



THE ROLE OF WAREHOUSE RECEIPT SYSTEM (WRS) IN ENHANCING
SMALLHOLDER PRODUCERS ACCESS TO CREDIT FACILITIES FROM FINANCIAL
INSTITUTIONS

INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT (IFAD)

AND

MARKETING INFRASTRUCTURE, VALUE ADDITION AND RURAL FINANCE
SUPPORT PROGRAMME (MIVARF)

SUPPORTED PROJECT, ITUNUNDU/IRINGA RURAL

FINAL DRAFT REPORT

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LIST OF ACRONYMS AND ABBREVIATIONS

AMCOS- Agricultural Marketing Cooperative Society

BOT- Central Bank of Tanzania

CRDB- Cooperative and Rural Development Bank

EAGC- Eastern African Grain Council

ERP- Economic Recovery Programmes

ICA- International Cooperative Alliance

IFAD- International Fund for Agricultural Development

MIVARF- Marketing Infrastructure, Value Addition and Rural Finance Support Programme

MUCOBA- Mufindi Microfinance Bank

SACCOS- Savings and Credits Cooperative Society

SAP- Structural Adjustment Programme

TWLB- Tanzania Warehouse Licensing Board

WRS- Warehouse Receipt System

EXECUTIVE SUMMARY

The Earth Institute of the University of Columbia New York, United States is the home to Global Masters in Development Practice. The Institute collaborates with International Fund for Agricultural Development (IFAD) to commence a graduate Win-Win Field Practicum Grant for students undertaking a study in development practice in all the Partner University which University of Ibadan is the only partner university in Nigeria. IFAD in collaboration with MIVARF developed an impact assessment research topic that was advertised and won. The research topic is the Role of Warehouse Receipt System in Enhancing Smallholder Producers Access to Credit Facilities from Financial Institutions: A Study of Itunundu Paddy Farmers in Iringa District Council, Iringa, Tanzania. IFAD/MIVARF supported programme.

The overall goal of this IFAD/MIVARF supported programme is to enhance incomes and food security of the target group on a sustainable basis while the development objective of the programme is to support sustainable and profitable linkage to markets. The intermediate objective of the programme is to ensure beneficiaries derive profits from production and value addition undertakings.

The Programme is comprised of three components that serve as basis for the implementation of its activities. These include;

- (i) The Marketing Infrastructure and Systems Component
- (ii) The Rural Finance Component
- (iii) The Programme Coordination Component

This study is aimed at Accessing the Role of Warehouse Receipt System in Enhancing Smallholder Producers Access to Credit Facilities from Financial Institutions: A Study of Itunundu Paddy Farmers in Iringa District Council, Iringa, Tanzania. Four objectives were developed to guide this study. Purposive sampling technique was used to select 340 respondents from four farmer groups in Itunundu ward, Focus Group Discussion (FGD) was held with the leaders of the farmer groups and interview session was held with the credit managers of Mufindi Microfinance Bank (MUCOBA) and Cooperative and Rural Development Bank (CRDB) to access their participation in financing the Warehouse Receipt System since they are the two financial institutions serving the farmer groups in that ward.

Data for the study were obtained from primary source using interview schedule guided by structured questionnaire. Descriptive and relevant inferential statistics such as frequencies, percentages, means were used for data analysis.

CHAPTER ONE

Introduction

1.1 Background to the Study

Agricultural systems have been liberalized in most African countries since the 1980s. Prevalent interventions by the state in provision of farm inputs, agricultural credit and produce marketing systems have been reduced and the scope for private sector provision of agricultural services expanded. The interventions became an unsustainable fiscal burden, contributed to real decline in producer prices as producers often bore the cost of such programmes, and failed to produce significant increase in per capita food production (Akiyama et al., 2001).

Tanzania's economy is mostly dependent on the agricultural sector which accounts for about 25% of the GDP, 85% of the total employment, 95% of the food consumed, and 30% of the foreign exchange earnings (UNEP, 2007; URT, 2010).

According to the available data, 75% of Tanzanians are rural dwellers with the highest poverty level, which is twice those living in urban areas (Human Development Report, 2011). PHDR 2009 reported that about 50% of all Tanzanians live in Poverty and 37.6% of all Tanzanians live in absolute poverty (below one dollar per person per day).

It is argued (Andrew and Maghembe, 2011) that agriculture plays a vital role in unlocking people out of poverty. This has been possible through growing several crops such as coffee, cotton, cashew nut, sisal, tobacco, tea, pyrethrum, sugarcane and cloves, which have been the main cash crops; and maize, sorghum, millet, rice, grain legumes, cassava, banana and wheat, which have continued to be the principle food crops.

As at 2016, Tanzania had over 44 million hectares of arable land with only 33 percent of this amount in cultivation, poor population of smallholder farmers who dwells in rural areas dominates production in the agricultural sector; and therefore smallholders are an important driver of economic growth and poverty reduction (Worldbank, 2017).

Smallholder farmers have very limited access to markets and lack facilities to store their produce (IFAD, 2012). This results to selling of their excess produce when the prices are low during

harvest time. Smallholder farmers lack access to obtaining credits for their agricultural activities from financial institutions that requires what the farmers cannot provide like collateral (Towo and Kimaro, 2013).

The adoption of Warehouse Receipt System gives smallholder farmers the opportunity to increase market efficiency, develop flow of information, better access to finance, combat price risks and ensures food security (ACT, 2007; KENFAP, 2011).

According to IFAD 2012, Warehouse Receipt System enables farmers to store their produce till the prices are good for selling, ensures collective bargaining, facilitates access to credit from financial institutions through registered farmer groups at minimal conditions and affordable interest rates. This has considerably increased productivity, incomes, access to education and better health care services, building of modern houses and acquiring other assets.

The Warehouse Receipt System (WRS) was established as a means of solving financial problems faced by smallholder farmers by linking them with financial institutions. This structure allows farmers and processors obtain working capital by using produce stored in the licensed warehouse as collateral (Forestier and Bryde, 2002). However, these formal financial institutions have extensive infrastructure, system and funds that are mainly accessible to the urban population and not rural smallholder farmers (Aryeetey, 2008).

Historically, formal financial institutions have been reluctant to finance agricultural-related activities. This is due to the uncertainty of external factors such as high and covariant risks, missing markets for risk management instruments and lack of suitable collateral (Cocciarelli *et al*, 2010; Onumah, 2010).

1.2 Warehouse Receipt System

FAO (1995) stated that warehouse receipt finance uses securely stored goods as loan collateral. It is sometimes called “inventory credit”. This gives farmers, traders, processors and others to deposit their produce in a well secure warehouse against a receipt certifying the deposit of certain quantity, quality and grade of produce. The receipt can be used by the depositor as collateral to request a loan from the financial institution.

This receipt gives the depositor the authority to withdraw a particular amount and quality of the produce at any time from the warehouse. The warehouse manager ensures the safety and quality

of the deposited produce. This receipt would be forwarded to the financial institution in charge of that particular warehouse, a loan that equates a certain percentage of the deposited produce is given. At the peak of the marketing period, the depositor sells to an interested buyer who either directly pays the bank or pays the depositor who then pays the bank.

When the financial institution receives the fund or an acceptable payment instrument (e.g., a confirmed Letter of Credit), the financial institution gives the receipt to either the depositor or the buyer depending on the agreement, who then submits the receipt to the warehouse for the release of the produce.

If there is a case of loan default, the financial institution uses the receipt to acquire the produce, sell and uses to return to offset the loan. (Höllinger, Rutten and Kiriakov, 2009).

Labuini *et al*,(2012) stated the merits of adopting the use of warehouse receipt system. Firstly, “facilitating trade by assisting in assembling and reducing information asymmetry between counter-parties”. The warehouse operator gives information on records available, on demand from major buyers and ensures delivery of commodities.

Secondly, “enhancing marketing efficiency in agricultural markets by facilitating transparent trade in agricultural commodities between producers and large traders or processors thus reducing the marketing chain and margins”. The warehouse receipt provides longer time of storage to be able to stabilize variation in prices and reduce post-harvest losses.

Thirdly, “easing access to rural finance through deposits from farmers and traders”. If the cost of credit reduces, it will help to strengthen trade transactions and possible risk.

Fourthly, it helps in check listing price risk. “It helps as a better and transparent price discovery mechanism for farmers’ produce. The system will facilitate development of simple mechanisms by which producers, lenders and traders can secure a floor price by locking in a fixed future price”.

Fifthly, “Cost-effective management of public food reserves”. Warehouse receipt system helps farmers with better prices, it gives opportunity to farmers to store their produce and later sell when the price is better off.

1.2.1 Warehouse Receipt System Approaches

1.2.1.1 Public Warehousing

Mahanta (2012), justified that public warehousing does not mean it is owned by the public, but refers “to a company storing goods for public in general on behalf of whosoever wishes to deposit in the warehouse and issues to the respective depositors warehouse receipts that can be used for trading purposes or as collateral for raising finance”.

Public warehousing can be viewed in three categories.

- **Unregulated Independent Warehouses**

“An unregulated independent warehouse set up by the company concerned sets up business, invests in grain handling and storage plant, and uses it to trade and provide a variety of other services, including storage and warehouse receipting. In principle these are purely private initiatives, where the company believes it can best serve its business interests by offering farmers and smaller market intermediaries a choice of marketing arrangements allowing for immediate or later sale. The main limitation to this approach is the small number of companies currently able and willing to offer the service. Banks would not trust many commercial operators to hold third party stock as collateral managers, probably only the largest companies in the Region” (Mahanta, 2012).

- **State Regulated Warehouses**

This is maximally regulated by the government, it follows certain guidelines. The state regulatory technical services gives license to warehouse and monitors their performances according to laid down rules. This may involve penalties such as suspension or revocation of licenses or taking over management in case of failure of the warehouse (Mahanta, 2012).

- **Trade Body Regulated Warehouses**

The warehouses are regulated by trade bodies (e.g. EAGC) on contractual basis or under the State’s delegation power. It survives on well-established dialogues with the Government and members of the body (Mahanta, 2012).

1.2.1.2 Private Warehousing

The private sector issues warehouse receipts for their own deposits in order to raise funds and also to transfer title to buyers. Potentially this could increase market efficiency, to the benefit of both farmers and consumers at either ends of the chain. It could help establish a more level playing field among trading companies, making it more comfortable for local operators to access low cost capital. It is moreover a sort of self-propelling innovation, building on the motivations of the proposing company. However, some level of risks are involved. It is however quite a risky approach. The regulator does not have full or direct control over the actions of the manager, who may transfer stocks at any point in time without the knowledge or the approval of the regulator. If such a warehouse operator goes bankrupt, it may also be difficult for the bank to prevent priority being given to other creditors (Höllinger, Rutten and Kiriakov, 2009).

