Benki uhitaji mipango biashara iletayo faida					
8 Benki upendelea kutoa mikopo kwa watu wenye elimu					
9 Benki upendelea kukopesha bishara rasmi na zilzosajiliwa					
10 Nyingine (Tafadhali, taja)					

D   D1. Upatikanaji wa mikopo na ufanisi

Yafuatayo ni matokeo ya upatikanaji wa mikopo ya benki katika kiwango cha uzalishaji na ufanisi. (Waweza tiki zaidi ya moja)	Sikubaliani Kabisa	Sikubaliani	Sifungamani	Nakubaliana	Nakubaliana Sana
	1	**2**	**4**	**5**	**6**
1 Mikopo ya benki itawezesha kuajiri wanafanyakazi wenye ujuzi					
2 Mikopo ya benki itawezesha matumizi ya teknolojia mpya za kilimo					
3 Mikopo ya benki itawezesha manunuzi ya pembejeo muhimu					
4 Mikopo ya benki huwezesha kuongeza kiasi cha ekari za shamba katika kilimo					
5 Mikopo ya benki itaongeza kiwango cha uzalishaji					
6 Mikopo ya benki itaniwezesha kutanua masoko ya bidhaa zangu					
7 Mikopo ya benki itaniwezesha kuongeza mapato					
8 Nyingine (Tafadhali, taja)					

D2

Tafadhali, onesha wastani wa kiwango cha uzalishaji kwa ekari na Mauzo kwa miaka mitano iliyopita

	Kiwango cha uzalishaji (*Magunia, idadi ya mifugo, nk*)	Mauzo (*Tshs*)
2014		
2013		
2012		
2011		
2010		

D3 Je, nini mapendekezo yako katika kuwasaidia wakulima wadogo wadogo kuhusiana upatikanaji wa mikopo katika mabenki?

_____

_____

_____

_____

_____

Akhsante kwa Ushirikiano Wako, Mungu Akubariki.

INTERVIEW GUIDE

ACCESS TO BANK CREDIT BY SMALLHOLDER FARMERS IN TANZANIA

Dear Respondent,

Your interest in this survey is greatly appreciated. My name is **Elias G. Madafu**, I am currently a student of Mzumbe University pursuing a **Master of Science in Accounting and Finance.** I am hereby conducting a study titled **Access to Bank Credit by Smallholder Farmers in Tanzania.** The study is aimed at investigating the challenges, opportunities and prospects regarding improving smallholder farmers' accessibility of bank credit in Tanzania. The information that will be provided in this questionnaire is confidential and will be used for academic purposes only.

Your participation is voluntary and if you have any questions concerning the survey, please do not hesitate to contact me (+255-683-390270) or my supervisor (MS. Isaga Nsubili - +255-767/713-951355). Thank you very much.

Questions

1. Does the bank currently have smallholder farmers among its customers?

2. Does the bank have a separate unit managing banking the issues of smallholder farmers?

3. What are the banks' related factors that influence supply of credit to smallholder farmers?

4. What prerequisite does your bank consider in its decisions to grant loans to smallholder famers in Tanzania?

5. What are the major obstacles that result into the rejection of many loan applications?

6. What constraints does your bank face in lending to smallholder farmers in Tanzania?

7. What are your perceptions in reference to risk and profitability as far as lending to smallholder farmers in Tanzania is concerned?

8. What is the percentage of portfolio apportioned to smallholder farmer lending?

9. What do you suggest should be done to improve smallholder farmers' accessibility of funding requirements?

Appendix IV: Budget

S/N	ITEM	Amount(Tshs.)
1	Stationeries	400,000
2	Accommodation and meals	1,200,000
3	Dissemination costs	500,000
4	Transport	350,000
6	Miscellaneous expenses	200,000
	TOTAL	**2,650,000**

Appendix V: Activity – Time Frame

The research activity was conducted within a time of fifteen weeks as shown on the schedule below.

WEEKS															
ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Formulating Research topic	■														
Literature review	■	■	■		■	■	■	■	■	■	■	■	■	■	
Development of Research proposal			■	■	■	■									
Development of research instrument					■										
Administering Questionnaires and Interviews						■									
Collection of Questionnaires							■	■							
Data editing, coding, Classification and entry									■						
Data analysis										■	■				
Interpretation and report writing												■	■	■	
Presentation															■