1.2.1.3 Farmer Focused Approaches

Höllinger and Kiriakov (2012) reported that “it involving the storage and financing of commodities deposited (more or less exclusively) by farmers with the objective of supplying local food needs in rural areas or bulking product prior to marketing. There is a general need to increase farmers’ role in crop storage. If more is stored locally in villages, rural people was more food secure in the lean season, notably households who produce insufficient to cover their needs, or who sell early for financial reasons. Occasionally rural storage initiatives have resulted in large increases in seasonal storage, lessening the need for States to establish price stabilization mechanisms”.

1.2.2 History of Warehouse Receipt System in Tanzania

In 2005, warehouse receipt system was introduced in Tanzania with coffee and cotton crops as pilot. The project was piloted in Kilimanjaro, Mbeya, Ruvuma, Kigoma and Arusha regions of the country. At first, five warehouses and three financial institutions participated in the project. Depositors in these warehouses included primary cooperatives, farmer’s business groups, traders, exporters, processors, individual and corporate bodies. The government sponsored the process of setting legal framework which resulted to Warehouse Receipt System in 2005 and its regulation of 2006.

In 2007, the warehouse receipt system was legally established, it serves as means of getting around smallholder farmers' financial challenges by linking them with the financial institutions. The three major financiers of warehouse receipt systems are; national microfinance bank (NMB), Cooperative and Rural Development Bank (CRDB) and Kilimanjaro Cooperative Bank Limited (KCBL), they give smallholder farmers loans through their registered cooperatives.

Producers and processors are able to obtain working capital by using agricultural products stored in the licensed warehouse as collateral (Forestier and Bryde, 2013).

Kwadjo (2013) stated that warehouse receipt system is an important means of improving the performance of agricultural marketing system after the 1980s global economic liberalization.

According to Slater and Dona (2010), "progress in promoting WRS and related market institutions in Africa has generally been slow or limited but interest remains high in Eastern and Southern Africa. Tanzania Government intends to ensure the mainstreaming of the system for eight crops such as cotton, coffee, cashew nuts, paddy, sunflower, sesame, maize and pigeon peas to facilitate agricultural productivity and financing for the small holder farmers".

The Government of Tanzania is helping the smallholder farmers have more access to credit through the establishment of several policies. These policies includes Tanzania vision 2025 and National Strategy for Growth and Reduction of Poverty. Others policies include National Microfinance Policy 2000, Cooperative Policy 2002, Tanzania Agriculture Policy 1997 and Agricultural Marketing Policy 2008.

Likewise, several programmes have been initiated including *Kilimo Kwanza* strategy, Tanzania Agricultural Sector Development Program (ASDP), Tanzania Agriculture Productivity Program, Agriculture Sector Development Strategy (ASDS), District Agricultural Development Plan (DADP) and Tanzania Agriculture and Food Security Investment Plan (TAFSIP). Furthermore, the government has put in place regulation tools including Cooperative Societies Act 2003 (currently Tanzania Cooperative Societies Act 2013) and Cooperative Societies Rules 2004, Warehouse Receipt Act 2005, Warehouse Regulations 2006 and Tanzania Warehouse Licensing Board.

These efforts have resulted to the creation of an enabling environment, the provision of proactive support to private operators, farmers' cooperatives (organizations), NGOs and CBOs who supply inputs and credit to smallholder farmers as well as ensuring a strong regulatory mechanism. However, these efforts have much to be desired, because rural farmers are still facing difficulties

in accessing credits. This raises concern that the role of financing smallholder farmers in rural areas has not yet been adequately addressed.

Sustainable provision of financial services to smallholder farmers by formal financial institutions continues to be hampered by many problems (Coulter and Onumah, 2012). These problems include high intermediation costs, peculiar difficulties in the financial environment, missing markets for risk management instruments and lack of suitable collateral. Also, few formal financial institutions actually understand the most common economic activity in rural areas, i.e. agriculture, and those who understand are reluctant to serve the agricultural sector given its seasonality and the inherent risks of farming (Mahieux *et al.*, 2011). Most of the Savings and Credit Cooperative Societies (SACCOS), which turned up to fill this gap are small, and they are questionable of sustainability. In Tanzania, they have not fully helped the smallholder farmers in solving their agricultural financial problem (Onumah, 2010).

1.3 Financial Institutions

Bee 2007 and Akinboade 2000 explained that Tanzania adopted Structural Adjustment Programme (SAP) in the early 1980's along with the Economic Recovery Programmes (ERPs) to bring about changes in economy by improving private sector development which was not managed well under the state controlled economy.

The financial sector was adjusted through the liberalization of interest rates and the support of the idea of bringing in the privately owned banks whereby achieving financial development. Financial reform supports the theory that financial development is the backbone of economic development by influencing investment and business, and improving resources allocation (Hassan, Sanchez, & Yu, 2011; Wolde-Rufael, 2009; Bee, 2007; Kessy and Urio 2006; Odhiambo, 2005; Darrat, 1999).

After the financial reform, encouraging outcomes were noticed in the financial sector, especially in the improved financial supports throughout the country (Bee, 2007; Kessy & Urio, 2006; Akinboade, 2000).

Akinboade (2000) reported that after the financial reform around the 1990's, the number of commercial banks increased from three (3) to fourteen (14), this practice continued for twenty

(20) years thereabout and this made the financial sector experience a great development in terms of increasing number of deposit banks, other financial institutions and microfinance banks.

Central Bank of Tanzania (BOT) reports as at 2012, the total number of formal financial institutions were 45 (32 national deposit money banks, 8 regional deposit money banks and 5 licensed financial institutions). At the commencement of the reform, only formal financial institutions were the main targets until it was realized that majority of Tanzanians who are rural dwellers were not benefitting from the development of deposit money banks systems

Bee (2007) and Kessy and Urio (2006), explained the reasons the rural dwellers were not benefitting from the development of deposit money banks as; most of these institutions were situated in the urban areas due to the available infrastructures needed for their security. Secondly, their clients could not afford the collaterals required by the financial institutions to reduce risk on their part because of the high poverty level in Tanzania and informal ownership of assets such as land, for these reasons, it was then observed that microfinance institutions were the functional model which can help to expand financial intermediation (used interchangeably with financial intermediation (used interchangeably with financial service, financial deepening and financial development) in the rural areas. It has been established that microfinance institutions are those that provides financial services such as microcredit to the poor and low income earners citizens.

Satta (1999) reported that there is proof of the positive impacts financial reforms brought on the size of Tanzania's financial systems.

Generally, it's been observed that microfinance and formal financial institutions have done a great job in financial intermediation by increasing access to finance to many of the citizens.

1.3.1 Cooperative Societies

The International Co-operative Alliance (ICA) in 1995 defined a "co-operative as an autonomous association of people who have voluntarily joined together to meet their social, economic and cultural needs and aspirations through a jointly owned and democratically controlled enterprise"

The definition shows that co-operatives are established by groups of people with shared needs or problems, they are organizations of freely joined members who contributed assets and finally, the formed organization operate democratically to achieve desired objectives on equitable norms.

Chambo (2009) reported that, “co-operatives are about peoples’ organization to capture different opportunities in the economy where they can address their economic needs and aspirations. By the same token therefore, cooperatives can be formed in any sector of the economy of a country such as agriculture, minerals, industries and service sectors. A co-operative is an independent enterprise promoted, owned and controlled by people to meet their cultural, social and economic needs and aspirations”

1.3.1.1 Savings and Credit Cooperative Society (SACCOS)

SACCOS emerged from two origins of modern cooperative societies in the world. The first generation started in Great Britain and France in a certain working class environments in the European industrial cities around 1840s. it started particularly in great Britain and france. These pioneers invented models of the consumer and labor cooperative that defend and promote the interest of working class in the face of the social disasters endangered by the Industrial Revolution (Assenga, 2008).

The second generation of modern cooperative started in the 19th century in rural Europe. The rural Europe was out of place in economic terms compared with the industrial cities, it was easy for farmers and livestock farmers to raise their own supply system of agricultural inputs and market their produce through agricultural cooperatives, this made them not to depend on the merchants and businessmen in the industrial cities (Assenga, 2008).

MUCCoBS, 2005 also proved it that the use of SACCOS made the farmers not to depend on money lenders and to find suitable credits needed to modernize their agricultural practices.

The earlier experiences of SACCOS in African countries were brought by the foreign missionaries (Mwelukilwa, 2001). Many of these SACCOS started in English-speaking countries like Uganda 1946, Ghana 1955 and Nigeria 1951-1953 (Mbwana and Mwakujonga, 2013).

SACCOS began in Tanzania 1954, Kenya 1964, Liberia 1965, Sierra Leone, Zambia and Botswana 1967 (MUCCoBS, 2005). The expansion of these cooperatives in Africa then took root in the French- speaking regions of Africa.

In Tanzania, SACCOS are among the operating micro finance. The introduction and establishment of these modern cooperatives in Tanzania is associated with cash crops economy as a result early cooperatives Institutions flourished in the coffee, cotton, and tobacco growing

areas of Kilimanjaro, Kagera, Mwanza, and Ruvuma (Assenga, 2008). By 1947 the total numbers of SACCOS were five and were situated in Moshi, Iringa and Dar es salaam.

The SACCOS progress were not noticed but in 1970, there were about 239 SACCOS in Tanzania, it increased to 419 in 1990, in all these, 55 were in Kilimanjaro, 20 in both Arusha and Iringa (Banturaki, 2012). In Tanzania, SACCOS has been on the increasing side 1700 in 2005, 4780 in 2008 (Mbwana & Mwakujonga, 2013; URT, 2008) and despite this increase, the ration between number of SACCOS in rural and urban areas is still not balanced ratio. Only 37% of the total number of SACCOS is situated in rural areas. The poverty level amidst the rural dwellers still remains the same (37.6% of rural households live below the basic needs poverty line) (PHDR, 2009 & Erdal, 2005) many of the do not have access to credit facilities and other financial services due to poor and unsustainable income

PHDR, 2009 continued that “Indeed rural people are the one who suffer a lot with difficult life situation where they are hindered by insufficient social services such as banks, schools, hospitals, transport and communication compared to urban areas while their major economic income depends on agriculture However, the government and many studies put emphasis on establishment of SACCOS as a way to increase rural income, without putting efforts to understand the extent of its contribution in promoting rural livelihoods”

- Policies, Laws and Acts Supporting SACCOS in Tanzania

SACCOS in Tanzania gain support from Co-operative Society Acts and Policies. For the example, *The Co-operative Societies Act, 2003* ensure that the government created conducive environment for Cooperative Societies and their members to perform their functions in a free democratic manner and promoting economic and social interest of the members for economic growth by setting International Cooperative Alliance (ICA) principles (Komba et al. 2005). *The Co-operative Development Policy of 1997 and revised 2002* recognizes the importance of the National Poverty Reduction Strategy Paper (PRSP) accords to cooperative development. Also provide the structure of cooperative society from primary society at base level and federation at top as stressed by Section 14(1) of the Co-operative Societies Act, 2003, revised Edition, 2004. Further, *The National Micro-finance Policy of Tanzania, 2000* emphasized on serving the low-income segment of the society whose incomes are very low with limited access to financial services thereby contribute to economic growth and reduction of poverty (URT, 2000). This

provides advantage of investment opportunities for economic returns while financial services allow higher standards of living to be achieved at household level.

- Objectives of SACCOs

The objectives of SACCOs are those aims or goals which must be attained on the specific period of time and those can be short term objectives and long term objectives. Some of SACCO's objectives were to:

- Promote thrifts among its members by affording them an opportunity for accumulating savings and deposits and create there by a service of funds from which loan can be made available to them.
- Provide opportunity for each of its members to improve their social economic and welfare conditions
- Offer the members complimentary savings and credit services and other financial services as may be required by members from time to time.
- Ensure safety and soundness of the members funds through risk management programme
- Ensure progress of its members by educating them continuously on proper use of credit
- Perform all those functions and exercise all those powers designated for saving and credit Cooperative Society

- Obligations of SACCOs' Members

Obligations of SACCO's members include to:

- i. To comply with by-laws, code of conduct, internal regulations, policies and procedures;
- ii. To pay entry fees, buy shares and pay any other society dues;
- iii. To participate in the economic activities of the society as required in the Bylaws;
- iv. To attend meetings of the society;
- v. To nominate their successors;

1.3.1.2 Agricultural and Marketing Cooperative Societies (AMCOS)

According to cooperative Society Act NO 20, 2003 Agricultural Marketing Cooperative Society (AMCOS) refers to “cooperatives whose principal objective is the business of supplying farm inputs for agricultural crop production, the purchasing, processing, marketing and distribution of agricultural products”. They are essentially based in the rural areas

1.4 Rationale for the Study

The contribution of warehouse receipt system to smallholder farmers as a solution to financial services is what this study intends to find out, it concentrates on two parts, the overall practice of warehouse receipt system and it's outcomes to the smallholder farmers.

It is projected that the warehouse receipt system will help smallholder farmer's access to financial services from financial institutions.

The access to financial services will largely affect the smallholder farmers' farming techniques, improved produce, generate better income, improved deposits and provides other sources of income.

1.5 Problem Statement

Access to credit has been a key challenge to the majority of smallholder famers in most of the African countries; yet they are the largest producers of both staple foods and cash crops. The use of WRS for stored produce as collateral for accessing credit can enable smallholder farmers to access loans from financial institutions, while allowing them to postpone their sales when prices are low particularly during harvesting period.

It is estimated that below 5% of smallholder farmers in rural areas have access to formal credit. This scenario suggests considerable potential for WRS as a market mechanism for accessing credit. Similarly, despite its potential; the level of WRS adoption by smallholder farmers has been very low. Access to credit can lead to increased investment in the agricultural sector which in turn will result into increased production and productivity for smallholder farmers. Access to credit through WRS therefore can be one of the vehicles to stimulate economic activities in rural area and bring about positive change to the rural populations due to increased incomes.

1.6 Objectives of the Study

This study is mainly aimed at Accessing the Role of Warehouse Receipt System in Enhancing Smallholder Producers Access to Credit Facilities from Financial Institutions: A Study of Itunundu Paddy Farmers in Iringa District Council, Iringa, Tanzania.

The study has the following specific objectives:

- To analyze the relevance of WRS on the smallholder producers
- To identify challenges that cause slow adoption of WRS by smallholder farmers.
- To assess the level of financial institutions participation in WRS
- To measure the timeliness of the credit payment process to the smallholder farmers

1.7 Limitation to the Study

The respondents showed high level of cooperation because of the effect of MIVARF's programmes on them but language barrier was of little significance as some could not read or write their local language. Non-proximity of the respondent. Bad road network

1.8 Definition of Key Terms

Warehouse Receipt

Coutler and Onumah (2002) defined a warehouse receipt as “document issued by warehouse operators as evidence that specified commodities of stated quantity and quality have been deposited at particular location, by named depositor.

The Tanzania Warehouse Receipt System Act 2005 also defined it as a receipt issued by a warehouse operator in respect of storage, handling or shipment of the commodity. The warehouse manager issues a receipt to a farmer when the produce has been deposited in the warehouse. The farmer can use the receipt to take a loan of about 70% from the cooperative society which is worth the value of the deposited produce.

Smallholder Farmers

These are farmers cultivating a farmland of the size between 0.50 to 5.0 hectares.

According to MIVARF, smallholder farmers are those that cultivate a farmland of 0.5 to 3.0 hectares. They are considered to be the dominant leader in the agricultural sector.

Financial Services

According to Towo and Kimaro (2013), financial services are the economic services rendered by the financial institutions which encompass a broad range of organizations that manage money such as banks and SACCOS. These financial services include credit and deposit services.

Buyers

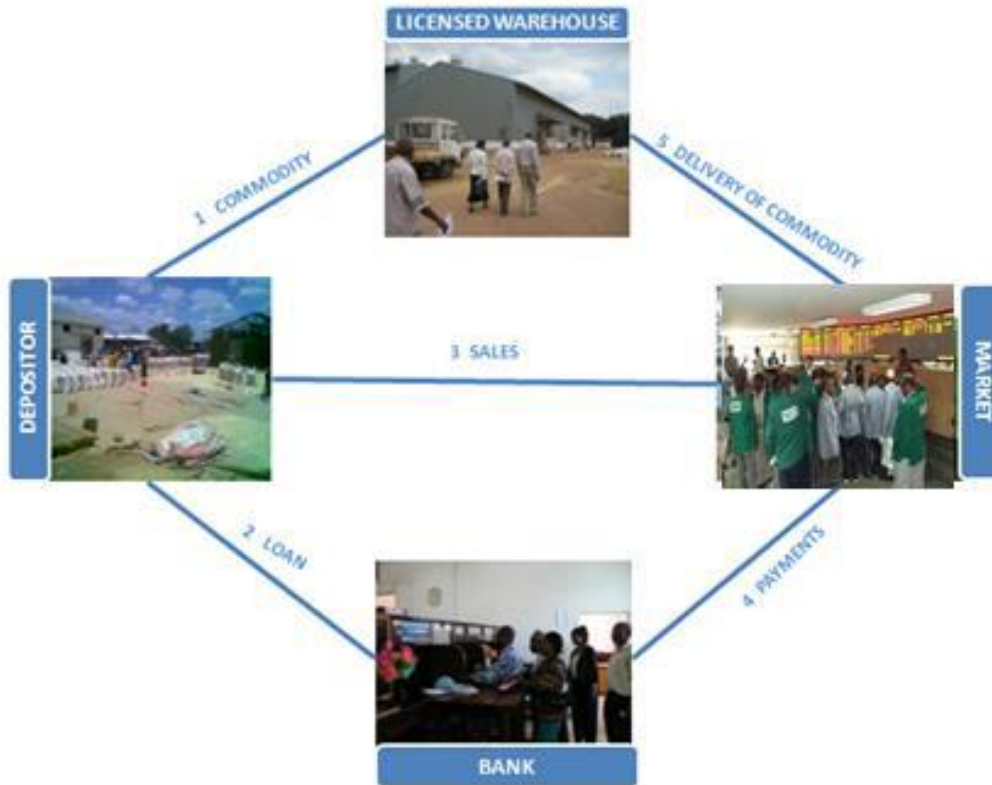
Buyers are individuals or organizations to whom farm produce are sold to through individual farmers or primary cooperative societies

Commodities

Commodities are defined as agricultural meant to be stored, traded and to serve as collateral. It can be stored in its original form or processed depending on the instruction received from the depositor(s), Tanzania Warehouse Licensing Board (TWLB) or the nature of the commodity itself (e.g. paddy to rice).

Depositor

According to Warehouse Receipt Act of 2005, Section 3 of the Act defines Depositor as “Any person who deposits a commodity in a warehouse for storage and who is the legal owner or holder of the outstanding Warehouse Receipts, or who is lawfully entitled to the possession of the commodity after the Commodity has being sold”.



Source: Tanzania Warehouse Licensing Board Operational Manual

CHAPTER TWO

LITERATURE REVIEW

2.1 Model of Warehouse Receipt System

The MIVARF's Warehouse Receipt System User Manual of 2012 explained in details the Collateral Management Agreement (CMA) "has a function responsible for reducing credit risk in unsecured financial transactions. It is used to provide security against possibility of payment default by the opposing party (or parties) in a trade. In our modern banking industry collateral is used most prevalently as a bilateral insurance in "Over The Counter" (OTC) financial transactions. Credit risk exists in any transaction which is not executed on strictly cash basis. Collateral management is a process that helps to reduce counterparty credit exposures. Collateral Management is a mechanism that allows movable assets belonging to a **Borrower** to become eligible as collateral security in the context of loan agreement, by virtue of the Borrower surrendering possession of goods to the **Collateral Manager** acting on behalf of the **Lender**.

This is accomplished through a "**Collateral Management Agreement**" (CMA), a contractual document that is typically signed between the Lender, the Borrower and the Collateral manager, and it defines the rights and obligations of each party. Key features of the Collateral Management Agreement will include:

- Identification and control of the warehouse
- Reception of goods
- Duties, care and control of goods during storage, handling and releasing
- Issuance of Warehouse receipts
- Commingling
- Insurance
- Fee structure
- Termination
- Interpretations
- Notices
- Force majeure

- Main exclusion and limitations to the responsibility of Collateral Manager
- Jurisdiction and dispute resolutions

Apart from issuance of warehouse receipts, the main activities under collateral management services are warehousing/storage and stock monitoring. Comprehensive storage activities such as weighing, sampling, inspections and packaging. Furthermore, Data capture for stock and physical control of stock is essential to effective collateral management function.

Warehouse receipt systems (WRS) are one of a series of modern market institutions that countries can adopt in different combinations and permutations according to the circumstances, to develop their agriculture and other commodity trade thus rendering markets more efficient and effective in delivering benefits to traders, producers and consumers. WRS can play a central role in developing the framework of modern market institutions”

2.2 Countries Warehouse Receipt System Experiences

2.2.1 The United States of America’s Experience

The United States of America built steam-powered elevators storey building in the 18th century to receive famers and other suppliers produce (grains) for storage before sale commences and later issue receipt against the stock which is followed by shipment of the produce (KENFAP, 2011).

The Chicago Board of Trade (CBOT) started out as commodity marketing floor and grading systems, it was established to reward better grain quality (Coulter, 2009). Soon after, the CBOT became the instrument for elevators to price grain purchase using different contract types which includes spot, cash forward, delayed price and minimum price contracts with their stand often placed on the CBOT.

later in the 19th century, USA cooperatives started financing their elevators, empowering farmers negotiating power as regards large-scale corporate operators (Coulter, 2009).

Coulter (2009) furthered that “companies and entrepreneurs progressively built grain elevators throughout the breadth of the grain producing states and became farmers’ normal market outlet. The whole system covering agricultural warehousing, grades and standards and commodity

exchanges was brought under a Federal regulatory regime during the second decade of the 20th Century”

A crucial factor that motivated this change was difficulty in trading across the borders of States whose standards varied from one state to another; therefore, a voluntary system was introduced whereby warehouse could choose their registration at the Federal level (Coulter, 2009).

Coulter (2009) gave a report of the “US Warehousing Act of 1916 and other related State Acts have created a regulatory regime which is to all intents and purposes mandatory, as elevators find they must get licensed by the Federal authorities or by State governments. There are consequently thousands of locations where farmers may deposit agricultural commodities in return for a negotiable warehouse receipt which can be used to raise finance or trade the commodity. Of at least equal significance were the steps taken by American monetary authorities which eventually became the Federal Reserve Bank (created in 1913). These established a special discount window for ‘eligible bankers’ acceptances’ backed by warehouse receipts, making them a very liquid instrument”

2.2.2 Latin America’s Experience

KENFAP (2011), reported that “in Latin America, similar needs emerged in the 19th Century in Argentina and Brazil’s agro-exporting economies”.

However, the approach to warehouse regulation differed widely from the American model as one by one. Latin American countries followed the typical approach of Civil Law countries of passing General Warehousing Acts regulated by Ministries of Trade or banking authorities (Coulter, 2009).

Coulter (2009) said “the Acts provided for the licensing of General Warehousing Companies which rather like giant pawnshops would be free to store all sort of commodities (agricultural and non-agricultural) and issue depositors with warehouse receipts in two parts, one a title document and the other a pledge certificate which the depositor can use to raise financing). Unlike the American elevators, they are not normally allowed to trade in commodities concerned as this is deemed to create unacceptable conflict of interest. For the case of Colombia, there are only five licensed General Warehousing Companies during that time, four belonging to the banks and the other to the State. Each company has its own warehouses and silos, but the most profitable business is field-warehousing, i.e. providing warehousing services in the client’s

premises to enable the client to access financing. Ownership by wealthy banks has prevented warehouse failure and has reassured depositors that they would be protected from fraud”.

Coulter (2009) also reported that “the credibility of the Colombian warehousing system as of that in neighboring Venezuela, allowed those countries’ respective commodity exchanges to market a system of REPOs, or repurchase contracts, backed by warehouse receipts. The REPO is a warehouse receipt backed security that an owner of warehoused stock can sell to institutional investors like pension funds through the exchange trading mechanism, with a commitment to repurchase it on maturity (60, 90 days etc.). In Colombia, it is the commodity exchange’s clearing house that underwrites the transaction and same is probably the case in Venezuela. The instrument has proved attractive to sellers because it allows them to access funds at rates close to Treasury Bills and much lower than the rates on normal bank loans”.

2.2.3 Eastern Europe and Former Soviet Union’s Experience

From the end of the 1980s, different approaches have been used for the collateralization of stock for the purpose of lending, bank surveillance using soviet era documentation, employment of collateral managers, field warehousing and regulated systems (Coulter, 2009). Considerable external support has been available for the development of warehouse system from the European Bank for Reconstruction and Development (EBRD), United States Agency for International Development (USAID), (CFC) and others, much of it to establish licensing regimes along North American lines.

A recent FAO report (Höllinger *et al.*, 2009) shows that in “12 countries which have sought to develop WRS, the system is most fully developed in three countries; Hungary, Bulgaria and Kazakhstan. All of these countries have special warehouse receipt laws for grains rather than broad legislation encompassing various commodities and different commercial practices.”

The Hungarian system is similar to that of the Colombian system as it consists of three very large and well capitalized warehousing companies carrying out a lot of field warehousing while Bulgaria and Kazakhstan are closer to American practice (Coulter, 2009). In some countries like Poland and Slovakia, government intervention was maintained at a high level so that farmers were not interested in storing with warehouse receipts. In the Ukraine, there have been inconsistencies in legislation and weaknesses in the licensing process leading to a lack of trust in the same (Coulter, 2009).

The FAO report by Höllinger *et al.*, (2009) describes the typical donor approach as being very top-heavy, focusing on changes at the central level rather than working with local banks bottom-up to develop pragmatic WRS schemes. The FAO report ends with a comment that “Although it is essential to introduce all the core components of a WRS to ensure its proper functioning, care should be taken to avoid blueprints and allow for sufficient time for adjustments and consensus building” (Höllinger *et al.*, 2009).

Bulgaria has 47 licensed public warehouses and over 500 000 tons of licensed capacity (Coulter, 2009). Its experience highlights the importance of winning over the banks, it being observed that: (a) once they had developed expertise in WR lending and established efficient internal procedures, the mechanism became quite simple with comparatively low administrative costs, and; (b) lending rates fell from 16% at the beginning of the programme when only two banks were lending to 7-8% in 2008 when 10 banks were in competition (Coulter, 2009).

2.2.4 Africa’s Experience

In Africa, the development of warehouse receipt system started late unlike the developed countries like the USA, Latin America that started since the 1800s, Holland is believed to have started since the 1600s (Coulter, 2009, USAID report, 2011).

The warehouse receipt system is one of the agricultural models that enhanced an improved marketing and pricing system thereby improving farmers’ income. The WRS have emerged in countries with strong commercial farming system and serves as pointers to other nations like the Zambia, Malawi, Kenya, Madagascar, Uganda, Ghana and Tanzania.

2.2.5 South Africa’s Experience

About 30000 large-scale commercial farmers dominate the South Africa’s gran production (about 12 million tons) unit. In the early 1990s, they received support from the state in the framework of State-controlled marketing system (Coulter, 2009).

The trade in grains and abolished commodity boards were liberalized by the new government and also encouraged the private sector to find alternative institutional structure to support the trade. Different needs had to be focused on which included the market information, system for

resolving trade disputes, systems of trade financing, grain pricing and the management of price risks (Coulter, 2009; KENFAP, 2011).

Various institutional means were used to address these needs, it started with the upgrading of the information service, the issuing of Silo Certificate and the establishment of future and options contracts for the white and yellow maize, wheat, soybeans and sun flower on the South African Futures Exchange (SAFEX) which then become part of Johannesburg stock exchange (Coulter, 2009).

South Africa does not have warehouse Act (the Act of 1930 was rendered invalid during the Apartheid era).

The Silo certificates were handled under the contractual law. South African Future Exchange (SAFEX) provided some regulatory oversights for the large part of the system, improving about 160 silo sites as location where farmers and others could deliver their silo certificates against expiring contracts (Coulter, 2009).

2.2.6 Kenya's Experience

The main food crops in Kenya are maize, wheat and potatoes, the efforts made to develop a regulated warehouse have been on maize which has less organized market than the main export crops, it is also produced by smallholder farmers (Coulter, 2009 and KENFAP, 2011). In some ways, Kenya followed that South Africa's example in organizing market institutions, having a large urban population, a significant commercial farming sector, an active Cereal Growers Association (CGA) that brings together large-scale producers and a core of commercially-oriented smallholders both large-scale and relatively quality-conscious food processors and a strong and innovative banking sector.

The aftermath of the first African Grain Summit held in October, 2005 was the development of the Eastern African Grain Council (EAGC). It was supported by US-funded rates and the Kenya maize development projects, COMESA and the East African Community (EAC), a system for warehouses certification to receive grain deposits and issue transferable warehouse receipts. The first warehouse site was certified in April, 2008 by the EAGC. It was established in Nakuru, a 50000 tons silo facility, it belongs to the NCPB, leased out to Lesiolo Grain Handlers which acted as operators (Coulter, 2009; KENFAP, 2011).

However, Kenya public policy has proved something of a deterrent whereby the government intervenes in the maize market through the National Cereals and Produce Board (NCPB) and border controls, notably by lowering the rate of duty on imports from countries which are not zero-rated (notably South Africa), the policy which has not encouraged farmers to deposit their grains in public warehouses. It is taking much longer than expected to develop a warehouse receipt system in Kenya due to the political situation and policy constraints (Coulter, 2009).

2.2.7 Uganda's Experience

The perishability of Uganda's food crops and bananas is not making them easy to be used as collateral for loans. The food crops of most potential for innovative trade financing are maize, paddy rice, beans, groundnuts and soybeans (Coulter, 2009).

The policy environment in Uganda is more favourable for the establishment of warehouse receipt system than any other country in Africa. This is because Uganda's food security is not pillared on cereals and Government is less inclined to intervene in their markets for political reasons. The President has declared an open borders policy on the ground that this benefits farmers (Coulter, 2009).

Ugandans founded the Ugandan Commodity Exchange (UCE) in 1998, but this was unable to gain traction with its trading floor. Notwithstanding it was able to gain Government and EU support to implement a project to develop the WRS and develop the exchange floor (2006-2010), and Government designated it WRS regulator under the WRS Act of 2006 and Regulations of 2007. Under this project, UCE has focused mainly on making the system work with maize and beans, has established grading standards, implemented a system of electronic warehouse receipts (eWRs) linked to the South Africa provider (ICX), hired and trained licensing staff (chief warehouse examiner), and trained banks to use the system. The electronic system made it easy to encumber the WRS with the bank and access credit on favourable terms (as noted above, EAGC has received similar requests). WFP had purchased around 150 tons of this, and by the end of August 2009 it had procured 358 tons (Coulter, 2009).

In Uganda, the warehouse receipt system exist until the year 2008, when WFP signed up for the role (USAID, 2012). Now, the agency has established two additional warehouses, including one in northern Uganda to operate a system that helps small-holder farmers earn more. The farmers take their grain to warehouses licensed by the Uganda Commodity Exchange, where the grain is

weighed, cleaned, graded, dried, bagged and stored. Every depositor gets a receipt verifying their tonnage and grade. For a small fee, the warehouse guarantees to maintain the grain's quality and quantity until it is transferred to the person who buys the receipt from the depositor or until the depositor decides to withdraw the commodity. WFP's role as a market-maker is of great importance to UCE, as it accounts for most of the demand for maize of standardized quality and moisture content that meets UCE's grading standards and can be safely stored (Coulter, 2009). UCE has also licensed a warehouse for holding in-bond merchandise on behalf of a leading bank. There has also been a successful small-scale pilot with cotton in Kasese, under a CFC funded project, whereby primary societies placed their seed cotton under collateral management while it was stored and toll-ginned prior to the sale of the resulting products (lint and seed). The WRS Regulations of 2007 provided for two types of licensed warehouse (public and private), with the latter category allowing UCE to regulate collateral management

2.2.8 Malawi's Experience

The cash crops in Malawi includes tobacco, tea, cotton, sugar cane, macadamia nuts and groundnuts while the main food crop as maize, then cassava (KENFAP, 2011). Government of Malawi has been subsidizing farm inputs to farmers because of food security concerns so that they can produce high yielding maize varieties and this has caused a notable increase in the annual production. In 2005, they successfully piloted a warehouse receipt system which was abandoned in 2008 (Coulter, 2009), this raised questions whether that type of complex technical operations can be institutionalized in such highly charged political environment (KENFAP, 2011 and ACE, 2012).

ACE registered the silos in 2011 in Kanengo and Lilongwe as first warehouse. The Kanengo warehouse has 12000 metric tons capacity and it was opened to depositors from interested third party (ACE, 2012). Furthermore, there are various other initiatives to enhance rural storage and local bulking of surpluses, involving hermetic storage technologies, storage by producer organizations (linked to microfinance or banks), and grain bulking by certified trade intermediaries (ACE, 2012).

CHAPTER THREE

METHODOLOGY

3.1 Research Design

This chapter covers the description of the type of survey adopted in the study. It is expected to define the population, the sample size as well as the sampling technique adopted in selecting the sample size. Sources of data collection, data analysis and data presentation are part of the research design. This research is designed and aimed at Accessing The Role of Warehouse Receipt System In Enhancing Smallholder Producers Access To Credit Facilities From Financial Institutions: A Study Of Itunundu Paddy Farmers In Iringa District Council, Iringa, Tanzania.

Questionnaire was administered in a survey conducted among the WRS benefitting farmer groups

3.2 Study Area

Itunundu Ward is a ward in Iringa Rural District comprising of Itunundu village, Kimande village and Mbuyuni village. It's a ward with plains and valleys, it borders the Ruaha National Park. Itunundu is an administrative ward in the Iringa Rural district of the Iringa Region of Tanzania. According to the 2002 census, the ward has a total population of 18,962 (Population and Housing Report, 2002).

Iringa's economy is backed by agricultural activities accounting for 85% of it's total GDP (NBS, 2013).

3.2.1 Brief Historical Awareness

Historically, Iringa was one of the two districts that established Iringa Region from the Southern Highland Province in 1964 . The second district was Njombe. In 1970s, the district was reduced in area by establishing Mufindi District and later in 2006 Kilolo District. The District shares borders with Mpwapwa District (Dodoma Region) in the North, Kilolo District in the East, Mufindi District on the South, Chunya District (Mbeya Region) to the west and Manyoni District to the North West. The headquarters is located in Iringa Municipal along Dodoma Road. In terms

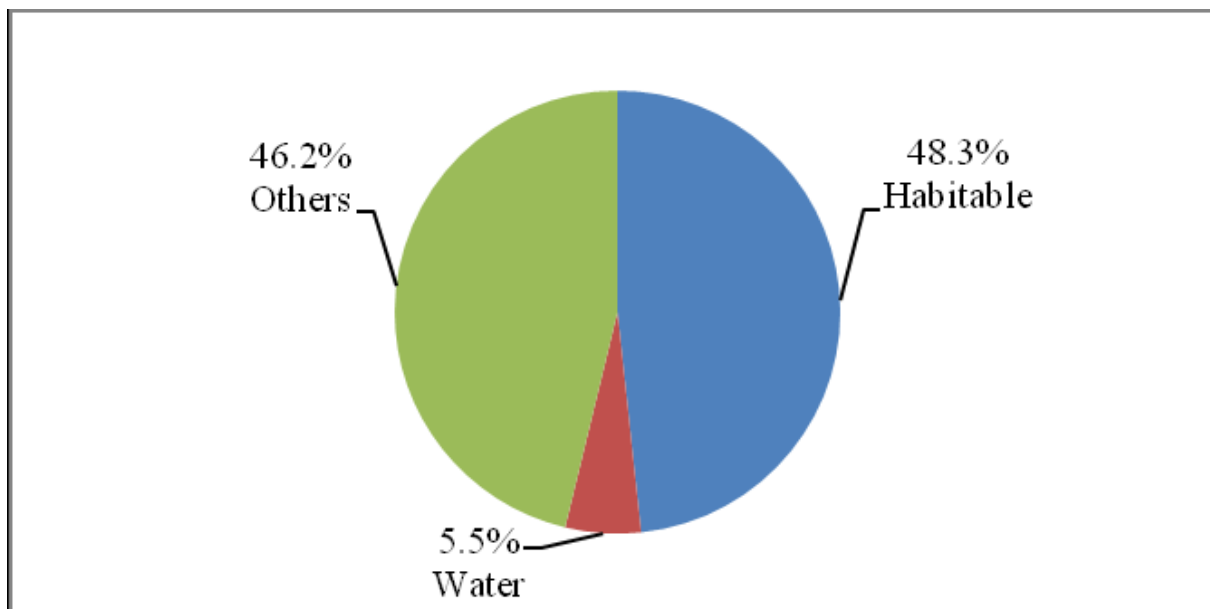
of international identification, the District lies between latitudes 7o.0" and 8o.30" south of the Equator and between longitudes 34o.0" and 37o.0" east of Greenwich.



Source: Iringa Rural District Council Socio-Economic Profile 2013.

3.2.2 Land Area and Land Use Pattern

Iringa Rural District has a total area of 20,413.98 sq. kms which is about 34.9 percent of the total area of Iringa region most of which is plain land with very few hills or valleys. Only 9,857.5 sq.km are habitable, leaving the remaining land either as national parks, rocky mountains or water bodies. About 9,437.5 sq. kms covered by Ruaha National Park and 1,119 sq. km by water bodies. The arable land available is 479,258 hectares or about 23.5 percent of the district area. Out of the arable land in the district, only 184,465 hectares are actually cultivated annually. Figure 1 shows land use pattern of the district.



Source: Iringa Rural District Executive Director's Office –Land, Natural Resources and Environment Department, 2013

3.3 Population and Sample Design

This study used four farmer groups which are;

- Itunundu AMCOS
- Kimande SACCOS
- Tungane Group
- Twitange Group

All the above groups serves as sampling framework.

3.4 Data collection and sources

Primary data were collected with the aid well-structured questionnaire by using *KoBoCollect* v1.140a application (part of KoBoToolbox) developed by Harvard Humanitarian Initiatives.

Purposive sampling was done in the four farmer groups, they are all WRS beneficiaries.

340 questionnaires were administered in each of the farmer groups, FGD was done with the leaders of each group and KII was carried out with the credit managers of MUCOBA bank and CRDB bank (being the major financiers of WRS in that ward).

The type of data to be collected include: Socio-economic data, Information on the relevance of WRS on the smallholder producers, Information on the challenges that is causing slow adoption

of WRS, Information on the timeliness of the credit payment process to the smallholder farmers, Information on financial institutions participation in the WRS.

The primary data were collected through the use of well-structured questionnaires, and administered by well-trained enumerators in the study area. The study covers WRS beneficiaries from Itunundu ward, Iringa Rural District, Tanzania.

Secondary data were obtained from the records made available by the MIVARF, through relevant reviews and publications, text books and publications of the Iringa Rural District Council Socio-Economic Profile 2013.

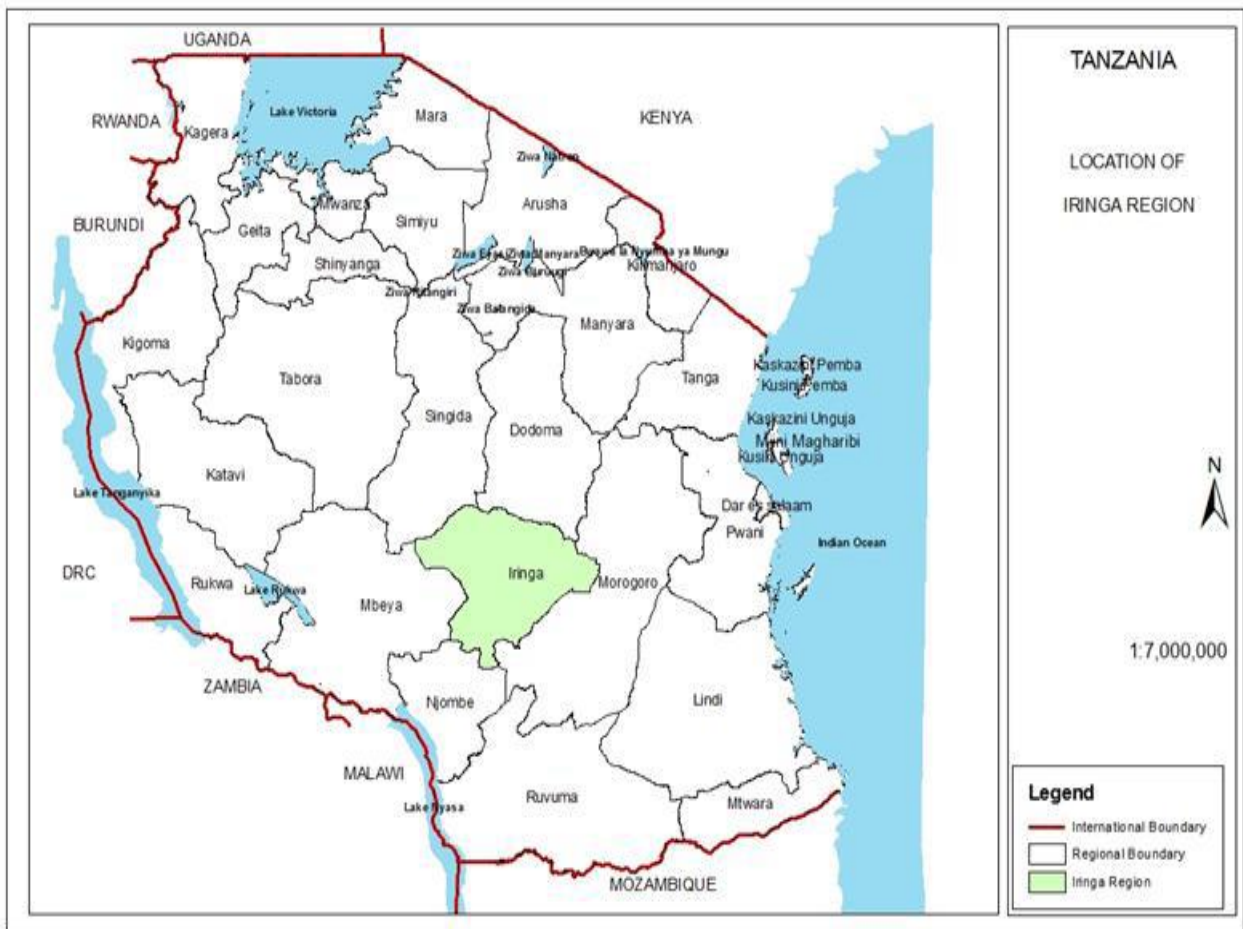
3.5 Reliability of Instrument

The used questionnaire for the collection of primary data was pre tested with a smaller farmer group (Fighters group), the questionnaire was adjusted and found reliable before the main study commences. Although the respondents may be subjective, the questionnaire is still able to capture relevant and needed information based on their opinions.

3.6 Analytical Technique

Descriptive statistics and cross tabulations will be used to describe the socio-economic characteristics of the beneficiaries. Independent sample T-test and one-way anova

MAP OF TANZANIA SHOWING THE STUDY AREA



Source: National Bureau of Statistics, GIS unit, 2013

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Socio-Economic Characteristics of the Respondents

AGE RANGE	PERCENTAGE (%)	FREQUENCY
15-25	14	48
26-35	38	129
36-45	28	95
46-55	11	38
56 & ABOVE	9	30

Table 4.1.1: age of respondents

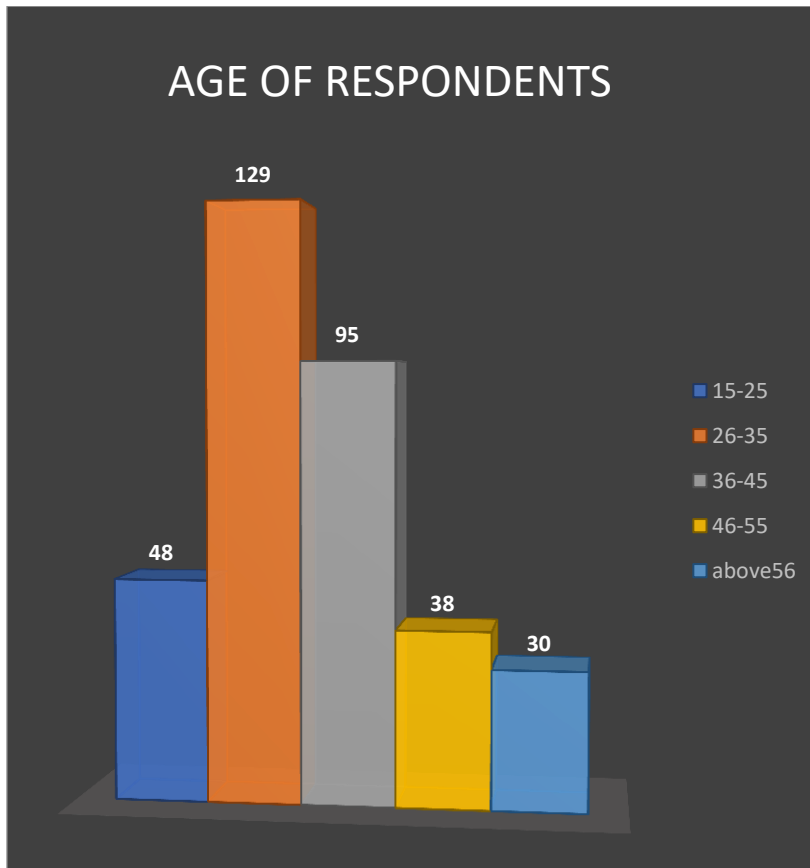


Figure 4.1.1: Source: Field Survey 2018

Table 4.1.1 and Figure 4.1.1. shows that the ages of the respondents ranges from 15 years to more than 56 years. Age range 26-35 and 36-45 falls on the highest frequency (129) and (95) also with the highest percentage (38) and (28) respectively which implies that the respondents were in the active and productive age range. Age has been found to determine how active and productive the individual would be, which implies that majority of the beneficiaries, in the studied area are energetic and still able to do manual work and it can be concluded that the beneficiaries are in their “working age” and as such the likelihood of moving out of poverty and food insecurity is high.

GENDER	PERCENTAGE	FREQUENCY
MALE	52	178
FEMAL	48	162

Table 4.1.2: gender of respondents

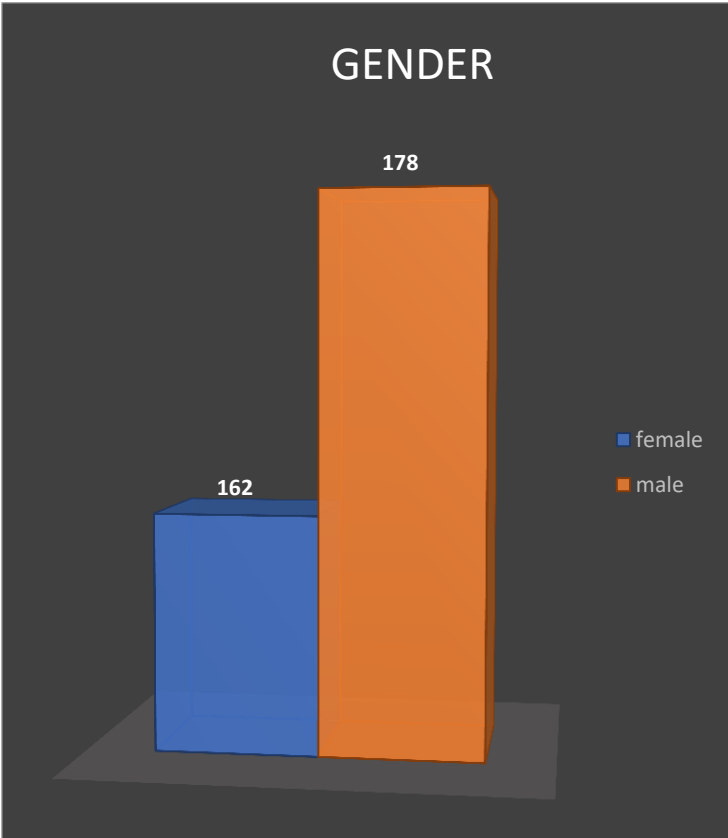


Figure 4.1.2: Source: Field report 2018

Table 4.1.2. and Figure 4.1.2 presents the gender information, it shows that majority of the farmers belonging to these groups are male(52%). This shows that women are lagging behind in the use of warehouse receipt system to access credit from financial institutions.

According to FGD held with some women in the study area, it was revealed that they don't have access to own a land, this resulting to them not being able to farm on their desired farmland and blocking their access to credit facilities.

MARITAL STATUS	PERCENTAGE	FREQUENCY
Divorced	1.2	4
Married	81	274
Separated	0.9	3
Single	16.2	55
Widowed	1.2	4

Table 4.1.3: Marital Status of Respondents

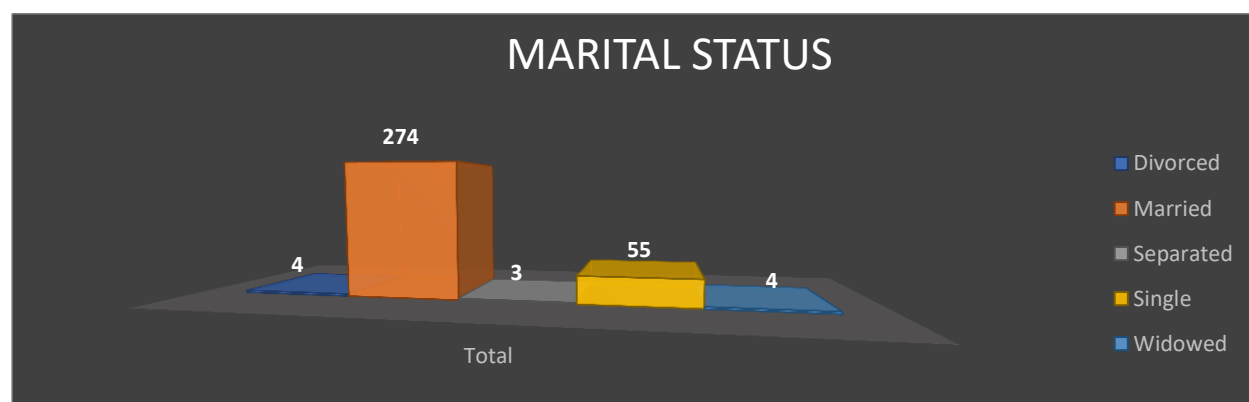


Figure 4.1.3: Source: Field Report 2018

From Table 4.1.3 and Figure 4.1.3, it shows the marital status of the respondents, it presents 81% to be married, 16.2% to be single. 1.2% to be divorced, 1.2% to be widowed and 0.9% to be separated. It shows that the married took the highest percentage in the respondents because marriage comes with responsibilities in the African settings.

EDUCATION STATUS	PERCENTAGE	FREQUENCY
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Adult Literacy	0.3	1
No Formal Education	6.5	22
Primary Education	85	288
Secondary Education	8	27
Tertiary Education	0.6	2

Table 4.1.4: Education Status of Respondents

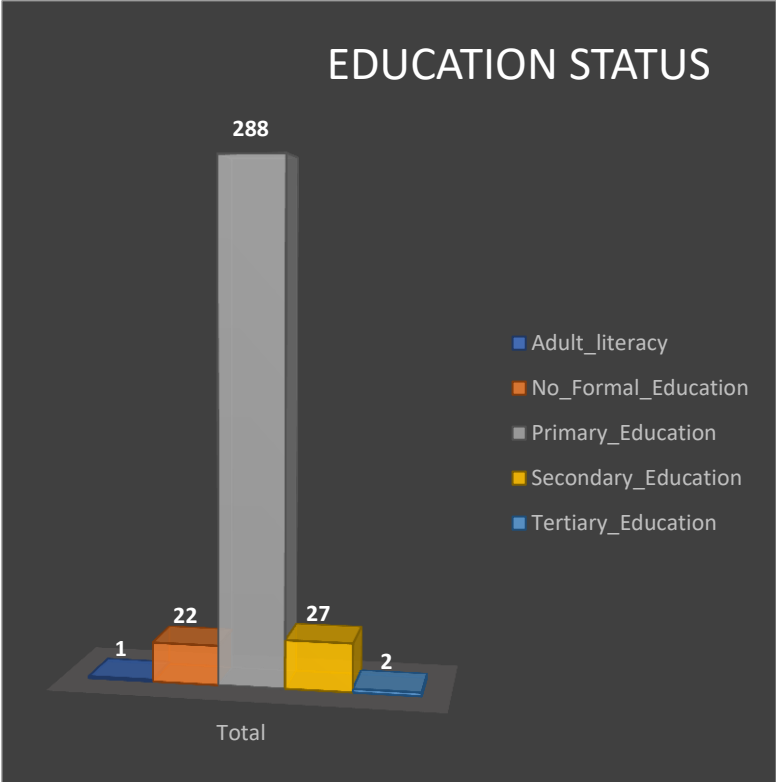


Figure 4.1.4: Source: Field Report 2018

Table 4.1.4 and Figure 4.1.4 shows that only 0.3% of the respondent attended adult literacy class, 6.5% has no formal education, 85% attended primary school, 8% has secondary education while just 0.6% has tertiary education. As it is, 85% attended primary school followed by 8% of those that went to secondary, it implies that the higher they go in education, the more they leave farming activities and look for other means of survival other that agriculture. This leads to low participation of people with higher education in WRS.

4.2 The Relevance of WRS on the Smallholder Producers

Do you think WRS is beneficial to you?	Percentage	Frequency
Yes	59.7 203	203
No	40.3 137	137
Total	100.0340	340

Table 4.2.1: Is WRS beneficial?

Table 4.1.5 shows that 203 (59.7%) of the participants claimed that WRS is beneficial to them while 137 (40.3%) of the participants claimed that WRS is not beneficial to them. This implies that majority of the participants claimed that WRS is beneficial to them.

According to the FGD held with the leaders of each of the farmer groups, they all commented that WRS is very beneficial to them.

The credit managers of MUCOBA and CRDB bank also made the same comment about how beneficial WRS has been to farmers.

Ways in which WRS is beneficial

Ways in which WRS is beneficial	Frequency	Percent
Reduce post-harvest losses	170	50.0
Increase profits due to extended sales		
Secured storage facilities		
Increased access to credits		

Table 4.2.2

Ways in which WRS is beneficial	Frequency	Percent
Reduce post-harvest losses	13	3.8
Increase profits due to extended sales		

Table 4.2.3

Ways in which WRS is beneficial	Frequency	Percent
Reduce post-harvest losses	9	2.3
Increase profits due to extended sales		
Secured storage facilities		

Table 4.2.4

Tables 4.2.2 to 4.2.4 shows ways in which WRS is beneficial to the participants. It shows that 170 (50.0%) of the participants noted that WRS benefited them in four major ways which include reduction of post-harvest losses, increase profits due to extended sales, secured storage facilities and increased access to credits. Also, 13 (3.8%) of the participants claimed that WRS

benefited in two major ways which are reduction of post-harvest losses and increase profits due to extended sales while 9 (2.3%) of the participants claimed that WRS benefited them in three major ways which are reduction of post-harvest losses, increase profits due to extended sales and secured storage facilities.

4.3 Identification of Challenges That Causes Slow Adoption of WRS

Challenges faced in the warehouse	Frequency	Percent
Transportation from farm to the warehouse	328	99.4
Theft in the warehouse	2	0.6
Post-harvest challenge like (packaging, storing, keeping of varieties etc.)	73	21.5

4.3.1: Challenges faced using the WRS

Table 4.3.1 shows that 328 (99.4%) of the participants claimed that a major challenge faced in the warehouse is transportation from farm to the warehouse, 73 (21.5%) claimed they experience post-harvest challenge like (packaging, storing, keeping of varieties etc.) while 2 (0.6%) claimed that they experience challenge of theft in the warehouse. This implies that the major challenge experienced is transportation from farm to the warehouse which could be as a result of high cost of transportation and bad road network since many of the roads leading from farm to warehouse are bad and damaged, so it make transportation difficult.

4.4 Measuring the Timeliness of the Credit Payment Process to the Smallholder Farmers

Do you have access to credit through WRS?	Frequency	Percent
Yes	327	96.2
No	13	3.8
Total	340	100.0

Table 4.4.1: Access to credit

Table 4.4.1 shows that 327 (96.2%) of the participants claimed that they have access to credit through WRS while 13 (3.8%) claimed that they do not have access to credit through WRS. This implies that majority of the participants have access to credit through WRS.

According to the FGD held with the leaders of each group, it was said that only those that had defaulted at one time or the other are the once that do not have access to credit.

Challenges in accessing credit	Frequency	Percent
Delay in fund release	194	57.1
Delay in fund release, Bureaucratic procedures	38	11.2
Delay in fund release, other challenges	60	17.6
Bureaucratic procedures, other challenges	36	10.6
Other challenges	12	3.5
Total	340	100.0

Table 4.4.2: Challenges in accessing credit

In table 4.4.2, the challenges in accessing credit are listed. It shows that 194 (57.1%) of the participants claimed that the main challenge in accessing credit is delay in fund release, 60 (17.6%) of the participants claimed that delay in fund release and other challenges related to accessing credit are the challenges they encounter in accessing credit, 38 (11.2%) claimed that delay in fund release and bureaucratic procedures are challenges related to accessing credit, 36 (10.6%) of the participants claimed that bureaucratic procedures and other challenges are challenges related to accessing credit. This implies that majority of the participants claimed that delay in fund release is the major challenge they encounter in accessing credit.

Timeliness of Credit	Frequency	Percentage
Yes	51	15
No	289	85
Total	340	100

Table 4.4.3: Timeliness of access to credit

Table 4.4.3 explains that 85% said they don't get the credit issued at the right time while the remaining 15% said they get the issued at the right time to meet the intended purpose. The issue of prompt access to credit is a very big one among the smallholder farmers.

The responses from the financial institutions (MUCOBA Bank and CRDB Bank) stated the reasons for possible delay in issuance of credits;

- They have several groups they are servicing and the credit issuance is on the basis of first come, first serve.
- It's not easy on their path carrying about physical cash, they are solving this by introduction of mobile banking which will make credit issuance easier and faster.

- Most of these farmer groups only apply for credit without submitting the required documents for processing the credits. Without these documents, their loans can't be processed

The documents are as follows;

- Audited financial statement of the group
- Tax clearance certificate
- CVs of the board members
- Information of group members
- About 25% deposit in their account

Independent Sample T-test Showing Access to Credit among Gender of Respondents

DV	Gender	N	X	SD	Df	T	P
	Male	178	1.0730	0.26093			
Access to credit					338	3.562	<.05
	Female	162	1.0000	0.0000			

Table 4.5: T-test showing difference in access to credit among gender of participants

Results from table 4.8 shows that there is a significant different in access to credit among gender of respondents ($t(338) = 3.562, p < .05$), such that male respondents score higher on access to credit ($X = 1.0730, S.D = 0.26093$) compared to female respondents ($X = 1.0000, S.D = 0.0000$) which implies that access to credit is higher among male respondents than female respondents. This implies that male respondents have more access to credit compared to female respondents.

DV	Age (years)	N	Mean	SD	Sum of Squares	df	MS	F	Sig
Access to credit	15-25	48	1.0000	0.0000	0.296	4	0.074	2.027	0.090
	26-35	129	1.0233	0.15130	12.207	335	0.036		
	36-45	95	1.0421	0.20189	12.503	339			
	46-55	38	1.1053	0.31101					
	56 and above	30	1.0667	0.25371					

Table 4.6: ONE-WAY ANOVA of Age Groups of Respondents with Access to Credit

The result in table 4.9 shows that there is no significant differences in access to credit among age groups at $[F(4, 339) = 2.027; P > .05]$. This implies that respondents within the age of 15-25 years with (Mean= 1.0000, SD= 0.000) do not have significant difference in access to credit compared to respondents within the age of 26-35 years with (Mean= 1.0233, SD= 0.15130) and respondents within the age of 36-45 years with (Mean= 1.0421, SD= 0.20189) and respondents within the age group of 46-55 years with (Mean= 1.1053, SD= 0.31101) and respondents that are 56 years and above with (Mean= 1.0667, SD= 0.253371) . This means that access to credit is not significantly different among the age of the respondents.

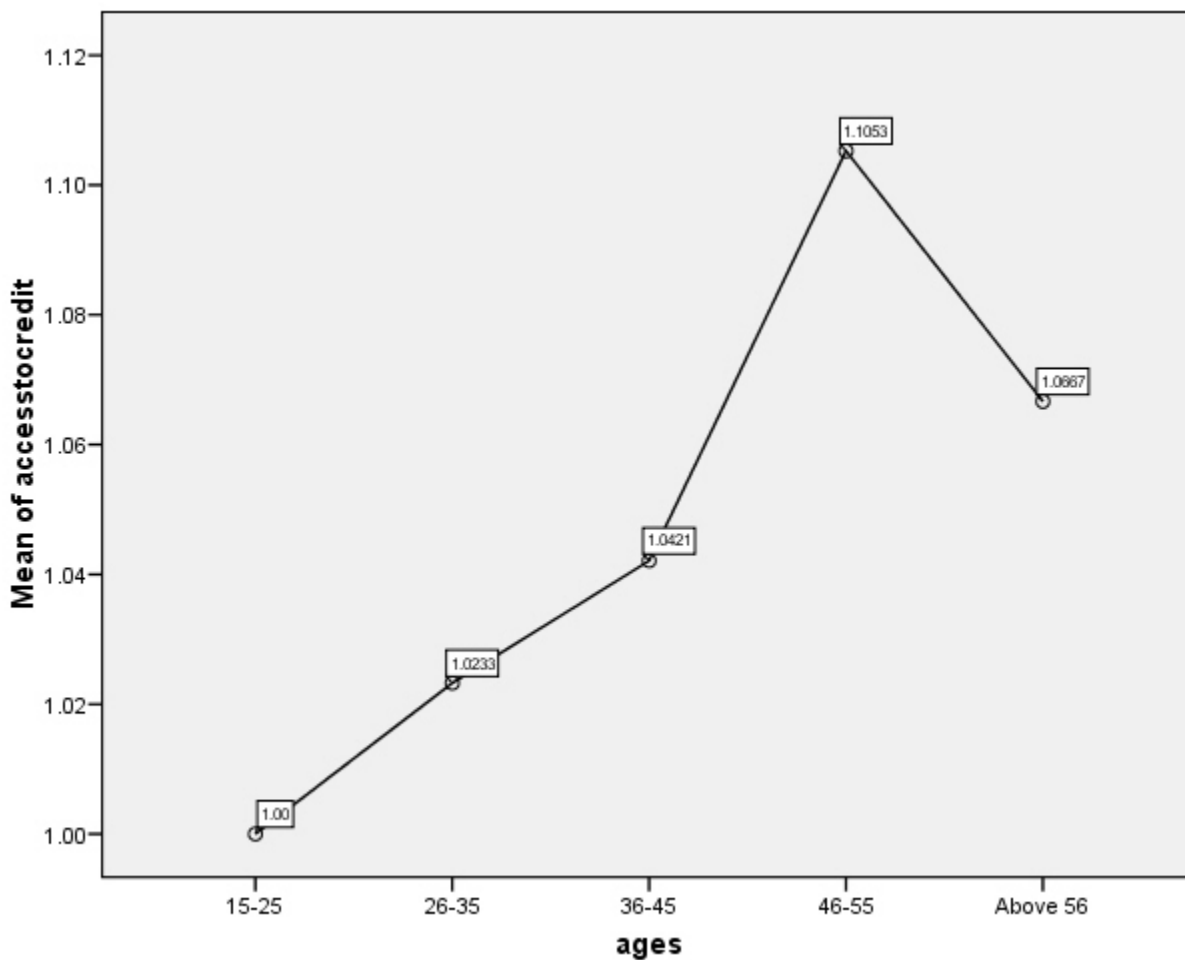


Figure 4.6: ONE-WAY ANOVA showing access to credit among age group of participants

Accessing Financial Institutions Participation

When the credit managers of MUCOBA bank and CRDB bank were asked about their perceptions as regards the adoption of warehouse receipt system by smallholder farmers, they said *warehouse receipt system is a right way for farmers to have better prices for their produce* (MUCOBA credit manager) also, the CRDB credit manager said *it's a very beneficial product to smallholder farmers as it gives them access to financial services*.

In their report, Alderman and Shively 1996 perceived the warehouse receipt system gives farmers better access to market and financial services.

USAID 2007 reported that drought, flood, unstable market price, pest infestation are some of the risks financial institutions take to service a warehouse.

It was also established during the interview the MUCOBA credit manager said some of the risks includes; *forgery (presentation of false documents), fluctuating market price, human and natural disasters*. On the other hand, the CRDB credit manager also analyzed some of the risks: *integrity of the warehouse manager, lack of warehouse fumigation, unstable market price*.

The credit managers (MUCOBA AND CRDB) were asked how they monitor the credit given to serve its intended purpose. In their response, they said they organize financial management training for the smallholder farmers, they sometimes pay for their farming inputs instead of giving the farmers physical cash, organize capacity building to help the farmers.

In the interview, the credit managers were asked if their institutions have the capability to influence more farmer groups adopt the use of WRS for their produce. They responded by saying they don't have such influence but they engage stakeholders like warehouse licensing board members, political and spiritual leaders to talk to the farmers concerning the adoption of WRS.

Generally, the participation of the financial institutions were placed on the average because they are not fully into funding the system. This results from lack of enough funds on the part of the financial institutions.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Smallholder farmers are faced with inadequate, unsustainable and inaccessible financial systems. The Warehouse Receipt System (WRS) emerged as a means of overcoming the above financial related problems, facilitating agricultural related activities and reducing the magnitude of poverty among the smallholder farmers.

Against all odds, the warehouse receipt system has been revealed to have positive implication on rural smallholder farmers except for little variation in the use of the WRS on the basis of gender. It was discovered in this study that the male have more access to credit than their female counterpart in the study area. Tanzania is a patriarchal state where women don't own landed properties, they depend on men for any activities on the land. Most of these women prefer to go into petty trading and other small scaled businesses.

The case of slow adoption of WRS is largely based on improper information about the benefits and the activities of 'middlemen' it was investigated that these middlemen buys the producers with 'good offer' which the smallholder producers sees as much more better than the process of using a WRS because of the almost immediate gain.

Transportation and its cost is also part of reasons some smallholder farmers give in to the middlemen as they come with their own vehicle to load the farm produce

5.2 Recommendations

- The Government of Tanzania through MIVARF needs to increase sensitization efforts among the smallholder farmers in order to enable a larger spectrum of the community members to become aware of the WRS practice and therefore, using it as a tool towards poverty reduction and at the end of the day improving their socio-economic livelihood status.
- Women groups are to be given equal chance of access to credit facilities with the men group. More women should be encouraged to join farming activities instead of being a sit at woman.

- A deliberate intervention from the government is needed to strengthen the capacity of WRS. This can be done through opening more opportunities for loans, ensuring better prices for different products and training community members on better WRS practices.
- During the course of data gathering, it was not easy to access the rural areas because of bad roads, it is recommended that the Government of Tanzania should make more efforts in developing rural roads network for ease of accessibility.
- The activities of the ‘middlemen’ should be properly looked into and the provision of workable solutions should be made.
- MIVARF and other Development partners are enjoined to provide enlightenment programs and capacity building to smallholder farmers on the importance of WRS because some of the beneficiaries are still seeing it as a burden.
- More financial institutions should be encouraged to join in financing the WRS
- MIVARF and Financial Institutions should work hand in hand to assist smallholder farmer groups in credit processing to reduce delay in credit access.

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APPENDIX

IFAD-MDP FIELD PRACTICUM

ROLE OF WAREHOUSE RECEIPT SYSTEM (WRS) IN ENHANCING SMALLHOLDER PRODUCERS ACCESS TO CREDIT FACILITIES FROM FINANCIAL INSTITUTIONS: CASE STUDY OF ITUNUNDU/IRINGA RURAL INTRODUCTION

This survey is aimed at assessing the Role of Warehouse Receipt System In Enhancing Smallholder Producers Access to Credit Facilities from Financial Institutions. This questionnaire is designed to elicit information from smallholder farmers who have benefitted from the warehouse programs conducted by MIVARF. Information obtained will be treated with strict confidentiality. Thank you

Name of Respondent: _____ Questionnaire ID: _____

Name of Enumerator: _____ Date and Signature: _____

SECTION A: SOCIO-ECONOMIC INFORMATION.

S/N	QUESTIONS	RESPONSE	CODING
1	Gender	(1) Male { } (2) Female { }	1 2
2	Location	(1) Region _____ (2) District _____ (3) Division \ _____ (4) Village _____	
3	Age	(1) 15-25 (2) 26-35 (3) 36-45 (4) 46-55 (5) 56 and above	1 2 3 4 5

4	Marital Status	(1) Single { } (2) Married { } (3) Widowed { } (4) Separated { } (5) Divorced { }	1 2 3 4 5
5	Highest Educational Attainment	(1) No Formal Education { } (2) Adult literacy { } (3) Primary Education. { } (4) Secondary Education { } (5) Tertiary Education { }	1 2 3 4 5
6	How much income do you generate through WRS?	(1) Below 99,000TZS (2) 100000-299000TZS (3) 300000-499000TZS (4) 500000-699000TZS (5) 700000-899000TZS (6) 900000-999000TZS (7) Above 1000000TZS	1 2 3 4 5 6 7
7	Household head (HH)	(1) Female { } (2) Male { }	1 2
8	Types of house wall (Tick)	(1) Thatches { } (2) Burnt brick { } (3) Cement block { } (4) Mud and trees { } (5) Unburnt brick { }	1 2 3 4 5
9	Which nature of floor?	(1) Earth (2) Cement (3) Others, please specify	1 2 3
10	Which kind of roof covering material?	(1) Thatches (2) Earth (3) Corrugated iron sheet (4) Tiles	1 2 3 4

		(5) Others	5
11	What type of toilet facility do you have in your house?	(1) Traditional pit (2) Ventilated improved pit (3) Water closet (4) None (5) Other	1 2 3 4 5
12	What are the household assets you have? (Multiple answers allowed)	(1) House (2) Bicycle (3) Television (4) Mobile phone (5) Motorcycle and (or) car (6) Electrical appliances	1 2 3 4 5 6

SECTION B: INFORMATION OF THE WAREHOUSE RECEIPT SYSTEM (WRS)

1. For how long have you been operating WRS? _____

2. Rate your knowledge of the WRS

a= Full { } b= Average { } c= Fair { } d= None { }

3. Do you think the WRS is beneficial to you?

a=Yes { } b=No { }

4. If yes, for 4 above, how?

a= Reduce post-harvest losses { } b= Increase profits due to extended sales { }

c= Secured storage facilities { } d= Increased access to credits { }

5. If No, for 4 above, how?

a= Government's policies on controlled price { } b= Transportation of produce to the warehouse { }

6. How has the WRS affected your crops marketing?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }

If increased, from _____% to present _____%

7. How has WRS affected market period extension?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }

If increased, from _____months to present _____months

8. How has WRS affected marketing price?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }
If increased, from _____Tsh per kg to _____Tsh per kg

9. How has WRS reduces post-harvest losses?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }
If increased, from _____% to present _____%

10. How has WRS affected your total household income?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }
If increased, from _____Tsh to present _____Tsh

11. How has WRS adoption affected your farm size?

a= Highly increased { } b= Moderately increased { } c= Not increased at all { }

SECTION C: INFORMATION ON ADOPTION OF WRS

12. Did you accept the introduction of WRS? (Tick)

a=Yes { } b= No { }

13. Is there any process or registration to joining the WH?

a= Yes { } b= No { }

14. Do you think WH operation is gender biased?

a= Yes { } b= No { }

15. Do you belong to any farmer group?

a= Yes { } b= No { }

16. If yes above, select the group.

a= Savings and Credit Co-operative Societies (SACCOS) { }

b= Agricultural Marketing Cooperatives (AMCOS) { }

c= Other { }

17. What are the roles of primary cooperative societies? (Multiple responses) (Tick)

a= To buy produce from the farmers { } b=To supply input to farmers { }

c= To store produce after harvesting { } d=To provide credit to farmers { }

e= All of the above { }

18. Do you think they are discharging their duties?

a= Yes { } _____

b= No { } _____

c= Fairly { } _____

19. What is the method used to obtain membership in the primary cooperative society?

a=Through voluntary { } b= Through force { } c= Both voluntary and force { }

20. How far is the nearest certified WR center from your farm/house place? _____km

21. Do you think the receipt gotten from the WRS can be kept for long or easy to lose?

a= Yes { } b= No { } c= Somewhat { }

22. Do you think your Cooperative society solve problem quickly encountered during operation?

a= Yes { } b= No { } c= Somewhat { }

23. What are the major challenges you face in the warehouse?

a. Transportation from farm to the warehouse { }

b. Theft in the warehouse { }

c. Post-harvest challenge like (packaging, storing, keeping of varieties etc.) { }

24. Are you satisfied with the operations of the warehouse?

a= Mostly { } b= Somewhat { } c= Never { }

SECTION D: INFORMATION ON ACCESS TO CREDIT

25. Do you have access to credit through WRS?

a= Yes { } b= No

If no, why? _____

26. Is the credit issued at the right time to meet the intended purpose?

a= Mostly { } b= Somewhat { } c= Never { }

27. What are the challenges in accessing credit facilities?

a= Delay in fund release { } b= Bureaucratic procedures { } c= other

28. How long does it take to have your payment effected under WRS (from selling to payment)? (Tick)

a=0 – 2 weeks { } b=3 – 5 weeks { } c=6 – 8 weeks { } d= more than 9 weeks { }

29. What can you say about your farming activities and practices after accessing credits through WRS

a= Highly improved { } b= Moderately improved { } c= Not improved { }

30. Do you take loan from your group?

a= Yes { }

b= No { }

If no, why _____

31. If yes above, what do you use the loan for? (multiple answers allowed)

a= for improving farming activities or practices { }

b= for small business activities { }

c= for land acquisition { }

d= for horticultural production { }

e= for paying children's school fees { }

32. Do you think it's more difficult for women to access credit through WRS?

a= Yes { }

b= No { }

c= Somewhat { }

33. What is your specific experience as regards credits from financial institutions through the WRS?





